### WARNING

In order to maintain the correct functionality of the product, the replacement with spare parts has to be made by qualified technicians only.

### HELM PUMPS

- Vented filler plug kit with valve 40800 N
- Non vented filler plug kit 40800 L
- Shaft seal kit 40875 V
- Installation kit for UP20 F 40248 R
- Installation kit for UP20 T 39501 T
- Installation kit for UP25 F/F25NV T/F253 F/F33NV T/F339 F/UP28F-SVS, UP33F-SVS 39476 X
- Installation kit for UP25 T/28 T/F33 T/F39 T 39501 T
- Installation kit for UP28 R/F33 R/F39 R 39500 R
- Nylon round flange for X57 70666 E
- Nylon square flange for X64 70670 V
- Chrome plated cover ring - X68 40894 Z
- Pump filling kit 40876 X

### AVAIL. SPARE PARTS

**UC94-OBF OUTBOARD CYLINDER**

- Black bull horn mounting bracket 40877 Z
- Through tube stainless steel rod 40174 M
- Spacer kit 40878 B

**UC128-OBF OUTBOARD CYLINDER**

- Black bull horn mounting bracket 39490 R
- Through tube stainless steel rod 39491 T
- Spacer kit 41812 Z
- Plastic cap kit 41810 V
- UC128 Hardware kit 39979 A
- Tiller arm connecting (ultrabolt) (suitable also for UC128-SVS) 40822 X

**UC68-OBS OUTBOARD CYLINDER**

- Stainless steel tilt tube extension 39495 B
- Stainless steel tilt tube extension 39495 B
- Extension rod connecting pin 40917 J

**INBOARD CYLINDERS**

- Balljoint for UC69-I 40883 U
- Balljoint for UC116-I 39477 Z
- Balljoint for UC188-I and UC215-I 39478 B
- Balljoint for UC293-I 40178 W
- Balljoint for UC378-I 41310 Y
- Balljoint and shim for UC69-I 40884 W
- Balljoint and shim for UC116-I 39479 D
- Balljoint and shim for UC188-I e UC215-I 39480 M
- Balljoint and shim for UC293-I 40180 G
- Balljoint and shim for UC378-I 41311 A

**STERNDRIVE CYLINDERS**

- Extension rod connecting pin 40917 J

**NUT AND SLEEVE**

- Brass nut and sleeve 71084 K
- Nickel plated brass nut and sleeve 71013 L
1935 - 2009
Ultraflex Group has 74 years of experience in manufacturing and distributing the highest quality and most innovative products. The Ultraflex Group affiliate Companies that design and produce widely known equipments in the marine, industrial, architectural, Led technology and alternative energy fields.

ULTRAFLEx
Steering and control systems for pleasure boats

UFLEX
Worldwide distribution of marine accessories

UFLEX - Divisione energia
Systems and accessories for alternative energy applications

ULTRAFLEx CONTROL SYSTEMS
Window and skylight remote controls.
Innovative LED road signs

INDUSTRIA di LEIVI
Mechanical remote controls in the industrial field

UFLEX USA
Manufacturing the world’s finest marine products

MARESì LTD
Magnetic compasses
Quality Management System

The Ultraflex Quality Management Systems is certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 9001:2000 rule. Ultraflex certification n° 6669/02/S (former 420/96).

The quality management system involves all the company resources and processes starting from the design, in order to:

• Assure product quality to the customer
• Set up the actions to maintain and improve the quality standards constantly
• Pursue a continuous process improvement to meet the market needs

The Ultraflex Environmental Management System is certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 14001:2004. Ultraflex certification n° EMS-1282/S.

Constantly test the products to verify their conformity with the EEC 94/25 and ABYC (American Boat and Yacht Council) requirements.
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The descriptions and guidelines shown in this catalogue should be used as general reference only. For any further information please contact our Technical Service. Ultraflex S.p.A. declines any liability for possible mistakes in this catalogue due to printing errors. Ultraflex S.p.A. reserves the right to make those modifications that are considered to be suitable for its products. Publishing rights, trade marks, part numbers and photographs of the Ultraflex products present on this catalogue are Ultraflex property and all rights are reserved.
ULTRAFLEX GUARANTEE

CONDITIONS AND EXCLUSIONS

Ultraflex products are guaranteed against defects in material or workmanship for a period of two years following the date of manufacture. If the Ultraflex products are installed and used on commercial boats the guarantee is limited to one year following the date of manufacture.

Defective products should be returned freight prepaid to the Ultraflex facility and must be accompanied by an Ultraflex issued Return Goods Authorization number.

Upon receipt, the product will be examined to determine the cause of defect. If the product is determined to have a defect in workmanship or material, it will be repaired or replaced at the Ultraflex discretion.

This guarantee does not cover labor.

This guarantee does not cover products that have been misinstalled or misapplied. Furthermore, it does not cover claims for direct or indirect damage.

We decline liability and exclude guarantee if products are improperly installed, misapplied, or misused.

Our products are not intended to be used in racing applications, therefore this guarantee does not cover our products if they are used for racing purposes.

Power E™, Power A™ and Power C™. The “Power E™, Power A™ and Power C™ - User and Installation Manual” describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty. Descriptions and drawings in that manual are suitable to allow installation and use of the product to skilled persons. In case of doubt and/or for any information, please contact our Technical Service.

ULTRAFLEX mechanical steering systems components as steering helms, steering cables and steering wheels are all marked CE in compliance with the EEC Directive 94/25 and the rules EN29775 - EN28848. Ultraflex hydraulic steering system components are all marked CE in compliance with the EEC Directive 94/25 and the rule ISO 10592. The CE Examination on the ULTRAFLEX steering systems has been carried out by an Institute certified by the European Commission.

We kindly remind you that on the boats marked CE it is compulsory to install steering systems with components marked CE (see art. 4 and 5 of Directive 94/25/CE).

We inform you the ULTRAFLEX guarantee is null and void if some ULTRAFLEX components are installed on a steering system together with products of other brands, with the exception of those brands clearly specified in our catalogue on page 21.

The descriptions and guidelines shown in this catalogue should be used as general reference only. For any further information please contact our Technical Service.
Power & Control
Power E™

ELECTRONIC CONTROL SYSTEM

Power E is an electronic control system with digital data transmission, based on CAN Bus, that allows the operator to control both electronic engine and electro-hydraulic shift (with solenoid) with a single control lever. The system allows a smooth and perfect control and gives an immediate engine response for any situation in any sea conditions.

The system is designed for single or twin engine boats up to 164 ft (50 m) using one actuator and a single lever for each engine. The system is provided with a lever with the double function of throttle-shift and an electronic actuator.

Up to 7 control stations for single or twin engines can be installed. The pre-assembled electric cables and an easy to use configuration software guarantee fast and easy installation. An audible and visual diagnostic system on board shows any system failure in an easy and quick way.

On twin engines system, it is possible to automatically synchronize the rpm of the two engines to reduce their fuel consumption and noise, providing a better navigation comfort.

The Docking function allows reducing the response of the lever for a better docking operation, while the High-Idle function increases the minimum speed of engines. Neutral warm up is possible with the Warm-Up function. The Power E is prearranged for Trolling valve operations.

The Power E™ electronic system actuators cannot be installed in those rooms where ignition-proof devices are required.

Power E™ is a versatile system which can be used with all the signals and new data communication standards on the engines equipped with an electronic control unit. It is in compliance with the new Euro 4 engines and can communicate with the common standard CAN SAE J1939 or generate any kind of electric signals, like voltage, current, pwm or frequency for full fit any engine electric interface.

The electronic actuator can control up to 3 shift solenoid valves for gear operation and 1 proportional solenoid valve for the trolling operation.

It is possible to select a RINA behavior, according to RINA directives, through the configuration software.

The data transmission between control stations and actuators take place in a safe digital format. It is also possible a digital communication between actuators and engines.
**Power E™**

**DIGITAL DATA TRANSMISSION**
**PLUG’N PLAY CONNECTIONS**
**RPM AUTOMATIC Synchronization**
**RPM REDUCTION FOR DOCKING MANEUVERS**
**UP TO 7 CONTROL STATIONS**
**SHIFTING DELAYS SELECTED BY THE SOFTWARE**
**CONFIGURATION THROUGH THE SOFTWARE**
**INTEGRATED TROLL CONTROL**
**ELECTRONIC COMMUNICATION WITH THE ENGINE**
(SAE J 1939 or NMEA 2000)

**TECHNICAL FEATURES:**
- Single lever for control shift and throttle
- Up to 7 control stations
- Power supply: min 6 max 32V
- Working temperatures: -25°C to +75°C
- Control station function:
  - Station Selection
  - Warm Up engines
  - Engine Minimum high (High Idle)
  - Troll
  - Docking
  - Engines synchronization
- Dedicated CAN channel for digital throttle command (CAN SAE J 1939 protocol)
- Throttle outputs (software selectable):
  - PWM (0-100%, frequency from 200Hz to 1 kHz)
  - Voltage (double output 0..5V and 0..2.5V)
  - Current (4..20mA)
- Shift Output
  - Up to three solenoid valves
- Trolling valve outputs (software selectable):
  - PWM (0-100%, frequency from 200Hz to 1 kHz)
  - Frequency (from 200Hz to 1 kHz)
  - Voltage (0..5V)
  - Current (4..20mA)
- Operating parameter adjustments through configuration software

**SAFETY DEVICES:**
- Start in-gear (Start inhibition with shifted gear)
- Low clutch oil pressure signal
- Audible and visual diagnostic failure alarm
- Proportional shift delays
- Meets CEI EN 60945 standards

**EMC CERTIFICATION AND CE MARK:**
It is in conformity with:
- CEI EN60945
- UNI-EN_ISO 11547
- ABYC P-24
- SAE J 1939 v. 2.0 B

**ENGINE THROTTLE CONTROL COMPATIBILITY:**
- Current (4..20mA): MAN, MTU and etc.
- Voltage: (0..5V and 0..2.5V): Cummins, Detroit Diesel, Scania, Iveco, Lombardini, VM Motori, FNM etc.
- PWM: Caterpillar
### ORDER GUIDE

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<td>CAN cables</td>
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<td>Power in cables/alarms</td>
<td>Select the desired configuration according to</td>
<td>1 for each connection</td>
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<td>Throttle cables</td>
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<td>72279 H</td>
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<td>CAN cables</td>
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<td>Power in cables/alarms</td>
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<td>Troll cables</td>
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Note: The configuration cable is supplied in a single length of 7 m.
# CHART E1: Cable types and lengths

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<th>7 m - 23 ft</th>
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<th>15 m - 50 ft</th>
<th>20 m - 66 ft</th>
<th>25 m - 82 ft</th>
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<td>Single battery</td>
<td>POWER</td>
<td>41210 U</td>
<td>41211 W</td>
<td>41212 Y</td>
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<td>Twin battery</td>
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<td>41213 A</td>
<td>41214 C</td>
<td>41215 E</td>
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<td>Power cable</td>
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<tr>
<td>Shift</td>
<td>SHIFT</td>
<td>41216 G</td>
<td>41217 J</td>
<td>41218 L</td>
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<tr>
<td>Troll: PWM or</td>
<td>TROLL</td>
<td>41219 N</td>
<td>41220 X</td>
<td>41221 Z</td>
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<td>-</td>
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<tr>
<td>Frequency output</td>
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<td>Troll: Voltage</td>
<td>TROLL</td>
<td>41222 B</td>
<td>41223 D</td>
<td>41224 F</td>
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<td>Troll: Current</td>
<td>TROLL</td>
<td>41225 H</td>
<td>41226 K</td>
<td>41227 M</td>
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<td>Configuration</td>
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<td>Throttle: SAE</td>
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<td>41228 P</td>
<td>41229 S</td>
<td>41230 A</td>
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<td>J1939 output</td>
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<tr>
<td>Throttle: PWM /</td>
<td>THROTTLE</td>
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<td>41232 E</td>
<td>41233 G</td>
<td>-</td>
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<tr>
<td>Frequency output</td>
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<td>Throttle: Voltage</td>
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<td>Throttle: Current</td>
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<td>71021 K</td>
<td>71031 N</td>
<td>71032 R</td>
<td>71094 P</td>
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<td>(* 6 m)</td>
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Notes:
- The configuration cable is supplied in a single length of 7 m
- The Troll cable is needed only for boats equipped with the Trolling valve
- For optional output or input please refer to the "Power E - Installation and User Manual"
- Ask our Technical Services for Custom configurations (e.g. gear box oil pressure signal)
- To determine the CAN network please refer to the "Power E™ - Installation and User Manual" and/or ask our Technical Service

The "Power E™ - Installation and User Manual" describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty and obtain the better performances.

Descriptions and drawings in the manual are apt to allow an easy installation and safe use of the product by skilled persons. In case of doubt and/or for any information, please contact our Technical Service.

PLEASE REFER TO LIMITED WARRANTY CONDITIONS REPORTED IN THIS CATALOGUE.
The easy to install Power A provides effortless control of throttle and shift levers using reliable and precise Digital Data Transmission. This dual or single function control system has been specifically designed to interface with electronic, electro-hydraulic and/or traditional mechanically controlled engines.

The ergonomic design of the control levers with optional trim and tilt switches allows for accurate and comfortable boat handling both at sea and while docking. Automatic Engine Synchronization is a standard feature of the Power A, which provides for a more fuel efficient and comfortable ride.

A unique Dock Assist function offers the operator the opportunity to reduce the sensitivity of the throttle and shift levers for an easier docking handling. A High Idle Control feature allows you to increase the minimum RPM of the engines in case of cold engines or in those applications where adjusting the minimum RPM is necessary.

Warm Up function is a standard feature on the Power A.

The Power A is suitable for boats up to 82 feet (25 m) with up to 3 stations. "Plug and Play" wiring harnesses make the installation quick and easy with minimal programming required to set the system to the individual requirements of the application.

Audible and visual diagnostic systems alert the operator to any control system issue needing attention.

Series up to 3 control stations
Single or dual function
Digital data transmission
Automatic engine synchronization
Plug’n Play connection
Dock assist
High idle control
Audible and visual diagnostic alert system
Minimal programming

Technical features:
- Single lever for control shift and throttle
- Up to 3 control stations
- Power supply: min 6 max 32V
- Working temperatures: -25°C to +75°C
- Control station function:
  - Station Selection
  - Warm Up engines
  - Engine Minimum high (High Idle)
  - Docking
  - Engines synchronization
  - Trim (optional)
- Throttle outputs (software selectable):
  - Voltage (double output 0-5V and 0-2.5V

Electronic actuator:
- Up to three solenoid valves
- Shift customizable pauses

Mechanical actuator:
- Full stroke 80 mm
- Dip-switch function selection and hardware or software configuration

Safety devices:
- Start-in gear protection
- Low clutch oil pressure signal
- Audible and visual diagnostic failure signals
- Proportional shift delays (software selectable)
- Meets CEI EN 60945
<table>
<thead>
<tr>
<th>ENGINE</th>
<th>SYSTEM</th>
<th>COMPONENTS</th>
<th>PART No.</th>
<th>Qty</th>
</tr>
</thead>
</table>
| EM11   | Single Engine Single Station | Mechanical actuator  
Single control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41072J  
41077V (41076T)  
41258Z (41259B)  
Chart A1  
Chart A1  
Chart A1  
41260K | 1  
1  
1  
2  
1  
2 |
| EM12   | Single Engine Twin Station | Mechanical actuator  
Single control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41072J  
41077V (41076T)  
41258Z (41259B)  
Chart A1  
Chart A1  
Chart A1  
41260K | 1  
2  
1  
3  
1  
2 |
| EM21   | Twin Engine Single Station | Mechanical actuator  
Dual control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41072J  
41079Z (41078X)  
41258Z (41259B)  
Chart A1  
Chart A1  
Chart A1  
41260K | 2  
2  
1  
4  
2  
2 |
| EM22   | Twin Engine Twin Station | Mechanical actuator  
Dual control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41072J  
41079Z (41078X)  
41258Z (41259B)  
Chart A1  
Chart A1  
Chart A1  
41260K | 1  
2  
2  
1  
4  
2 |
| EE11   | Single Engine Single Station | Electronic actuator  
Single control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41074N  
41077V (41076T)  
41258Z (41259B)  
Chart A1  
Chart A1  
Chart A1  
41260K | 1  
1  
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2  
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2 |
| EE12   | Single Engine Twin Station | Electronic actuator  
Single control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
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Network terminator | 41074N  
41079Z (41078X)  
41258Z (41259B)  
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Chart A1  
Chart A1  
41260K | 1  
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2 |
| EE21   | Twin Engine Single Station | Electronic actuator  
Dual control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41074N  
41079Z (41078X)  
41258Z (41259B)  
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Chart A1  
Chart A1  
41260K | 1  
2  
1  
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1  
2 |
| EE22   | Twin Engine Twin Station | Electronic actuator  
Dual control with trim (or no trim)  
Power supply adapter 12V ( 24V)  
Power supply extension  
Throttle cable extension  
Network extension  
Network terminator | 41074N  
41079Z (41078X)  
41258Z (41259B)  
Chart A1  
Chart A1  
Chart A1  
41260K | 1  
2  
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<td>Power supply extension</td>
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<td>Network terminator</td>
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### CHART A1: Electrical cables - available models and lengths

<table>
<thead>
<tr>
<th>CABLE MODEL</th>
<th>USE</th>
<th>1 m - 3 ft</th>
<th>7 m - 23 ft</th>
<th>10 m - 33 ft</th>
<th>15 m - 50 ft</th>
<th>20 m - 66 ft</th>
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</thead>
<tbody>
<tr>
<td>Configuration cable (optional)</td>
<td>Custom software configuration</td>
<td>41257 X</td>
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<td>Power supply extension cable</td>
<td>Power supply devices</td>
<td>41261 M</td>
<td>41157 T</td>
<td>41262 P</td>
<td>41263 S</td>
<td>41622 U</td>
</tr>
<tr>
<td>Throttle extension cable (engines with electronic throttle input)</td>
<td>For Yanmar BY Series</td>
<td>-</td>
<td>72989 S</td>
<td>72990 A</td>
<td>72991 C</td>
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<td></td>
<td>For Lombardini</td>
<td>-</td>
<td>41560 Y</td>
<td>41264 U</td>
<td>41265 W</td>
<td>41562 C</td>
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<td></td>
<td>For Mercruiser-Cummins QSD</td>
<td>-</td>
<td>41597 K</td>
<td>41598 A</td>
<td>41599 C</td>
<td>41623 W</td>
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<td></td>
<td>For IVECO</td>
<td>-</td>
<td>41583 L</td>
<td>41584 N</td>
<td>41585 R</td>
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<td></td>
<td>For Mercruiser-Diesel DSD 4 and 6 cylinders</td>
<td>-</td>
<td>41586 T</td>
<td>41587 V</td>
<td>41588 X</td>
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<td></td>
<td>For Volkswagen TDI-4, TDI-5, TDI-6</td>
<td>-</td>
<td>41894 E</td>
<td>41895 G</td>
<td>41896 J</td>
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<td>Network extension cable</td>
<td>Devices communication</td>
<td>41267 A</td>
<td>41156 R</td>
<td>41268 C</td>
<td>41269 E</td>
<td>41624 Y</td>
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<td>Engine RPM extension cable</td>
<td>Engine RPM feedback</td>
<td>-</td>
<td>41158 V</td>
<td>41270 N</td>
<td>41271 R</td>
<td>41626 C</td>
</tr>
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</table>

**Note:**
- The configuration cable has a single length of 1 m (3 ft)
- For optional outputs or inputs please refer to the “Power A™ - Installation and User Manual” or ask for information to our Technical Service
- Please ask our Sales Department for Custom solutions
- To determine the network please refer to the “Power A™ - Installation and User Manual” or ask our Technical Service

### Additional components and spare parts

<table>
<thead>
<tr>
<th>TYPE</th>
<th>SYSTEM</th>
<th>DESCRIPTION</th>
<th>PART No.</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>Engine RPM extension cable</td>
<td>Systems with RPM feedback (alternator, dynamo or tachometer)</td>
<td>RPM extension cable</td>
<td>Chart A1</td>
<td>1 for each engine</td>
</tr>
<tr>
<td>Cable connection kit</td>
<td>Mechanical actuator</td>
<td>Kit to connect the mechanical cable to the actuator</td>
<td>41898 N</td>
<td>1 for each actuator</td>
</tr>
<tr>
<td>Conduit stop kit</td>
<td>Mechanical actuator</td>
<td>Conduit stop kit for mechanical cable</td>
<td>41897 L</td>
<td>1 for each actuator</td>
</tr>
</tbody>
</table>

### Compatibility with all mechanical throttle engines:

**Compatibility with electronic throttle engines:**
- Cummins, Detroit Diesel, Scania, Iveco, FPT, Lombardini, VM Motori, FNM, Yanmar, Volkswagen, etc.

### EMC CERTIFICATION AND CE MARK:

Power A™ is in conformity with:
- CEI EN60945
- UNI-EN ISO 11547

The Power A™ electronic system actuators cannot be installed in those rooms where ignition-proof devices are required.

The “Power A™ - Installation and User Manual” describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty and obtain the better performances. Description and drawings in that manual are suitable to allow an easy installation and safe use of the product by skilled persons. In case of doubt and/or for any information, please contact our Technical Service.

**PLEASE REFER TO LIMITED WARRANTY CONDITIONS REPORTED IN THIS CATALOGUE.**
Power C™

ELECTRONIC CONTROL SYSTEM

Power C™ is a distributed intelligence system featuring 1 microprocessor in each control head for each lever and 2 micro-processors in each actuator to operate the clutch and the throttle of the engine. The digital data transmission between the control head and the actuator microprocessors utilizes a CAN Bus 4-conductor shielded cable that reduces any possible interference and guarantees the maximum reliability. The system is designed for single or twin engine vessels up to 35 m (115 ft) utilizing one actuator for each engine and one single lever control for each control station. The pre-assembled electric cables (Plug’n Play connectors) guarantee fast and easy installation avoiding connection mistakes. In the event of system failure, the audible and visual diagnostic alarms advise the cause of the problem in a very easy and quick way. The actuators can then be converted to manual operation thanks to a built-in mechanical device. The standard twin engine synchronization system reduces the vibrations and the noise of the engines for high comfort and higher engine efficiency. The docking function which comes standard with the system, permits to reduce the maximum RPM of the engine and allows the operator to use the complete movement of the lever during the docking maneuver.

- ELECTRONIC CONTROL SYSTEM

On request a POWER C system version with RINA Type Approval Certificate (No. ELE247004CS) is available.

RINA approved actuator: Part No. 40802 R
For any further information, please contact our Technical Service

SINGLE ENGINE, SINGLE CONTROL STATION APPLICATION COMPONENTS:
- 1 Power C actuator complete with 2 push-pull cable connector kits and 1 kit with 2 termination resistors
- 1 single lever control
- Pre-assembled electric cables (length required according to system configuration)
- 2 Ultraflex C2, or C8, or MACHZero mechanical push-pull cables (length required according to system configuration)
- 1 Automatic Power Selector (optional) P.No. 65198 T

TWIN ENGINE, SINGLE CONTROL STATION APPLICATION COMPONENTS:
- 2 Power C actuators complete with 2 push-pull cable connector kits, 2 installation kits and 2 pre-assembled jumpers
- 2 dual lever controls
- Pre-assembled electric cables (length required according to system configuration)
- 4 Ultraflex C2, or C8, or MACHZero mechanical push-pull cables (length required according to system configuration)
- 1 Automatic Power Selector (optional) P.No. 65198 T

The Power C™ electronic system actuators cannot be installed in those rooms where ignition-proof devices are required.
CAN BUS DIGITAL DATA TRANSMISSION

TECHNICAL FEATURES:

- Single lever to control both shift and throttle
- Distributed intelligence system
- Up to 7 control stations
- 12/24 Volts DC power supply
- Fast and easy installation (Plug n'Play)
- Station select and station transfer function (STATION SELECT)
- Neutral throttle warm up (WARM UP)
- High/Low idle engine RPM selection (HIGH IDLE)
- Automatic twin engine RPM synchronization (SYNC)
- Docking function (DOCK)
- Control panel light calibration
- Audible and visual indicators for neutral position
- Mechanical interface to most engine/transmission combinations
- Initial system function settings
- Engine trolling valve control when using the specific actuators (page16) and the “troll” control boxes

SAFETY:

- Start in-gear protection
- Low clutch oil pressure alarm
- Audible and visual diagnostic failure alarm
- Safety manual maneuvering device on the actuator
- Proportional shift delays
- Meets CEI EN 60945 standards
# ORDER GUIDE:

<table>
<thead>
<tr>
<th>DIAGRAM</th>
<th>SYSTEM</th>
<th>COMPONENTS</th>
<th>PART No.</th>
<th>Qty</th>
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<td>Actuator</td>
<td>39602 Z</td>
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<td>Single Station</td>
<td>Single Control Head</td>
<td>(page 17)</td>
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<td>Power In Cable</td>
<td>Chart C1</td>
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<td>Neutral Safety - Oil Input Cable</td>
<td>Chart C1</td>
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| PwC12   | Single Engine        | Actuator                          | 39602 Z  | 1   |
|         | Twin Station         | Single Control Head               | (page 17)| 2   |
|         |                      | Power In Cable                    | Chart C1 | 1   |
|         |                      | Neutral Safety - Oil Input Cable  | Chart C1 | 1   |
|         |                      | Alarm Out - On Off Cable          | Chart C1 | 1   |
|         |                      | CAN Bus Cable                     | Chart C1 | 2   |
|         |                      | Installation Kit                  | 41889M   | 1   |

| PwC21   | Twin Engine         | Twin Control Head                 | 39602 Z  | 2   |
|         | Single Station      | Power In Cable                    | (page 17)| 1   |
|         |                      | Engine Signal Cable (Optional)    | Chart C1 | 2   |
|         |                      | Neutral Safety - Oil Input Cable  | Chart C1 | 2   |
|         |                      | Alarm Out - On Off Cable          | Chart C1 | 2   |
|         |                      | CAN Bus Cable                     | Chart C1 | 2   |
|         |                      | Installation Kit                  | 41888M   | 1   |

| PwC22   | Twin Engine         | Twin Control Station              | 39602 Z  | 2   |
|         | Twin Station        | Power In Cable                    | (page 17)| 2   |
|         |                      | Engine Signal Cable (Optional)    | Chart C1 | 2   |
|         |                      | Neutral Safety - Oil Input Cable  | Chart C1 | 2   |
|         |                      | Alarm Out - On Off Cable          | Chart C1 | 2   |
|         |                      | CAN Bus Cable                     | Chart C1 | 4   |
|         |                      | Installation Kit                  | 41888M   | 1   |

**WARNING:** For the applications with engines featuring **“TROLLING VALVE”** use the Actuator P.No. 41009 B instead of the standard actuator P. No. 39602 Z and add 1 “troll” Actuator P.No. 40663 D for both single engine and dual engine systems. Order “troll” type controls.

**CHART C1:** Available electric cables:

<table>
<thead>
<tr>
<th>LENGTH</th>
<th>POWER IN</th>
<th>ENGINE SIGNAL</th>
<th>NEUTRAL SAFETY/OIL INPUT</th>
<th>ALARM OUT/ON OFF</th>
<th>CAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 m - 20 ft</td>
<td>71016 T</td>
<td>71019 Z</td>
<td>71017 V</td>
<td>71018 X</td>
<td>71030 L</td>
</tr>
<tr>
<td>10 m - 33 ft</td>
<td>71026 W</td>
<td>71029 C</td>
<td>71027 Y</td>
<td>71028 A</td>
<td>71021 K</td>
</tr>
<tr>
<td>15 m - 50 ft</td>
<td>71033 T</td>
<td>71036 Z</td>
<td>71034 V</td>
<td>71035 X</td>
<td>71031 N</td>
</tr>
<tr>
<td>20 m - 66 ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71032 R</td>
</tr>
<tr>
<td>25 m - 82 ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71094 P</td>
</tr>
</tbody>
</table>

**NOTE:** For applications with cables whose length in not listed above, please contact our Technical Service.

The "Power C™ - User and Installation Manual" describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty. Descriptions and drawings in that manual are suitable to allow installation and use of the product to skilled persons. In case of doubt and/or for any information, please contact our Technical Service.

**PLEASE REFER TO LIMITED WARRANTY CONDITIONS REPORTED IN THIS CATALOGUE.**
MECHANICAL STEERING SYSTEMS
Selection of the appropriate mechanical steering system is an important factor for the safety and functionality of your boat. The combination of engine power, hull type and boat speed influence the correct selection of the steering system. The load on the steering system increases with the boat speed and engine power; the torque generated by the propeller rotation in high power outboard applications can make it hard to steer.

Big boats with displacement hulls and inboard or non power assisted stern drive engines, can generate high rudder loads: in these cases a mechanical steering system will be inadequate and we suggest the use of an Ultraflex hydraulic steering system.

We always recommend consulting qualified personnel when selecting, installing and maintaining a steering system for your boat.

Ultraflex mechanical steering helms T71FC, T73NRFC as well as dual cable versions and tilt wheel versions use a Planetary Gear Design. A Planetary Gear Design has three satellite gears that rotate on their axis and at the same time rotate around the central helm axis. This allows for equal distribution of engine torque over three points of the central gear, dividing and balancing the system loads. The benefits of this special design are increased system longevity, increased efficiency and less engine feedback compared to single pinion gear helms.

**Efficiency Comparison Tests**

**Test configuration:**
3 bends at 90°; 1000N load

**NOTE:** indicated figures have been obtained after 500 cycles of running from samples bought from after-market sources.
USE AND MAINTENANCE

The steering cable must be installed avoiding excessive and/or tight bends. This will provide the driver with easy handling at all speed, helping to reduce inefficiency and excess play in the system.

Marine corrosion may cause the materials to deteriorate affecting maneuvering efficiency and in the worst case, system failure. By following the engine manufacturer specifications, the steering cable end fittings and the engine cable support must be cleaned and greased periodically; these simple operations minimize wear and corrosion in the system.

The steering cable must be regularly inspected. If steering becomes hard, inconsistent, cuts on the conduit surface are noticed, or any other component found damaged, the cable must be replaced immediately.

When storing your boat for an extended period of time we recommend removing the steering cable end fitting from its engine side support and cleaning it adequately.

THE IMPORTANCE OF A NON-REVERSIBLE STEERING SYSTEM FOR INCREASED SAFETY

The steering system of a boat is the mechanism that determines the boat direction when the steering wheel is turned. If, for any circumstance, the driver does not hold the steering wheel, a dangerous situation may occur caused by a sudden change of direction of the boat due to external forces (waves, currents, etc.) or internal forces such as rudder torque originated by the way of rotation of the propeller.

Engine torque usually generates a load on the steering system that must be continually compensated for by the driver even when the boat is going straight. The additional effort by the driver to maintain a true course can often cause fatigue.

With Ultraflex Non-Reversible steering helms T73NRFC, T74NRFC, T83NRFC, T84NRFC the loads applied to the steering system are no longer a problem. A special patented device allows the helm shaft to lock until turned by the driver, maintaining the boat direction and neutralizing the feedback loads on the steering cable.

This mechanism is engaged when the driver is not turning the wheel and is automatically disengaged as soon as the driver applies pressure on the wheel to change direction of the boat.

The Ultraflex Non-Reversible mechanism makes driving a boat safer and easier.
## Selection of Steering System and Cable Length Measurement

### APPLICATION | ENGINE POWER | STEERING SYSTEM
---|---|---
**OUTBOARD** up to 40 kW (55 cv) | **TM48 - T67**
| **BOAT LENGTH** up to 30’ (9m) | T85 - T71FC - T81FC - T73NRFC - T83NRFC - T86 - T88NR - T96 - T98NR Twin cable rotary steering systems | Twin cable systems are recommended for boats that exceed 50 mph. Always follow engine manufacturer’s instructions.

**INBOARD** up to 35’ (10.5m) | **T71FC - T81FC - T73NRFC - T83NRFC - T86 - T88NR - T96 - T98NR** Twin cable rotary steering systems | Twin cable rotary steering systems

**STERNDRIVE POWER ASSISTED** | **T85 - T71FC - T81FC - T73NRFC - T83NRFC - T86 - T88NR - T96 - T98NR** Twin cable rotary steering systems | Twin cable rotary steering systems

**NOTE:** sterndrive engines not equipped with power steering can create very high steering loads. Our hydraulic steering systems are recommended for these type of boats. For any further information please contact our Technical Service Department.

- **Speed, hull, horsepower, engine type, displacement and size** are major factors in boat performance and handling characteristics. The above selection guide should be used as a general reference only.
- One of the major factors in selecting a steering system is proper cable length. Due to specific routing in each boat, these approximate lengths will vary. Final selection should be made with the assistance of a qualified technician.
- **Ultraflex mechanical steering systems should not be used on boats equipped with engines that exceed the maximum horsepower rating of the boat.**

### HOW TO MEASURE FOR NEW STEERING CABLE INSTALLATION

**TILT TUBE MOUNTING - Fig. 1**

Example (dimensions in cm):
A (50) + B (250) + C (80) = 380 - 20 for two 90° bends = 360 + 30,5
For a thru-tube installation
390,5 cm : 30,5 = 12,8 ft; round off to 13 ft

**TRANSOM SUPPORT OR SPLASHWELL MOUNTING - Fig. 2-3**

Example (dimensions in cm):
A (50) + B (250) + C (80) = 380 - 20 for two 90° bends = 360: 30,5 = 11,8 ft; round off to 12 ft

Add. A + B + C and subtract 10 cm (4") for each 90° bend in the cable. For installation through the engine tilt tube, add 30,5 cm (1 ft) to the measure calculated above. To order in foot length, divide by 30,5 and round off to next whole foot.

---

**Fig. 1**

**Fig. 2**

**Fig. 3**
## MECHANICAL STEERING SYSTEMS

### REPLACEMENT STEERING CABLES

<table>
<thead>
<tr>
<th>ULTRAFLEX REPLACEMENT CABLE</th>
<th>STEERING HELM</th>
<th>ADAPTOR REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>M55</td>
<td>Ultraflex P14 - P15</td>
<td>none</td>
</tr>
<tr>
<td>M58</td>
<td>T67 Ultraflex C230/C231 Morse® Compac - T* Teleflex® 805 TX*</td>
<td>none*</td>
</tr>
<tr>
<td>M66</td>
<td>T85 - T71FC - T72FC - T73RFC - T74RFC - T81FC - T83RFC - Ultraflex Safe - TQC® - NFB Safe - T11® - NFB 4.2® Teleflex® - D290 Morse®</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td>T71 - T72 - T73NR - T74NR - T81 - T83NR Ultraflex (discontinued)</td>
<td>K66 - 38432Q</td>
</tr>
<tr>
<td>M47 - DISCONTINUED USE M66+K66</td>
<td>T71 - T72 - T73NR - T74NR - T81 - T83NR Ultraflex (discontinued)</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td>T85 - T71FC - T72FC - T73RFC - T74RFC - T81FC - T83RFC Ultraflex Safe - T® - Big-T® - Teleflex®</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td>Safe - T® - Big-T® - Teleflex®</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td>806 TX®</td>
<td>K54-37811D</td>
</tr>
<tr>
<td>TM86</td>
<td>G86 - G88NR - G96 - G98NR Ultraflex Command 200 Morse® &quot;The rack&quot; SSC-124 Teleflex®</td>
<td>none</td>
</tr>
</tbody>
</table>

**NOTE:** with C230/C231 Morse® and Compac - T* Teleflex® steering helms a K55 - 37816 I adaptor is required if using M58 Ultraflex steering cable manufactured prior to January 1995.

### HOW TO MEASURE FOR REPLACEMENT STEERING CABLES

**D** = Misura della guaina

**ORDER LENGTH:** "D" dimension + 56 cm

To order in foot length, divide for 30,5 and round up to the next whole foot

*Example: D = 305 cm + 56 cm = 361 : 30,5 = 11’8” Round up to 12 ft*
A COMPLETE STEERING SYSTEM CONSISTS OF:
- Preassembled helm with steering cable: TM 48 available in 1 foot increments
- Shaft assembly:
  - G16 - 31880 O - Black bezel
  - G16W - 31881 P - White bezel
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:
- All stainless steel output end of cable as per ABYC P17 standards
- Reinforced nylon fiberglass housing
- Two optional installation positions for G16 shaft assembly
- Lock-to-lock steering wheel turns: approx. 2
- Stroke: 222 mm (8.7”)
- Maximum allowable steering wheel diameter: 380 mm (15”)
- Minimum steering cable bend radius: 200 mm (7.9”)
- Exceeds EN 29775 safety standards

APPLICATIONS: for use with outboard engines up to 40 kW (55 hp)
T67 STEERING SYSTEM

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm with friction:
  - T67 - 35809 J - Black bezel
  - T67W - 37925 M - White bezel
- Steering cable:
  - M58 available in one foot increments
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- All stainless steel output end of cable as per ABYC P17 safety standards
- Corrosion resistant materials
- Standard friction externally adjustable
- 90° bezel
- Four optional helm positions to facilitate steering cable installation
- Lock-to-lock steering wheel turns: approx. 2.5
- Stroke: 230 mm (9”)
- Maximum allowable steering wheel diameter: 380 mm (15”)
- Minimum steering cable bend radius: 200 mm (7.9”)
- Available in package with ROTECH-IV
- Exceeds EN 29775 safety standards

APPLICATIONS: for use with outboard engines up to 40 kW (55 hp) with the exception of EVINRUDE E-TEC™ 50 for which the use of T85 or T71FC is recommended.
A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  - T85 - 38439 Z - Black bezel
  - T85W - 39213 M - White bezel
- Steering cable: M66
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- All stainless steel cable output ends
- Corrosion resistant materials
- Particularly suitable where clearance is limited
- Lock-to-lock steering wheel turns: approx. 3
- Stroke 228 mm (9”)
- Maximum allowable steering wheel diameter: 406 mm (16”)
- Minimum steering cable bend radius: 200 mm (7.9”)
- Minimal feedback
- Compact for mounting
- T85 steering system is not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- Available in package with ROTECH-V
- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards
T71FC AND T72FC ROTARY STEERING SYSTEMS

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  - T71FC - 38867 H - single cable steering helm
  - T72FC - 38868 K - dual cable steering helm
- Mounting bezel:
  - X34 - 36654 B - black, 90° mounting
  - X34W - 40654 C - white, 90° mounting
  - X35 - 36655 C - black, 20° mounting
- Steering cable: M66
  NOTE: two M66 are needed with the T72FC system
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- Fast connect, simple installation
- All stainless steel cable output ends
- Corrosion resistant materials
- Particularly suitable where clearance is limited
- Optional 90° or 20° installation
- Standard 3/4" tapered shaft
- Lock-to-lock steering wheel turns: approx. 3.8
- Stroke: 228 mm (9")
- Maximum allowable steering wheel diameter: 406 mm (16")
- Minimum steering cable bend radius: 200 mm (7.9")
- Minimal feedback
- Compact for mounting
- T71FC and T72FC steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- For boats faster than 50 mph the twin cable steering system T72FC is recommended
- T71FC steering system is also available in package ROTECH-I

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards
MECHANICAL STEERING SYSTEMS

T73NRFC® AND T74NRFC®
NON-REVERSIBLE STEERING SYSTEMS

A COMPLETE STEERING SYSTEM CONSISTS OF:

■ Steering helm:
  T73NRFC - 38869 M
  single cable steering helm
  T74NRFC - 38870 W
  dual cable steering helm

■ Mounting bezel:
  X34 - 36654 B - black, 90° mounting
  X34W - 40654 C - white, 90° mounting
  X35 - 36655 C - black, 20° mounting

■ Steering cable: M66
  NOTE: two M66 are needed with the T74NRFC system

■ Optional steering wheel (see index)
■ Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

■ Easy and safe steering: a patented non-reversible mechanism eliminates the continuous load on the operator caused by the propeller torque
■ Fast connect, simple installation
■ Compact rotary helm unit: the central location of the steering shaft makes these systems the most compact in their class
■ Most suitable where clearance is limited
■ Ideal for larger outboards and surfacing propellers
■ Optional 90° or 20° installation
■ Standard 3/4" tapered shaft
■ All stainless steel cable output ends
■ Made exclusively in corrosion resistant materials
■ Lock-to-lock steering wheel turns: approx 3.8
■ Stroke: 228 mm (9”)
■ Maximum allowable steering wheel diameter: 406 mm (16”)
■ Minimum steering cable bend radius: 200 mm (7.9”)
■ T73NRFC and T74NRFC steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
■ For boats faster than 50 mph the twin cable steering system T74NRFC is recommended
■ Available in package with ROTECIII

■ Exceeds EN 28848 safety standards
■ Exceeds ABYC P17 safety standards
A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  - T81FC - 38957 J
    - single cable steering helm
  - T83NRFC - 38959 N
    - non-reversible single cable steering helm

- Tilt mechanism:
  - X52 - 39250 U
  
  **NOTE:** X52 tilt mechanism fits Ultraflex tilt mount rotary and rack and pinion steering helms as well as Ultraflex tilt mount hydraulic pumps except SilverSteer™ steering systems

- Steering cable: M66

- Optional steering wheel (see index)

- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- Tilt range of 48° and five locking positions
- Fast connect, simple installation
- Tilt device eliminates underdash movement
- Standard 3/4” tapered shaft - stainless steel
- All stainless steel cable output ends
- Corrosion resistant materials
- Lock-to-lock steering wheel turns: approx. 3.8
- Stroke: 228 mm (9”)
- Maximum allowable steering wheel diameter: 406 mm (16”)
- Minimum steering cable bend radius: 200 mm (7.9”)
- T81FC and T83NRFC steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- For boats faster than 50 hydraulic steering systems are recommended

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

**Max Dash Depth:**

- 25.4 mm (1”)
MECHANICAL STEERING SYSTEMS

T86 AND T88NR® RACK AND PINION STEERING SYSTEMS

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Preassembled helm with steering cable: TM86
- Helm assembly:
  - G86 - 39418 G standard
  - G88NR® - 39419 J - non reversible
- Mounting bezel:
  - X34 - 36654 B - black, 90° mounting
  - X34W - 40654 C - white, 90° mounting
  - X35 - 36655 C - black, 20° mounting
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- Easy and safe steering: patented non reversible G88NR helm eliminates the continuous load on the operator caused by the propeller torque
- All stainless steel cable output ends
- Made exclusively in corrosion resistant materials
- Optional 90° or 20° installation
- Standard 3/4" tapered shaft
- Lock-to-lock steering wheel turns: 3,5
- Stroke: 210 mm (8.2")
- Maximum allowable steering wheel diameter: 420 mm (16.5")
- Minimum steering cable bend radius: 200 mm (7.9")
- T86 and T88 NR steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards
A COMPLETE STEERING SYSTEM CONSISTS OF:

- Preassembled helm with steering cable: TM86
- Helm assembly: G96 - 39650 L standard
  G98NR® - 39649 C non reversible
- Tilt mechanism: X52 - 39250 U
  NOTE: X52 tilt mechanism fits Ultraflex tilt mount rotary and rack and pinion steering helms as well as Ultraflex tilt mount hydraulic pumps except SilverSteer™ steering systems
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- Easy and safe steering: the patented non reversible G98NR helm eliminates the continuous load on the operator caused by the propeller torque
- Fast, simple installation
- Tilt range of 48° and five locking positions
- Tilt device eliminates underdash movement
- Standard 3/4” tapered shaft - stainless steel
- All stainless steel cable output ends
- Made exclusively in corrosion resistant materials
- Lock-to-lock steering wheel turns: 3.5
- Stroke: 210 mm (8.2”)
- Maximum allowable steering wheel diameter: 420 mm (16.5”)
- Minimum steering cable bend radius: 200 mm (7.9”)
- T96 and T98NR® steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards
P14 - P15
STEERING SYSTEMS
FOR INFLATABLE BOATS

A COMPLETE STEERING SYSTEM
CONSISTS OF:
■ Rack and pinion system with telescopic support tubes:
  P14 - 33391 Y - lacing cuff anchors
  P15 - 33392 Z - lacing cuff anchors
■ Steering cable:
  M55 available in one foot increments
■ Optional steering wheel (see index)
■ Accessories: control box mounting plates and connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:
■ Anodized alloy telescopic support
■ All stainless steel cable output ends
■ Lock-to-lock steering wheel turns: approx. 2.5
■ Stroke: 230mm (9”)
■ Maximum allowable steering wheel diameter: 380 mm (15”)
■ Minimum steering cable bend radius: 200 mm (7.9”)
■ Exceeds EN 28848 safety standards
■ Exceeds ABYC P17 safety standards
■ APPLICATION: for use with inflatable boats equipped with outboard engines

CONTROL BOX SUPPORT BRACKETS FOR P14 - P15 STEERING SYSTEMS

S45 - 32797 P
Designed for B47 and B49 control boxes

S56 - 35062 F
Designed for single lever control boxes. To be positioned on the lacing cuff.

P14 A = min. 1120 mm / max 1470 mm (45,7” - 57,8”)
P15 A = min. 1470 mm / max 1820 mm (57,8” - 71,6”)

M55

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A COMPLETE STEERING SYSTEM CONSISTS OF:

- Stainless steel, tubular, floor mounted pedestal: P26 - 36141 E
- Steering helm with friction:
  - T67 - 35809 J - black bezel
  - T67W - 37925 M - white bezel
- Steering cable:
  - M58 available in one foot increments
- Optional steering wheel (see index)
- Accessories: control box mounting plates and connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- Inflatable boats floor anchors
- Stainless steel tubular support with anodized aluminum control box mounting plate
- All stainless steel cable output ends as per ABYC P17 standards
- Lock-to-lock steering wheel turns: approx. 2.5
- Stroke: 230 mm (9")
- Maximum allowable steering wheel diameter: 380 mm (15")
- Minimum steering cable bend radius: 200 mm (7.9")
- Exceeds EN 28848 safety standards
- APPLICATION: for use with inflatable boats equipped with outboard engines up to 40 kW (55 hp)
ACCESSORIES FOR STEERING SYSTEMS

STEERING CABLE SUPPORTS
S39 - 31916 F
Clamp block in marine aluminum and stainless steel
S40 - 31917 G
Splashwell mounting, corrosion resistant
S55 - 34744 A
90° rudder support, corrosion resistant
S61 - 36191 S
Clamp block, corrosion resistant painted steel
S62 - 38830 H
Same design as S61, smaller dimensions
S39T - 53930 J - Tube only for S39
S40T - 53935 O - Tube only for S40

Steering cable supports with stainless steel tube also available:
S39SS - 41551 X
S61SS - 41554 D
S40SS - 41552 Z
S62SS - 41555 F
S55SS - 41553 B

ENGINE CONNECTION KITS
A50 - 31473 Q
Connection kit for Yamaha® engines
A73SS - 41255 T
Stainless steel tiller arm for some Mercury® engines
A74SS - 41256 V
Stainless steel tiller arm for some Johnson®, Evinrude®, OMC® engines
A75 - 34459 X Clevis

WARNING: A73 and A74 tiller arms are recommended for mechanical steering systems only

ACCESSORIES SELECTION GUIDE

<table>
<thead>
<tr>
<th>INSTALLATION</th>
<th>CABLE SUPPORT + ENGINE CONNECTION KIT</th>
<th>INSTALLATION</th>
<th>CABLE SUPPORT + ENGINE CONNECTION KIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>S39 or S61 or S62 + A75</td>
<td>C</td>
<td>A73 or A74</td>
</tr>
<tr>
<td>B</td>
<td>S40 + A75</td>
<td>D</td>
<td>S55 + A75</td>
</tr>
</tbody>
</table>

A = With clamp block
B = With splashwell
C = With tiller arm
D = With 90° rudder support
A88 - A92
TIE BARS FOR
TWIN OUTBOARD
ENGINES

Universal tie bars applicable to twin outboard engines using mechanical steering. For applications with hydraulic steering systems please refer to hydraulic steering system section.

A88 - 40128 E
- Adjustable from 650 mm (25.6") to 950 mm (37.4") engine centers
- All stainless steel components
- Kit includes all mounting hardware

WARNING: On those applications where the clearance between engine tiller arm and cowling is not sufficient for the use of the A88, the A92 tie bar is recommended

A92/700 - 40892 V
A92/950 - 40893 X
- Easily adjustable before or after installation
- All stainless steel components
- A92/700: Adjustable from 550 mm (21.6") to 700 mm (27.5") engine centers
- A92/950: Adjustable from 700 mm (27.5") to 950 mm (37.4") engine centers

WIRE TYPE STEERING
GROMMETS AND RINGS

BLACK GROMMETS
R1 B - 38060 I - Ø 152 mm (6"); h 110 mm (4.3")
R2 B - 38061 J - Ø 105 mm (4.1"); h 65 mm (2.5")
R3 B - 38062 K - 2 holes Ø 105 mm (4.1"); h 52 mm (2")
R4 B - 38827 V - Adjustable Ø 105 mm (4.1"); h 68 mm (2.6")

WHITE GROMMETS
R1 W - 38953 A - Ø 152 mm (6"); h 110 mm (4.3")
R2 W - 38954 C - Ø 105 mm (4.1"); h 65 mm (2.5")
R3 W - 38955 E - 2 holes Ø 105 mm (4.1"); h 52 mm (2")
R4 W - 38956 G - Adjustable Ø 105 mm (4.1"); h 68 mm (2.6")

GREY GROMMETS
R1 G - 39279 V - Ø 152 mm (6"); h 110 mm (4.3")
R2 G - 39280 D - Ø 105 mm (4.1"); h 65 mm (2.5")
R3 G - 39281 F - 2 holes Ø 105 mm (4.1"); h 52 mm (2")
PACKAGED MECHANICAL STEERING SYSTEMS

ROTECH

ULTRAFLEX ROTARY STEERING SYSTEM PACKAGED IN A BOX

A convenient kit form, especially suitable as replacement steering, that includes helm, bezel and cable. The cable is available in 1-ft increments from 8 to 20 feet (specify cable length when ordering)

The wheel is not included

ROTECH - I
T71FC - helm
X34 - 90° bezel
M66 - steering cable

ROTECH - III
T73NRFC - non-reversible helm
X34 - 90° bezel
M66 - steering cable

ROTECH - IV
T67 - helm and bezel
M58 - steering cable

ROTECH - V
T85 - helm and bezel
M66 - steering cable
SUGGESTION AND WARNINGS WHEN SELECTING A HYDRAULIC STEERING SYSTEM

HOW THE SYSTEM WORKS

A hydraulic steering system consists of a steering pump, a cylinder tied to the rudder or to the outboard or sterndrive engine and the connecting nylon or copper tubing. Under normal operating conditions, a turn of the steering wheel will pump the oil through one of the two connecting hydraulic lines into the cylinder's chamber either extending or retracting the cylinder rod.

The fluid going out from the other chamber of the cylinder is returned to the helm via the other hydraulic line.

The cylinders are double acting and may be balanced or unbalanced (in which case the rod extends through only one end of the cylinder).

There are two basic components in all the hydraulic steering systems: the helm unit and the cylinder, connected by connecting nylon or copper tubing. Under normal operating conditions, a turn of the steering wheel will pump the oil through one of the connecting hydraulic lines into the cylinder's chamber either extending or retracting the cylinder rod.

The valve assembly prevents outgoing fluid from returning along the same line, isolates each steering station, locks the rudder and eliminates rudder "feedback" to the helm.

The fluid going out from the other chamber of the cylinder is returned to the helm via the other hydraulic line.

A hydraulic steering system consists of a steering pump, a cylinder tied to the rudder or to the outboard or sterndrive engine and the connecting nylon or copper tubing. Under normal operating conditions, a turn of the steering wheel will pump the oil through one of the two connecting hydraulic lines into the cylinder's chamber either extending or retracting the cylinder rod.

The valve assembly prevents outgoing fluid from returning along the same line, isolates each steering station, locks the rudder and eliminates rudder "feedback" to the helm.

The cylinders are double acting and may be balanced or unbalanced (in which case the rod extends through only one end of the cylinder).

SELECTION OF A HYDRAULIC STEERING SYSTEM

The strength required to drive a boat equipped with a hydraulic steering system is inversely proportional to the number of turns of the wheel lock-to-lock. The wheel turns are determined by the ratio between the cylinder volume and pump displacement.

With the same type of cylinder installed on the engine, the less are the turns, the faster is the response but higher is the effort; more wheel lock-to-lock. The wheel turns are determined by the ratio between the cylinder volume and pump displacement.

Other factors that can influence steering effort are:

- Vessel speed
- Rudder dimension, or engine power
- Hull type (displacement, planing, etc.)

### OUTBOARD CYLINDERS Maximum power rating applicable

<table>
<thead>
<tr>
<th>Cylinder model</th>
<th>Single engine single cylinder</th>
<th>Double engine single cylinder</th>
<th>Double engine double cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NON counter rotating propellers</td>
<td>counter rotating propellers</td>
</tr>
<tr>
<td>Power max hp</td>
<td>Power max hp</td>
<td>Power max hp</td>
<td>Power max hp</td>
</tr>
<tr>
<td>UC94-OBF</td>
<td>150</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
<tr>
<td>UC68-OBS</td>
<td>150</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
<tr>
<td>UC128-OBF</td>
<td>300</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>UC128-SVS</td>
<td>350</td>
<td>350</td>
<td>600</td>
</tr>
<tr>
<td>UC132-OBS</td>
<td>300</td>
<td>300</td>
<td>450</td>
</tr>
</tbody>
</table>

### STEERING WHEEL TURNS single cylinder

<table>
<thead>
<tr>
<th>Cylinder model</th>
<th>UP20 20cc</th>
<th>UP25 25cc</th>
<th>UP28 28cc</th>
<th>UP33 33cc</th>
<th>UP39 39cc</th>
<th>UP45 45cc</th>
<th>UP28-SVS 28cc</th>
<th>UP33-SVS 33cc</th>
<th>UP39-SVS 39cc</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC94-OBF</td>
<td></td>
<td>4,7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC128-OBF</td>
<td>-</td>
<td>4,8</td>
<td>4,3</td>
<td>3,6</td>
<td>3,1</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC128-SVS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4,3</td>
<td>3,6</td>
<td>3,1</td>
<td></td>
</tr>
<tr>
<td>UC68-OBS</td>
<td>3,4/5,0</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC132-OBS</td>
<td>-</td>
<td>5,3/6,5</td>
<td>4,7/5,8</td>
<td>4,0/4,9</td>
<td>3,4/4,2</td>
<td>2,9/3,6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC133-I0B</td>
<td>-</td>
<td>5,6</td>
<td>4,7</td>
<td>4,0</td>
<td>3,4</td>
<td>2,9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC69-I</td>
<td>3,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC116-I</td>
<td>-</td>
<td>4,6</td>
<td>4,1</td>
<td>3,5</td>
<td>3,0</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC168-I</td>
<td>-</td>
<td>6,7</td>
<td>6,0</td>
<td>5,1</td>
<td>4,3</td>
<td>3,7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC215-I</td>
<td>-</td>
<td>8,6</td>
<td>7,7</td>
<td>6,5</td>
<td>5,5</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC293-I</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8,9</td>
<td>7,5</td>
<td>6,5</td>
<td></td>
</tr>
<tr>
<td>UC378-I</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9,7</td>
<td>8,4</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### STEERING WHEEL TURNS double cylinder

<table>
<thead>
<tr>
<th>Cylinder model</th>
<th>UP28 28cc</th>
<th>UP33 33cc</th>
<th>UP39 39cc</th>
<th>UP45 45cc</th>
<th>UP33-SVS 33cc</th>
<th>UP39-SVS 39cc</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC128-OBF</td>
<td>-</td>
<td>7,3</td>
<td>6,2</td>
<td>5,3</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>UC128-SVS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7,3</td>
<td>6,2</td>
</tr>
<tr>
<td>UC132-OBS</td>
<td>-</td>
<td>8,0/9,8</td>
<td>6,8/8,4</td>
<td>5,8/7,2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>UC133-I0B</td>
<td>-</td>
<td>8,0</td>
<td>6,8</td>
<td>5,8</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>UC116-I</td>
<td>8,2</td>
<td>7,0</td>
<td>6,0</td>
<td>5,2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>UC168-I</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UC215-I</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WARNING: These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician. For any further information please contact our Technical Service.
The above Cross Reference chart has been drawn to facilitate a functional comparison among brands and should be used as general reference only. For any further information please contact our Technical Service.
BubbleBuster™
A PORTABLE DEVICE FOR AUTOMATIC FILLING AND PURGING
OF HYDRAULIC SYSTEMS

The BubbleBuster™ device is contained in a practical box easy to carry thanks to wheels; it is easy to use allowing a clean and extremely efficient bleeding. One man can easily perform by himself a complete purging of a hydraulic system in just five minutes with no oil spillage on the boat deck. BubbleBuster™ produces a special zero emulsion effect eliminating all traces of air from the oil. It is compatible with both cylinders with fast connect bleeders DN5 type: QCFN and QCFN94 and to cylinders with traditional bleeders by adding kits KH94 and KH128. It is compatible with Teleflex systems.

COMPONENTS INCLUDED
- No. 1 motor pump with safety valve, switch and 5 litres (1 gal) tank included, it allows the purging of 2 hydraulic steering systems before refilling. 12v electric motor with thermal protection; current absorption 8 A
- No. 1 4m (13') electric harness with alligator clips for fast connection with the battery.
- No. 1 double spiralled hose to connect to helm pump- extended length: 6m (19,6')
- No. 1 double spiralled hose to connect to cylinder – extended length: 6m (19,6')
- No. 1 utility tray

OPTIONAL COMPONENTS
- KBE1: No. 1 double spiralled hose to connect to cylinder 15 m (49') extension
- KBD2: No. 1 kit for double cylinder systems filling and purge
- KH94: Connection kit for UC94-OBF cylinders with not fast connect bleeders
- KH128: Connection kit for cylinders (except UC94) with old bleeders (not fast connect)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>PART No.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB</td>
<td>41666 R</td>
<td>BubbleBuster™ - complete set</td>
</tr>
<tr>
<td>KBE1</td>
<td>41682 N</td>
<td>Extension kit</td>
</tr>
<tr>
<td>KBD2</td>
<td>41703 U</td>
<td>Double cylinder purging kit</td>
</tr>
<tr>
<td>KH94</td>
<td>41899 R</td>
<td>Connection kit for UC94 (not fast connect bleeders)</td>
</tr>
<tr>
<td>KH128</td>
<td>41900 W</td>
<td>Connection kit for cylinders with old fittings (except UC94)</td>
</tr>
</tbody>
</table>
UP20 F - UP20 T
HELM PUMPS

FEATURES
■ Built-in lock valve for positive rudder lock
■ Integral relief valve for over-pressure protection
■ 3/4" tapered anodized aluminum shaft
■ Corrosion proof composite housing
■ Easy accessible lock valve and shaft seal for replacement
■ Complete with elbow fittings for 3/8" tube
■ For use with UC94-OBF, UC68-OBS and UC69-I cylinders only
■ Tilt mechanism X52 - 39250 U for UP20 T pump
  Tilt range of 48° and five locking positions
NOTE: X52 tilt mechanism fits all Ultraflex tilt mount rotary and rack and pinion steering helms as well as all Ultraflex tilt mount hydraulic pumps
■ X64 - 40198 C square flange permits to install the UP20F pump in an intermediate dashboard position

<table>
<thead>
<tr>
<th>MOD.</th>
<th>P. No.</th>
<th>MOUNTING</th>
<th>DISPLACEMENT/REVOLUTION</th>
<th>No. OF PISTONS</th>
<th>RELIEF VALVE SETTING</th>
<th>MAXIMUM WHEEL DIA.</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP20 F</td>
<td>37939 U</td>
<td>Front mount</td>
<td>20 cc - 1.2 cu. in</td>
<td>5</td>
<td>70 Bar - 1000 PSI</td>
<td>508 mm - 20&quot;</td>
<td>3.6 kg - 8 lbs</td>
</tr>
<tr>
<td>UP20 T</td>
<td>40153 D</td>
<td>With X52 tilt</td>
<td>20 cc - 1.2 cu. in</td>
<td>5</td>
<td>70 Bar - 1000 PSI</td>
<td>406 mm - 16&quot;</td>
<td>3.9 kg - 8.5 lbs</td>
</tr>
</tbody>
</table>

UP20 F DIMENSIONS

UP20 T DIMENSIONS
## FEATURES
- Available in five different displacement sizes
- UP25F and UP33 F models are also available without built-in lock valve (UP25NV F and UP33NV F models)
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock (except UP25 NV F and UP33NV F)
- Integral relief valve for over-pressure protection
- 3/4” tapered stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron rotor for greater durability and longer life
- 1/4” NPT fitting for 3/8" tube
- Complete with elbow fittings
- UP45 F pumps are ideal for double cylinder applications
- X64 - 40198 C square flange or X57 - 39464 P round flange permit to install the pumps in an intermediate dashboard position.

### FRONT MOUNT HELM PUMPS

<table>
<thead>
<tr>
<th>MOD.</th>
<th>P. No.</th>
<th>MOUNTING</th>
<th>DISPLACEMENT/ REVOLUTION</th>
<th>No. OF PISTONS</th>
<th>RELIEF VALVE SETTING</th>
<th>MAXIMUM WHEEL DIA.</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP25 F</td>
<td>UP25NV F</td>
<td>Front mount</td>
<td>25 cc - 1.5 cu.in</td>
<td>5</td>
<td>70 Bar - 1000 PSI</td>
<td>710 mm - 28&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP28 F</td>
<td>UP33 F</td>
<td>Front mount</td>
<td>28 cc - 1.7 cu.in</td>
<td>5</td>
<td>70 Bar - 1000 PSI</td>
<td>710 mm - 28&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP33 F</td>
<td>UP33NV F</td>
<td>Front mount</td>
<td>33 cc - 2.0 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>710 mm - 28&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP39 F</td>
<td>UP39 F</td>
<td>Front mount</td>
<td>39 cc - 2.4 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>710 mm - 28&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP45 F</td>
<td>UP45 F</td>
<td>Front mount</td>
<td>45 cc - 2.7 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>710 mm - 28&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
</tbody>
</table>
UP25 T - UP28 T - UP33 T
UP39 T - UP45 T NEW
TILT MOUNT HELM PUMPS

FEATURES
- Available in four different displacement sizes
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock
- Integral relief valve for over-pressure protection
- Stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron rotor for greater durability and longer life
- 1/4" NPT fitting for 3/8" tube
- Complete with elbow fittings
- UP45 F pumps are ideal for double cylinder applications
- Tilt mechanism:
  - X52 - 39250 U
  - Tilt range of 48º and five locking positions

NOTE: X52 tilt mechanism fits standard Ultraflex tilt mount rotary and rack and pinion steering helms as well as standard Ultraflex tilt mount hydraulic pumps. On high performance SilverSteer™ systems use X70-SVS tilt mechanism
- KIT F (optional) - 39664 Y Remote fill adapter

<table>
<thead>
<tr>
<th>MOD.</th>
<th>P. No.</th>
<th>MOUNTING</th>
<th>DISPLACEMENT/REVOLUTION</th>
<th>No. OF PISTONS</th>
<th>RELIEF VALVE SETTING</th>
<th>MAXIMUM WHEEL DIA.</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP25 T</td>
<td>40803 T</td>
<td>With X52 tilt</td>
<td>25 cc - 1.5 cu.in</td>
<td>5</td>
<td>70 Bar - 1000 PSI</td>
<td>406 mm - 16&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP28 T</td>
<td>39445 K</td>
<td>With X52 tilt</td>
<td>28 cc - 1.7 cu.in</td>
<td>5</td>
<td>70 Bar - 1000 PSI</td>
<td>406 mm - 16&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP33 T</td>
<td>39446 M</td>
<td>With X52 tilt</td>
<td>33 cc - 2.0 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>406 mm - 16&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP39 T</td>
<td>39447 P</td>
<td>With X52 tilt</td>
<td>39 cc - 2.4 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>406 mm - 16&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP45 T</td>
<td>41277 D</td>
<td>With X52 tilt</td>
<td>45 cc - 2.7 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>406 mm - 16&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
</tbody>
</table>

UP25 T, UP28 T, UP33 T, UP39 T, UP45 T DIMENSIONS
### REAR MOUNT HELM PUMPS

#### FEATURES
- Available in four different displacement sizes
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock
- Integral relief valve for over-pressure protection
- 3/4” tapered stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron cylinder rotor for greater durability and longer life
- 1/4” NPT fitting for 3/8” tube
- Complete with elbow fittings and white bezel
- **UP45 R** pumps are ideal for double cylinder applications
- X68 (optional) - 40894 Z Chrome bezel
- **KIT F** (optional) - 39664 Y Remote fill adapter

#### MOD. | P. No. | MOUNTING | DISPLACEMENT/REVOLUTION | No. OF PISTONS | RELIEF VALVE SETTING | MAXIMUM WHEEL DIA. | WEIGHT
---|---|---|---|---|---|---|---
UP28 R | 39970 F | Rear mount | 28 cc - 1.7 cu.in | 5 | 70 Bar - 1000 PSI | 710 mm - 28” | 5 kg - 11 lbs
UP33 R | 39969 X | Rear mount | 33 cc - 2.0 cu.in | 7 | 70 Bar - 1000 PSI | 710 mm - 28” | 5 kg - 11 lbs
UP39 R | 39444 H | Rear mount | 39 cc - 2.4 cu.in | 7 | 70 Bar - 1000 PSI | 710 mm - 28” | 5 kg - 11 lbs
UP45 R | 41278 F | Rear mount | 45 cc - 2.7 cu.in | 7 | 70 Bar - 1000 PSI | 710 mm - 28” | 5 kg - 11 lbs

#### UP28 R, UP33 R, UP39 R, UP45 R DIMENSIONS

![Dimensions Diagram](image)

- FILLER PORT
- KIT "F" (OPTIONAL)
- Nº3 SELF-TAPPING SCREW (2.9 x 25)mm
- Ø114 (Ø4.49”)
- Ø160.5 (Ø6.32”)
- Ø99 (Ø3.90”)
- 160.5 [Ø6.32”]
- 99 [Ø3.90”]
- 15 [0.59”]

---
UP45-I R
REAR MOUNT
HELM PUMP
FOR 12 mm TUBE

FEATURES

- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock
- Integral relief valve for over-pressure protection
- 3/4" tapered stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron cylinder rotor for greater durability and longer life
- 1/4" NPT fitting for 12 mm tube
- Complete with elbow fittings and white bezel
- X68 (optional) – 40894 Z Chrome bezel
- KIT F (optional) – 39664 Y Remote fill adapter

Note: It is possible to transform the UP45 R pump (41287 F) in UP45-I R pump (41279 H) ordering the kit KIT SF12 (41907 L) that includes 2 straight fittings for 12 mm tube.

<table>
<thead>
<tr>
<th>MOD.</th>
<th>P. No.</th>
<th>MOUNTING</th>
<th>DISPLACEMENT/REVOLUTION</th>
<th>No. OF PISTONS</th>
<th>RELIEF VALVE SETTING</th>
<th>MAXIMUM WHEEL DIA.</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP45-I R</td>
<td>41279 H</td>
<td>Rear mount</td>
<td>45 cc - 2.7 cu.in</td>
<td>7</td>
<td>70 Bar - 1000 PSI</td>
<td>710 mm - 28&quot;</td>
<td>5 kg - 11 lbs</td>
</tr>
</tbody>
</table>
UC94-OBF - Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa

Depending on the applications on the outboard engines, the UC94-OBF cylinder is available in 2 versions:

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>UC94-OBF/1 -/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>94 cc - 5.7 cu. in</td>
</tr>
<tr>
<td>Output force</td>
<td>278 kg - 613 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>30 mm - 1.18”</td>
</tr>
<tr>
<td>Stroke</td>
<td>186 mm - 7.3”</td>
</tr>
<tr>
<td>3/8” (9.5mm) Fittings</td>
<td>For high pressure flex hose</td>
</tr>
<tr>
<td>Bleed fittings</td>
<td>DNS Quick connect</td>
</tr>
</tbody>
</table>

For twin engine applications, the minimum distance between the two engine centers is 21.6” (550 mm)

INNOVATIVE NEW DESIGN (PATENTED):
Split cylinder mounting rod for easy installation and bushings to prevent friction with engine tilt tube.
### OUTBOARD STEERING

<table>
<thead>
<tr>
<th>ENGINE</th>
<th>POWER</th>
<th>YEAR</th>
<th>CYLINDER</th>
<th>P. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury® Mariner®</td>
<td>F50 E0I – F60 E0I 4 Stroke</td>
<td>1990-2008</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Evinrude®</td>
<td>E40-E50-E55-E60 2T</td>
<td>2004-to date</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Yamaha®</td>
<td>F80A - F100A 4 Stroke</td>
<td>1984-2008</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Honda®</td>
<td>BF75-BF90 4T</td>
<td>1995-to date</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Suzuki®</td>
<td>DF70-80-90 4T</td>
<td>1998-to date</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Tohatsu® Nissan®</td>
<td>50-60-70-90 2T</td>
<td>2004-to date</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Selva®</td>
<td>50 MADEIRA/ BULL SHARK-60 GREY SHARK/ST.TROPEZ-70 MAKO SHARK 2T</td>
<td>1995-2008</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
<tr>
<td>Johnson®</td>
<td>BJ60-70 4T</td>
<td>2001-2007</td>
<td>UC94-OBF/1</td>
<td>40154 F</td>
</tr>
</tbody>
</table>

**WARNING**

The UC94-OBF front mount cylinder is recommended for use with outboard engines 150 hp total and less and where the boat speed does not exceed 40 mph (40 knots).

Not intended for use in racing application.

---

**WARNING**

These recommendations should be used as a general reference only. For any further information please contact our Technical Service.
UC128-OBF - Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa

Swiveling fittings for easy installation
High resistance stainless steel connection bolt (ULTRABOLT)

Depending on the applications on the outboard engines, the UC128-OBF is available in 3 versions:

- UC128-OBF/1 39423 Z
- UC128-OBF/2 39966 R
- UC128-OBF/3 39967 T

In the applications with dual UC128-OBF cylinder it is necessary to order a standard UC128-OBF cylinder (link arm attached to the starboard side of the cylinder) and a port UC128P-OBF cylinder (link arm attached to the port side of the cylinder).

Depending on the applications on the outboard engines, the UC128P-OBF port cylinder is available in 2 versions:

- UC128P-OBF/1 40106 U
- UC128P-OBF/2 40107 W

UC128-OBF DIMENSIONS

544 mm - 21.43"
OUTBOARD STEERING

<table>
<thead>
<tr>
<th>UC128-OBF</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRONT</td>
</tr>
<tr>
<td>MOUNT</td>
</tr>
<tr>
<td>CYLINDER</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Volume</th>
<th>120 cc - 7.3 cu. in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output force</td>
<td>450 kg - 992 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>35 mm - 1.37”</td>
</tr>
<tr>
<td>Stroke</td>
<td>185 mm - 7.28”</td>
</tr>
<tr>
<td>3/8” (9.5mm) Fittings</td>
<td>For high pressure flex hose</td>
</tr>
<tr>
<td>Bleed fittings</td>
<td>DN5 Quick connect</td>
</tr>
</tbody>
</table>

**SPASHWELL DIMENSION REQUIREMENTS**

<table>
<thead>
<tr>
<th>Engine No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>560 mm - 22.05”</td>
<td>152 mm - 5.98”</td>
<td>152 mm - 5.98”</td>
</tr>
<tr>
<td>2</td>
<td>1110 mm - 43.70”</td>
<td>152 mm - 5.98”</td>
<td>152 mm - 5.98”</td>
</tr>
</tbody>
</table>

For twin engine applications minimum engine center distance is 21.6” (550 mm)

LA1, LA2, LA3 link arm kits for UC128-OBF standard cylinder and LA1P, LA2P link arm kits for UC128P-OBF port cylinder can also be supplied separately for the first installation only, in case the UC128-OBF cylinder needs to be adapted to the already installed outboard engine (see application guide).

**“STANDARD” LINK ARMS:**

- LA1 for UC128-OBF/1 40045 A
- LA2 for UC128-OBF/2 40046 C
- LA3 for UC128-OBF/3 40073 F

**“PORT” LINK ARMS:**

- LA1P for UC128P-OBF/1 40104 P
- LA2P for UC128P-OBF/2 40105 S

**WARNING:** LA1, LA2, LA3 and LA1P, LA2P link arm kits are recommended for use on the first installation only and not as a retrofit. Installation has to be made by qualified technicians only.

The tightening load to be applied to the screws of the link arm kit is recommended on the Installation Manual and the mounting instructions supplied with the products.
### WARNING

These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician. For any further information please contact our Technical Service.

<table>
<thead>
<tr>
<th>ENGINE</th>
<th>POWER</th>
<th>YEAR</th>
<th>CYLINDER</th>
<th>P. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury® Mariner® 115-125-150 EFI 2T</td>
<td>1990-2007</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>225-250 EFI 2T</td>
<td>2000-2007</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>75-90-115 OPTIMAX 135-150-175 OPTIMAX</td>
<td>2004-to date</td>
<td>UC128-OBF/3</td>
<td>39967 T</td>
<td></td>
</tr>
<tr>
<td>200-225-250 OPTIMAX</td>
<td>1999-to date</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>RACING 300 OPTIMAX</td>
<td>1999-to date</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>100-115 EFI 4T</td>
<td>2007-to date</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>250 SALTWATER EFI 4T</td>
<td>2004-2006</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>135-150-175-200 VERADO L4</td>
<td>2004-2006</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>Evinrude® DF70-80-90 4T</td>
<td>2004-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>E115-E130-E135 2T V4</td>
<td>1995-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>E150-E175-200 2T V6</td>
<td>1995-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>E200 HO- E225-E250 2T V6</td>
<td>1995-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>E250HO- E300 2T V6</td>
<td>1995-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>Yamaha® 75C-90 2T</td>
<td>1998-2008</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>115C-130B 2T</td>
<td>1998-2008</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
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<tr>
<td>150F-200F-250G 2T</td>
<td>1996-2007</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
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<tr>
<td>150 HPDI VMAX 2T</td>
<td>2002-2008</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
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<tr>
<td>175-200-225-250-300 HPDI VMAX 2T</td>
<td>2000-2008</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>F90-F100-F115-F150 EFI 4T</td>
<td>1999-2007</td>
<td>UC128-OBF/2</td>
<td>39243 Z</td>
<td></td>
</tr>
<tr>
<td>F200-F225-F250 4T</td>
<td>2001-2008</td>
<td>UC128-OBF/2</td>
<td>39243 Z</td>
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<tr>
<td>F115-F150</td>
<td>2004-to date</td>
<td>UC128-OBF/2</td>
<td>39666 R</td>
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</tr>
<tr>
<td>F200-F225-F250-F300-F350 4T</td>
<td>2006-to date</td>
<td>UC128-OBF/2</td>
<td>39666 R</td>
<td></td>
</tr>
<tr>
<td>Honda® BF75-90 4T</td>
<td>1995-to date</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>BF115-130 4T</td>
<td>1998-to date</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>BF135-150 4T</td>
<td>1998-to date</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>BF90-BF150 V-TEC 4T</td>
<td>2005-to date</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>BF175-200-225 4T</td>
<td>2008-to date</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>Suzuki® DF70-B0-90 4T</td>
<td>1998-2006</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>DF100-115-140 4T</td>
<td>1998-2006</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>DF150-175 4T</td>
<td>1998-2006</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>Tohatsu® 115-120-140 2T</td>
<td>2004-to date</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>70-90-115 TLDI 4T</td>
<td>2004-to date</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>Selva® 80 PORTOFINO/TIGERSHARK 2T</td>
<td>1995-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>150 WHITE SHARK 2T</td>
<td>1995-to date</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>100EFI MARLIN -115 EFI NARWHAL</td>
<td>2001-2007</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>150EFI KILLER WHALE 4T</td>
<td>2000-2007</td>
<td>UC128-OBF/2</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>Johnson® BJ90-115-140 4T</td>
<td>2001-2007</td>
<td>UC128-OBF/1</td>
<td>39423 Z</td>
<td></td>
</tr>
<tr>
<td>J90-115 V4 2T</td>
<td>1995-2007</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
<tr>
<td>J150-175 V6 2T</td>
<td>1995-2007</td>
<td>UC128-OBF/2</td>
<td>39966 R</td>
<td></td>
</tr>
</tbody>
</table>
**WARNING**

The UC128-OBF front mount cylinder is not recommended for use in installations where the boat speed exceeds 50 mph (50 knots) (60 mph (60 knots) in dual engine, dual cylinder and counter rotating engines application). Not intended for use in racing application.

---

**NOTE:**

Three outboard engine applications are available with UC128-OBF cylinder. For any further and detailed information, please contact our Technical Service.
UC68-OBS
SIDE MOUNT
CYLINDER FOR
OUTBOARD
ENGINES UP
TO 150 HP
TOTAL

WARNING
Recommended for use
where max boat speed
do not exceed 40 mph
(40 knots)

UC68-OBS - Unbalanced: the number of turns lock-to-lock is not equal port to starboard and vice-versa.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>UC68-OBS - 39784 J</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>68/100 cc - 4.1/6.1 cu. in</td>
</tr>
<tr>
<td>Output force</td>
<td>185/270 kg - 408/595 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>25 mm - 0.98”</td>
</tr>
<tr>
<td>Stroke</td>
<td>203 mm - 8”</td>
</tr>
<tr>
<td>3/8” (9.5mm) Fittings</td>
<td>For high pressure flex hose</td>
</tr>
</tbody>
</table>

UC68-OBS side mount cylinder features a turning nut for a fast and easy installation to the engine tube (PATENTED).

Clearance required at the engine tube side: 13.3” (340 mm)

### ORDER GUIDE:

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>APPLICATION</th>
<th>WHEEL TURNS</th>
<th>COMPONENTS</th>
<th>MODEL</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single engine Single cylinder</td>
<td>Up to 150 hp max</td>
<td>3,4/5</td>
<td>Cylinder, Helm pump, Hose Kit, Oil, Steering wheel</td>
<td>UC68-OBS, UP20, KIT OB, OIL 15</td>
<td>1, 1, 1, 2</td>
</tr>
</tbody>
</table>

UC68 OBS cylinder is also available in kit:

**HYCO-OBS** WHEEL TURNS 3,4/5

For outboard engines up to 150 hp

HYCO-OBS package kit contains:
- **UP20 F** Front mount helm pump.
- **UC68-OBS** Side mount outboard cylinder.
- **OIL 15** Hydraulic oil – 2 litres.
- **KIT OB** Hose kit with preassembled fittings - Specify length required when ordering.

**HYCO-OBF not including KIT OB flexible hoses is available on request.**

*The wheel is not included.*
UC132-OBS
SIDE MOUNT CYLINDER

UC132-OBS
Unbalanced: the number of turns lock-to-lock is not equal port to starboard and vice-versa

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>UC132-OBS - 39430 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>132 / 163 cc - 8 / 9.95 cu. in</td>
</tr>
<tr>
<td>Output force</td>
<td>464 / 574 kg - 1023 / 1265 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>32 mm - 1.25&quot;</td>
</tr>
<tr>
<td>Stroke</td>
<td>203 mm - 8&quot;</td>
</tr>
<tr>
<td>3/8&quot; (9.5 mm) fittings</td>
<td>For high pressure flex hose</td>
</tr>
</tbody>
</table>

UC132-OBS side mount cylinder features a turning nut for a fast and easy installation to the engine tube (PATENTED)

Clearance required at the engine tube side: 375 mm (14.76")

ORDER GUIDE:

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>APPLICATION</th>
<th>WHEEL TURNS</th>
<th>COMPONENTS</th>
<th>MODEL</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single engine Single cylinder</td>
<td>Up to 300 hp max</td>
<td>5,3/6,5 (UP25)</td>
<td>Cylinder Helm pump Hose Kit Oil Steering wheel</td>
<td>UC132-OBS UP25 or UP28</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4,7/5,8 (UP28)</td>
<td></td>
<td>KIT OB</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OIL 15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(page 71 - 86)</td>
<td>1</td>
</tr>
</tbody>
</table>

For a second station add:
1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>APPLICATION</th>
<th>WHEEL TURNS</th>
<th>COMPONENTS</th>
<th>MODEL</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual engine Single cylinder</td>
<td>Up to 300 hp max (non-counter rotating engine)</td>
<td>5,3/6,5 (UP25)</td>
<td>Cylinder Helm pump Hose Kit Oil Tie bar Steering wheel</td>
<td>UC132-OBS UP25 or UP28</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Up to 450 hp max (counter rotating engine)</td>
<td>4,7/5,8 (UP28)</td>
<td></td>
<td>KIT OB</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OIL 15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A88 or A92</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(page 71 - 86)</td>
<td>1</td>
</tr>
</tbody>
</table>

For a second station add:
1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>APPLICATION</th>
<th>WHEEL TURNS</th>
<th>COMPONENTS</th>
<th>MODEL</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual engine Dual cylinder</td>
<td>Up to 500 hp max (non-counter rotating engines)</td>
<td>6,7/8,3 (UP39)</td>
<td>Cylinder Helm pump Hose Kit Oil Tie bar Steering wheel Connection Kit</td>
<td>UC132-OBS UP39 or UP45</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Up to 600 hp max (counter rotating engines)</td>
<td>5,8/7,3 (UP45)</td>
<td></td>
<td>KIT OB</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OIL 15</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A88 or A92</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(page 71 - 86)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>KIT OB-2C</td>
<td>1</td>
</tr>
</tbody>
</table>

For a second station add:
1 UP39 or UP45 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 2 T fittings 39502 V, 1 OIL 15, 1 steering wheel

WARNING: THIS APPLICATION REQUIRES THAT THE THREADS ON THE TILT TUBE EXTEND AT LEAST 15 mm (0.6") FROM BOTH SIDES.

ORDER GUIDE:

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>APPLICATION</th>
<th>WHEEL TURNS</th>
<th>COMPONENTS</th>
<th>MODEL</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single engine Single cylinder</td>
<td>Up to 300 hp max</td>
<td>5,3/6,5 (UP25)</td>
<td>Cylinder Helm pump Hose Kit Oil Steering wheel</td>
<td>UC132-OBS UP25 or UP28</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4,7/5,8 (UP28)</td>
<td></td>
<td>KIT OB</td>
<td>1</td>
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<td></td>
<td></td>
<td>OIL 15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(page 71 - 86)</td>
<td>1</td>
</tr>
</tbody>
</table>

For a second station add:
1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel

WARNING: the UC132-OBS side mount cylinder is not recommended for use in installations where the boat speed exceeds 45 mph (45 knots) and the power exceeds max Coast Guard recommendation for the boat.

Not intended for use in racing application.
PACKAGED OUTBOARD HYDRAULIC STEERING SYSTEMS

HYCO-OBF WHEEL TURNS 4,7
For outboard engines up to 150 hp

HYCO-OBF package kit contains:

- **UP20 F** Front mount helm pump.
- **UC94-OBF** Front mount outboard cylinder. Specify engine type when ordering.
- **OIL 15** Hydraulic oil - 2 litres.
- **KIT OB** Hose kit with preassembled fittings - Specify length required when ordering.

HYCO-OBF not including KIT OB flexible hoses is available on request. The wheel is not included.

**WARNING:** Depending on the applications, the UC94-OBF is available in 2 versions: UC94-OBF/1 and UC94-OBF/3. UC94-OBF/1 cylinder is not suitable for HONDA® BF115 and BF130 engines and Mercury® Optimax™ 75, 90, 115. For these engines UC94-OBF/3 is available.

NAUTECH 1 WHEEL TURNS 4,5

NAUTECH 1 package kit contains:

- **UP28 F** Front mount helm pump.
- **UC128-OBF** Front mount outboard cylinder. Specify engine type when ordering.
- **OIL 15** Hydraulic oil - 2 litres (0,5 gallons).
- **KIT OB** Hose kit with preassembled fittings - Specify length required when ordering.

NAUTECH 1 not including KIT OB flexible hoses is available on request. The wheel is not included.

NAUTECH 3 WHEEL TURNS 5,1

NAUTECH 3 package kit contains:

- **UP25 F** Front mount helm pump.
- **UC128-OBF** Front mount outboard cylinder. Specify engine type when ordering.
- **OIL 15** Hydraulic oil - 2 litres (0,5 gallons).
- **KIT OB** Hose kit with preassembled fittings - Specify length required when ordering.

NAUTECH 3 not including KIT OB flexible hoses is available on request. The wheel is not included.
SilverSteer™ hydraulic steering systems consist of the following components: ball bearing piston race helm pumps UP-SVS complete with 45° adjustable fittings, a pair of high pressure Kevlar stranded flexible hoses KIT OB-SVS with preassembled stainless steel fittings providing less expansion at high pressure, a front mount outboard cylinder UC128-SVS featuring adjustable fittings.

The SilverSteer™ systems stand a higher maximum pressure than the standard ones: relief valve setting at 105 bar (1500 psi) instead of 70 bar (1000 psi).

The prompt reaction of the pump at these pressures is assured by a patented lock valve. UC128-SVS cylinder presents technical features that make the system particularly fast and stress resistant.

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HIGH PERFORMANCE STEERING SYSTEMS

UP28 T-SVS – UP33 T-SVS
UP39 T-SVS

TILT MOUNT HELM PUMPS

FEATURES

■ Available in three different displacement sizes
■ Compact design
■ Ball bearing piston race
■ Built-in lock valve for positive rudder lock (patented)
■ Integral relief valve for over-pressure protection 150 bar (1500 psi)
■ Stainless steel shaft
■ Easily accessible lock valve and shaft seal for replacement
■ Cast iron rotor for greater durability and longer life
■ Complete with fittings adjustable at 45° for 3/8” tube
■ Tilt mechanism for systems:
  X70-SVS – 41880 T
■ Tilt range of 48° and five locking positions

WARNING: X52 standard tilt mechanism cannot be used on high performance helm pumps
KIT-F (optional) – 39664 Y Remote fill adapter

<table>
<thead>
<tr>
<th>MOD.</th>
<th>P. No.</th>
<th>MOUNTING</th>
<th>DISPLACEMENT/ REVOLUTION</th>
<th>No. OF PISTONS</th>
<th>RELIEF VALVE SETTING</th>
<th>MAXIMUM WHEEL DIA.</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP28 T-SVS</td>
<td>41814 D</td>
<td>With X70-SVS</td>
<td>28 cc - 1.7 cu.in</td>
<td>5</td>
<td>105 Bar - 1500 PSI</td>
<td>406 mm - 16”</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP33 T-SVS</td>
<td>41815 F</td>
<td>With X70-SVS</td>
<td>33 cc - 2.0 cu.in</td>
<td>7</td>
<td>105 Bar - 1500 PSI</td>
<td>406 mm - 16”</td>
<td>5 kg - 11 lbs</td>
</tr>
<tr>
<td>UP39 T-SVS</td>
<td>41881 V</td>
<td>With X70-SVS</td>
<td>39 cc - 2.4 cu.in</td>
<td>7</td>
<td>105 Bar - 1500 PSI</td>
<td>406 mm - 16”</td>
<td>5 kg - 11 lbs</td>
</tr>
</tbody>
</table>

UP28 T-SVS, UP33 T-SVS, UP39 T-SVS DIMENSIONS
HIGH PERFORMANCE OUTBOARD STEERING SYSTEMS

UC128-SVS
FRONT MOUNT CYLINDER

UC128-SVS – Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa

Swiveling fittings for easy installation
High resistance stainless steel connection bolt (ULTRABOLT)

Depending on the applications on the outboard engines, the UC128-OBF is available in 3 versions:

| UC128/1-SVS | 41281U |
| UC128/2-SVS | 41282W |
| UC128/3-SVS | 41283Y |

In the applications with dual UC128-SVS cylinder it is necessary to order a standard UC128-SVS cylinder (link arm attached to the starboard side of the cylinder) and a port UC128-SVS cylinder (link arm attached to the port side of the cylinder).

Depending on the applications on the outboard engines, the UC128-SVS port cylinder is available in 2 versions:

| UC128P-SVS |
| UC128P/1-SVS | 41328U |
| UC128P/2-SVS | 41329W |

**UC128-SVS, UC128P-SVS DIMENSIONS**

UC128-SVS, UC128P-SVS DIMENSIONS

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>UC128/1/-2/-3 SVS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
</tr>
<tr>
<td>Output force</td>
</tr>
<tr>
<td>Inside diameter</td>
</tr>
<tr>
<td>Stroke</td>
</tr>
<tr>
<td>3/8&quot; (9.5mm) Fittings</td>
</tr>
<tr>
<td>Bleed fittings</td>
</tr>
</tbody>
</table>
WARNING
These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician. For any further information please contact our Technical Service.

**INNOVATIVE NEW DESIGN (PATENTED):**
Split cylinder mounting rod for easy installation and bushings to prevent friction with engine tilt tube.

**SPLASHWELL DIMENSION REQUIREMENTS**

<table>
<thead>
<tr>
<th>Engine No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>560 mm - 22.05”</td>
<td>152 mm - 5.98”</td>
<td>152 mm - 5.98”</td>
</tr>
<tr>
<td>2</td>
<td>1110 mm - 43.70”</td>
<td>152 mm - 5.98”</td>
<td>152 mm - 5.98”</td>
</tr>
</tbody>
</table>

**ENGINE**

<table>
<thead>
<tr>
<th>ENGINE</th>
<th>POWER</th>
<th>YEAR</th>
<th>CYLINDER</th>
<th>P. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tohatsu®</td>
<td>115-120-140 2T 70-90-115 TLDI 4T</td>
<td>2004-to date 2004-to date</td>
<td>UC128/1-SVS UC128/1-SVS UC128/1-SVS</td>
<td>41282 W 41281 U</td>
</tr>
</tbody>
</table>
### UC128-SVS Cylinder

#### Order Guide

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>APPLICATION</th>
<th>WHEEL TURNS</th>
<th>COMPONENTS</th>
<th>MODEL</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Engine</td>
<td>Single Cylinder</td>
<td>Up to 350 hp max</td>
<td>4,3 (UP28)</td>
<td>Cylinder&lt;br&gt;Helm pump&lt;br&gt;Hose Kit&lt;br&gt;Oil&lt;br&gt;Steering wheel</td>
<td>UC128-SVS&lt;br&gt;UP28 or UP33-SVS&lt;br&gt;KIT OB-SVS&lt;br&gt;OIL 15&lt;br&gt;(page 71 - 86)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3,6 (UP33)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For a second station add:
1 UP28-SVS or UP33-SVS helm pump, 1 KIT OB-25 fitting kit, 1 KIT OB-SVS, 1 OIL 15, 1 steering wheel

#### Dual engine

| Single cylinder | Up to 350 hp max (non-counter rotating engine) | 4,3 (UP28) | Cylinder<br>Helm pump<br>Hose Kit<br>Oil<br>Tie bar<br>Steering wheel | UC128-SVS<br>UP28 or UP33-SVS<br>KIT OB-SVS<br>OIL 15<br>A94<br>(page 71 - 86) | 1 |
| Single cylinder | Up to 600 hp max (counter rotating engine) | 3,6 (UP33) |         |     | 1 |

For a second station add:
1 UP28-SVS or UP33-SVS helm pump, 1 KIT OB-25 fitting kit, 1 KIT OB-SVS, 1 OIL 15, 1 steering wheel

| Dual cylinder | Up to 600 hp max (non-counter rotating engines) | 6,1 (UP39) | Cylinder<br>Cylinder Port<br>Helm pump<br>Hose Kit<br>Oil<br>Tie bar<br>Steering wheel<br>Connection Kit | UC128-SVS<br>UC128P-SVS<br>UP39-SVS<br>KIT OB-SVS<br>OIL 15<br>A90<br>(page 71 - 86)<br>KIT OB-2C-SVS | 1 |
| Dual cylinder | Up to 700 hp max (counter rotating engines) |         |         |     | 1 |

For a second station add:
1 UP39-SVS helm pump, 1 KIT OB-25 fitting kit, 1 KIT OB-SVS, 2 T fittings 39502 V, 1 OIL 15, 1 steering wheel

**WARNING**
The UC128-SVS front mount cylinder is not recommended for use in installations where the boat speed exceeds **50 mph (50 knots)**; (60 mph (60 knots) in dual engine, dual cylinder and counter rotating engines application). Not intended for use in racing application.

**NOTE:**
Three outboard engine applications are available with UC128-SVS cylinder. For any further and detailed information, please contact our Technical Service.

**ATTENTION:**
The SilverSteer™ helm pumps are always to be installed in conjunction with the UC128-SVS cylinder and the Kevlar reinforced hose kit KIT OB-SVS.
HIGH PERFORMANCE OUTBOARD STEERING SYSTEMS
PACKAGED IN A BOX

SVS-28 WHEEL TURNS: 4.3

SilverSteer™ SVS-28 package kit contains:
- **UP28 F-SVS**: Front mount helm pump
- **UC128-SVS**: Front mount outboard cylinder, Specify engine type when ordering.

**OIL 15**: Hydraulic oil 2 litres (0.5 gallons).

**KIT OB-SVS**: Hose kit with preassembled fittings. Specify engine type when ordering.

*The wheel is not included.*

SVS-33 WHEEL TURNS: 3.6

SilverSteer™ SVS-33 package kit contains:
- **UP33 F-SVS**: Front mount helm pump
- **UC128-SVS**: Front mount outboard cylinder, Specify engine type when ordering.

**OIL 15**: Hydraulic oil 2 litres (0.5 gallons).

**KIT OB-SVS**: Hose kit with preassembled fittings. Specify engine type when ordering.

*The wheel is not included.*

SVS-39 WHEEL TURNS: 6.1

SilverSteer™ SVS-39 package kit contains:
- **UP39 F-SVS**: Front mount helm pump
- **UC128-SVS**: Front mount outboard cylinder, Specify engine type when ordering

**OIL 15**: Hydraulic oil 2 litres (0.5 gallons).

**KIT OB-SVS**: Hose kit with preassembled fittings. Specify length required when ordering.

*The wheel is not included.*

KIT OB-SVS: KHOSE KIT FOR SINGLE STATION INSTALLATION

It consists of a pair of high pressure Kevlar stranded flexible hoses supplied with preassembled stainless steel fittings. The fittings are complete with turning nuts and the hoses have reinforcing sleeves on both ends.

**Note**: KIT OB-SVS is also available with the R5 bulkhead kit preassembled on hose ends.

<table>
<thead>
<tr>
<th>KIT OB-SVS</th>
<th>LENGTH</th>
<th>P. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT OB-SVS-30</td>
<td>3.00 m - 9.8 ft</td>
<td>41286 E</td>
</tr>
<tr>
<td>KIT OB-SVS-35</td>
<td>3.50 m - 11.5 ft</td>
<td>41287 G</td>
</tr>
<tr>
<td>KIT OB-SVS-40</td>
<td>4.00 m - 13.2 ft</td>
<td>41288 J</td>
</tr>
<tr>
<td>KIT OB-SVS-45</td>
<td>4.50 m - 14.8 ft</td>
<td>41289 L</td>
</tr>
<tr>
<td>KIT OB-SVS-50</td>
<td>5.00 m - 16.4 ft</td>
<td>41290 V</td>
</tr>
<tr>
<td>KIT OB-SVS-55</td>
<td>5.50 m - 18.0 ft</td>
<td>41291 X</td>
</tr>
<tr>
<td>KIT OB-SVS-60</td>
<td>6.00 m - 19.7 ft</td>
<td>41292 Z</td>
</tr>
<tr>
<td>KIT OB-SVS-65</td>
<td>6.50 m - 21.3 ft</td>
<td>41293 B</td>
</tr>
<tr>
<td>KIT OB-SVS-70</td>
<td>7.00 m - 22.9 ft</td>
<td>41294 D</td>
</tr>
<tr>
<td>KIT OB-SVS-75</td>
<td>7.50 m - 24.6 ft</td>
<td>41295 F</td>
</tr>
<tr>
<td>KIT OB-SVS-80</td>
<td>8.00 m - 26.3 ft</td>
<td>41296 H</td>
</tr>
<tr>
<td>KIT OB-SVS-85</td>
<td>8.50 m - 27.8 ft</td>
<td>41297 K</td>
</tr>
<tr>
<td>KIT OB-SVS-90</td>
<td>9.00 m - 29.5 ft</td>
<td>41298 M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KIT OB/RS-SVS</th>
<th>LENGTH</th>
<th>P. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT OB/RS-SVS-30</td>
<td>3.00 m - 9.8 ft</td>
<td>41312 C</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-35</td>
<td>3.50 m - 11.5 ft</td>
<td>41313 E</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-40</td>
<td>4.00 m - 13.2 ft</td>
<td>41314 G</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-45</td>
<td>4.50 m - 14.8 ft</td>
<td>41315 J</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-50</td>
<td>5.00 m - 16.4 ft</td>
<td>41316 L</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-55</td>
<td>5.50 m - 18.0 ft</td>
<td>41317 N</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-60</td>
<td>6.00 m - 19.7 ft</td>
<td>41318 R</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-65</td>
<td>6.50 m - 21.3 ft</td>
<td>41319 T</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-70</td>
<td>7.00 m - 22.9 ft</td>
<td>41320 B</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-75</td>
<td>7.50 m - 24.6 ft</td>
<td>41321 D</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-80</td>
<td>8.00 m - 26.3 ft</td>
<td>41322 F</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-85</td>
<td>8.50 m - 27.8 ft</td>
<td>41323 H</td>
</tr>
<tr>
<td>KIT OB/RS-SVS-90</td>
<td>9.00 m - 29.5 ft</td>
<td>41324 K</td>
</tr>
</tbody>
</table>

**WARNING**: The SilverSteer™ helm pumps have always to be installed in conjunction with the UC128-SVS cylinder and the Kevlar reinforced hose kit KIT OB-SVS.
A94
TIE BAR FOR TWIN
OUTBOARD ENGINES
WITH UC128-OBF or UC128-SVS
CYLINDERS

A94 - 41204Z
- Suitable for applications with single UC128-OBF (or UC128-SVS) front mount cylinder
- NOTE: In the applications with dual cylinder use A90 tie bar
- Allows to tilt the engines independently
- Stainless steel components
- Adjustable from 660 mm (26”) to 950 mm (37.4”) engine centers

ATTENTION: As the tiller arm position varies from engine to engine and the distance between two engines is not predictable, unexpected interferences may occur while tilting. A duly check of the tie bar installation is then strongly recommended. Should you need additional information, please do not hesitate to refer to our Technical Service.

A94 TIE BAR APPLICATIONS

<table>
<thead>
<tr>
<th>ENGINE</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury®</td>
<td>135-150-175 Optimax 2T</td>
</tr>
<tr>
<td></td>
<td>200-225 Optimax 2T</td>
</tr>
<tr>
<td></td>
<td>250 PRO X5</td>
</tr>
<tr>
<td></td>
<td>135-150-175 Verado 4T</td>
</tr>
<tr>
<td></td>
<td>200 Verado 4T</td>
</tr>
<tr>
<td>Honda®</td>
<td>115-135-150 OHC BF</td>
</tr>
<tr>
<td></td>
<td>200 SOHC BF</td>
</tr>
<tr>
<td></td>
<td>225 A6</td>
</tr>
<tr>
<td>Yamaha®</td>
<td>F115-150-200-225-250 4T</td>
</tr>
<tr>
<td>Evinrude®</td>
<td>E115-130-150-175-200</td>
</tr>
<tr>
<td></td>
<td>V6 E200-225-250-300</td>
</tr>
<tr>
<td>Suzuki®</td>
<td>DF70-80-90 4T</td>
</tr>
<tr>
<td></td>
<td>DF100-115-140-150-175 4T</td>
</tr>
<tr>
<td></td>
<td>DF200-250-300 DOHC 4T</td>
</tr>
</tbody>
</table>

WARNING
These recommendations should be used as a general reference only. For any further information please contact our Technical Service.
**TIE BARS FOR TWIN OUTBOARD ENGINES**

**A88 - A92 UNIVERSAL TIE BARS**

Universal tie bars suitable for all outboard applications (racing application excepted) with single or dual cylinder

**A88 - 40128 E**
- All stainless steel components
- Applicable to twin outboard engines using mechanical steering also
- Adjustable from 650 mm (25.6") to 950 mm (37.4") engine centers

**A92/700 - 40892 V**
- Easy adjustable before or after installation
- All stainless steel components
- Applicable to twin outboard engines using mechanical steering also
- **A92/700**: Adjustable from 550 mm (21.6") to 700 mm (27.5") engine centers
- **A92/950**: Adjustable from 700 mm (27.5") to 950 mm (37.4") engine centers

**ATTENTION**: As the tiller arm position varies from engine to engine and the distance between two engines is not predictable, unexpected interferences may occur while tilting. A duly check of the tie bar installation is then strongly recommended. Should you need additional information, please do not hesitate to refer to our Technical Service.

---

**A90 TIE BAR WITH UC128-OBF or UC128-SVS CYLINDERS**

**A90 - 40138 H**
- Suitable for applications with dual UC128-OBF (or UC128-SVS) front mount cylinder
- All stainless steel components

**WARNING**: In the applications with dual UC128-OBF (or UC128-SVS) cylinders it is necessary to order a standard UC128-OBF (or UC128-SVS) cylinder (link arm attached to the starboard side of the cylinder) and a UC128P-OBF (or UC128P-SVS) port cylinder (link arm attached to the port side of the cylinder).

**UC128 starboard cylinders:**
- UC128-OBF/1 - 39423 Z
- UC128-OBF/2 - 39966 R
- UC128-OBF/3 - 39967 T
- UC128/1-SVS - 41281 U
- UC128/2-SVS - 41282 W
- UC128/3-SVS - 41283 Y

**UC128P port cylinders:**
- UC128P-OBF/1 - 40106 U
- UC128P-OBF/2 - 40107 W
- UC128P/1-SVS - 41328 U
- UC128P/2-SVS - 41329 W

- Applicable to engine centers variable from 660 mm (26") to 950 mm (37.4").
**STERNDROP STEERING**

**UC133-IOB**
Balanced cylinder: the number of turns lock to lock is equal port to starboard or vice-versa

**UC132-OBS**
Unbalanced cylinder: the number of turns lock to lock is not equal port to starboard or vice-versa

**UC133V-IOB**

---

**CYLINDER FOR VOLVO DP-E AND DP-G POWER ASSISTED STERNDRIVES**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>UC133-IOB - 39429 M Balanced</th>
<th>UC132-OBS - 39430 W Unbalanced</th>
<th>UC133V-IOB - 39985 V Balanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>132 cc - 8 cu. in</td>
<td>132 / 163 cc - 8 / 9.95 cu. in</td>
<td>132 cc - 8 cu. in</td>
</tr>
<tr>
<td>Torque</td>
<td>66 kgm - 5738 lbs. in</td>
<td>66 kgm - 5738 lbs. in</td>
<td></td>
</tr>
<tr>
<td>Output force</td>
<td>464 kg - 1023 lbs</td>
<td>464 / 574 kg - 1023 / 1265 lbs</td>
<td>464 kg - 1023 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>32 mm - 1.25”</td>
<td>32 mm - 1.25”</td>
<td>32 mm - 1.25”</td>
</tr>
<tr>
<td>Stroke</td>
<td>203 mm - 8”</td>
<td>203 mm - 8”</td>
<td>203 mm - 8”</td>
</tr>
<tr>
<td>3/8” (9,5 mm) Fittings</td>
<td>For high pressure flex hose</td>
<td>For high pressure flex hose</td>
<td>For high pressure flex hose</td>
</tr>
</tbody>
</table>

---

Dimensions:
- UC133-IOB: 340 mm (13.39”)
- UC132-OBS: 337 mm (13.2”)
**APPENDIX**

### ORDER GUIDE

**SYSTEM 1**

<table>
<thead>
<tr>
<th>Components</th>
<th>Model</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helm pump</td>
<td>UP28</td>
<td>1</td>
</tr>
<tr>
<td>Cylinder</td>
<td>see application</td>
<td>1</td>
</tr>
<tr>
<td>Hose Kit</td>
<td>KIT OB</td>
<td>1</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
<td>3</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
<td>1</td>
</tr>
</tbody>
</table>

For additional station add:
- 1 UP28 helm pump,
- 1 KIT OB-25 fitting kit,
- 1 KIT OB hose Kit,
- extra OIL 15,
- 1 steering wheel (page 71 - 86)

**SYSTEM 2**

<table>
<thead>
<tr>
<th>Components</th>
<th>Model</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helm pump</td>
<td>UP33</td>
<td>1</td>
</tr>
<tr>
<td>Cylinder</td>
<td>see application</td>
<td>1</td>
</tr>
<tr>
<td>Hose Kit</td>
<td>KIT OB</td>
<td>1</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
<td>3</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
<td>1</td>
</tr>
</tbody>
</table>

For additional station add:
- 1 UP33 helm pump,
- 1 KIT OB-25 fitting kit,
- 1 KIT OB hose Kit,
- extra OIL 15,
- 1 steering wheel (page 71 - 86)

**WARNING** These recommendations should be used as general reference only and they apply to factory stock sterndrives only. In doubt, contact a qualified installation technician.

**NOTE:**
- 3/8” or 10 mm diameter copper tubing can be used as an alternative tubing for plumbing the systems. For these applications a fitting kit – KIT 95 or KIT 100 – is required.

---

**STERNDRIVE CYLINDERS**

<table>
<thead>
<tr>
<th>ENGINE</th>
<th>YEAR</th>
<th>MODEL</th>
<th>non power assist engine</th>
<th>see notes</th>
<th>power assisted engine</th>
<th>see notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURY</td>
<td>To date</td>
<td>ALPHA BRAVO ONE BRAVO TWO BRAVO THREE</td>
<td>UC133-IOB</td>
<td>1, 3</td>
<td>UC132-OB5</td>
<td>2</td>
</tr>
<tr>
<td>VOLVO</td>
<td>To date</td>
<td>275 280 290 DP-E DP-G DP-S</td>
<td>UC168-1</td>
<td>1, 3, 4</td>
<td>N/D</td>
<td>UC132-OB5</td>
</tr>
</tbody>
</table>

1. Balanced cylinder: the number of turns lock to lock is equal port to starboard or vice-versa.
2. Unbalanced cylinder: the number of turns lock to lock is not equal port to starboard or vice-versa.
3. Clearance required at the engine tube side: 21.2” (540 mm).
4. ULTRAFLEX hydraulic cylinder can be installed as an alternative to a mechanical steering system.
5. The Volvo P. No. 872388 adaptor fitting is required for the installation.

**NOTE:** For applications with sterndrive engines not listed above, please contact our Technical Service.
UC69-I
INBOARD
CYLINDER FOR
HYCO-I KIT

- Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>UC69-I - 39782 E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>69 cc - 4.2 cu. in</td>
</tr>
<tr>
<td>Torque</td>
<td>32 kgm - 2783 lbs. in</td>
</tr>
<tr>
<td>Output force</td>
<td>168 kg - 371 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>25 mm - 0.98&quot;</td>
</tr>
<tr>
<td>Stroke</td>
<td>150 mm - 5.9&quot;</td>
</tr>
<tr>
<td>3/8&quot; (9.5mm) Fittings</td>
<td>For high pressure flex hose</td>
</tr>
</tbody>
</table>

**UC69-I**

**INBOARD HYDRAULIC STEERING SYSTEM PACKAGED IN A BOX**

**HYCO-I** WHEEL TURNS 3,4

HYCO-I package kit contains:

- **UP20 F** Front mount helm pump.
- **UC69-I** Inboard cylinder.
- **OIL 15** Hydraulic oil - 2 litres.
- **KIT OB** Hose kit with preassembled fittings. Specify length required when ordering.

**HYCO-I** not including **KIT OB** flexible hoses is available on request. The wheel is not included.

**WARNING:** HYCO-I steering system is suitable for inboard boats up to approx. 24 - 26 ft (7.5 - 8 m) length and 25 mph max speed.
INBOARD CYLINDERS

UC116-I; UC168-I; UC215-I
All balanced cylinders: the number of turns lock-to-lock is equal port to starboard and vice-versa

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>UC116-I - 39431 Y Alluminum</th>
<th>UC168-I - 39432 A Alluminum</th>
<th>UC215-I - 39433 C Alluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>116 cc - 7 cu. in</td>
<td>168 cc - 10.25 cu.in</td>
<td>215 cc - 13.12 cu. in</td>
</tr>
<tr>
<td>Torque</td>
<td>58 kgm - 5043 lbs. in</td>
<td>87 kgm - 7565 lbs. in</td>
<td>111 kgm - 9652 lbs. in</td>
</tr>
<tr>
<td>Output force</td>
<td>464 kg - 1023 lbs</td>
<td>673 kg - 1483 lbs</td>
<td>673 kg - 1483 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>32 mm - 1.25”</td>
<td>40 mm - 1.57”</td>
<td>40 mm - 1.57”</td>
</tr>
<tr>
<td>Stroke</td>
<td>178 mm - 7”</td>
<td>178 mm - 7”</td>
<td>228 mm - 9”</td>
</tr>
<tr>
<td>3/8” (9,5 mm)</td>
<td>For high pressure flex hose</td>
<td>For high pressure flex hose</td>
<td>For high pressure flex hose</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Models</th>
<th>UC116-I</th>
<th>UC168-I</th>
<th>UC215-I</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>178 mm - 7”</td>
<td>178 mm - 7”</td>
<td>228 mm - 9”</td>
</tr>
<tr>
<td>B</td>
<td>155 mm - 6.1”</td>
<td>155 mm - 6.1”</td>
<td>199 mm - 7.8”</td>
</tr>
<tr>
<td>C</td>
<td>127 mm - 5”</td>
<td>127 mm - 5”</td>
<td>163 mm - 6.4”</td>
</tr>
<tr>
<td>D</td>
<td>466 mm - 18.3”</td>
<td>512 mm - 20.1”</td>
<td>587 mm - 23.1”</td>
</tr>
<tr>
<td>E</td>
<td>102 mm - 4”</td>
<td>107.5 mm - 4.2”</td>
<td>132.5 mm - 5.2”</td>
</tr>
<tr>
<td>F</td>
<td>40 mm - 1.6”</td>
<td>40 mm - 1.6”</td>
<td>40 mm - 1.6”</td>
</tr>
<tr>
<td>G</td>
<td>73 mm - 2.9”</td>
<td>105 mm - 4.1”</td>
<td>105 mm - 4.1”</td>
</tr>
<tr>
<td>Rod Ø</td>
<td>14 mm - 0.6”</td>
<td>20 mm - 0.8”</td>
<td>20 mm - 0.8”</td>
</tr>
</tbody>
</table>
INBOARD CYLINDERS

UC293-I; UC378-I
Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>UC293-I - 40246 L Brass</th>
<th>UC378-I - 40810 P Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>293 cc - 17.8 cu. in</td>
<td>376 cc - 22.94 cu. in</td>
</tr>
<tr>
<td>Torque</td>
<td>146,5 kgm - 12816 lbs. in</td>
<td>187,6 kgm - 16347 lbs. in</td>
</tr>
<tr>
<td>Output force</td>
<td>1155 kg - 2545 lbs</td>
<td>1155 kg - 2545 lbs</td>
</tr>
<tr>
<td>Inside diameter</td>
<td>50 mm - 1.97&quot;</td>
<td>50 mm - 1.97&quot;</td>
</tr>
<tr>
<td>Stroke</td>
<td>178 mm - 7&quot;</td>
<td>228 mm - 9&quot;</td>
</tr>
<tr>
<td>Fittings</td>
<td>3/8&quot; (9,5 mm) for high pressure flex hose</td>
<td>for 0.5&quot; (12 mm) copper tube (flexible connection hoses included)</td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th>UC293-I</th>
<th>UC378-I</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>178 mm - 7&quot;</td>
</tr>
<tr>
<td>B</td>
<td>163 mm - 6.4&quot;</td>
</tr>
<tr>
<td>C</td>
<td>134 mm - 5.2&quot;</td>
</tr>
<tr>
<td>D</td>
<td>506 mm - 19.9&quot;</td>
</tr>
<tr>
<td>E</td>
<td>107 mm - 4.2&quot;</td>
</tr>
<tr>
<td>F</td>
<td>40 mm - 1.6&quot;</td>
</tr>
<tr>
<td>G</td>
<td>125 mm - 4.9&quot;</td>
</tr>
<tr>
<td>Rod Ø</td>
<td>20 mm - 0.8&quot;</td>
</tr>
</tbody>
</table>
### INBOARD CYLINDERS

#### ORDER GUIDE

**NOTE:** With systems 1 and 2, a 3/8" nylon tubing (TU95 page 71) can be used as an alternative to the standard KIT OB hose kit for plumbing the system. For these applications the fitting kit for the additional station is KIT95-2S.

**NOTE:** With systems 1, 2, 3, 4, 5 and 6, copper tubing (3/8” dia or 10 mm) can be used as an alternative tubing for plumbing the system. For these applications a fitting kit, KIT 95 or KIT 100, is required. For applications on commercial boats, the use of copper tubing is recommended.

---

<table>
<thead>
<tr>
<th>SYSTEM 1</th>
<th>Turn lock to lock: 4,6 (UP25) or 4,1 (UP28) Max rudder torque: 58 kgm (5043 lbs. in)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Helm pump</td>
<td>UP25 oR UP28</td>
</tr>
<tr>
<td>Cylinder</td>
<td>UC116-I</td>
</tr>
<tr>
<td>Hose Kit</td>
<td>KIT OB</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYSTEM 2</th>
<th>Turn lock to lock: 6 (UP28) or 5 (UP33) Max rudder torque: 87 kgm (7565 lbs. in)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Helm pump</td>
<td>UP28 or UP33</td>
</tr>
<tr>
<td>Cylinder</td>
<td>UC168-I</td>
</tr>
<tr>
<td>Hose Kit</td>
<td>KIT OB</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYSTEM 3</th>
<th>Turn lock to lock: 6,5 (UP33) or 5,5 (UP39) Max rudder torque: 87 kgm (7565 lbs. in)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Helm pump</td>
<td>UP33 or UP39</td>
</tr>
<tr>
<td>Cylinder</td>
<td>UC215-I</td>
</tr>
<tr>
<td>Hose Kit</td>
<td>KIT OB</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYSTEM 4</th>
<th>Turn lock to lock: 7,5 (UP39) or 6,5 (UP45) Max rudder torque: 111 kgm (9652 lbs. in)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Helm pump</td>
<td>UP39 or UP45</td>
</tr>
<tr>
<td>Cylinder</td>
<td>UC293-I</td>
</tr>
<tr>
<td>Hose Kit</td>
<td>KIT OB</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYSTEM 5</th>
<th>Turn lock to lock: 8,4 Max rudder torque: 187,6 kgm (16347 lbs. in)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>Helm pump</td>
<td>UP45-I R</td>
</tr>
<tr>
<td>Cylinder</td>
<td>UC378 I</td>
</tr>
<tr>
<td>Oil</td>
<td>OIL 15</td>
</tr>
<tr>
<td>Steering wheel</td>
<td>(page 71 - 86)</td>
</tr>
</tbody>
</table>
BULKHEAD HOSE KITS

R5 - BULKHEAD STRAIN RELIEF HOSE KIT
R5 kit distributes strain from bends in hose. It features a water tight gripper fitting and a bulkhead fitting flange for hose protection.
R5 - 39510 U

R7 - 3/4" BULKHEAD FITTING KIT
3/4" bulkhead fitting kit for single cylinder installation. 2 assemblies as illustrated per kit.
R7 - 40819 J

R8 - DUAL THRU-HULL HOSE KIT
Connection flange available in three different colours
R8B - Black 41299 P
R8W - White 41300 V
R8CH - Chrome 41301 X

R9 - BULKHEAD KIT FOR DUAL HOSE WITH PREASSEMBLED FITTINGS
Connection flange available in three different colours
R9B - Black 41302 Z
R9W - White 41303 B
R9CH - Chrome 41304 D
HIGH PRESSURE FLEXIBLE HOSES

KIT OB: HOSE KIT FOR SINGLE STATION INSTALLATION
It consists of a pair of high pressure flexible hoses supplied with preassembled fittings. The fittings are complete with turning nuts and the hoses have reinforcing sleeves on both ends.
Available lengths: from 3,00 m (9.8 ft) to 9,00 m (29.5 ft) with 0,5 m (1.6 ft) increments.

KIT OB/R5: HOSE KIT FOR SINGLE STATION INSTALLATION
It consists of a pair of high pressure flexible hoses supplied with preassembled fittings and R5 bulkhead kit. The fittings are complete with turning nuts and the hoses have reinforcing sleeves on both ends.
Available lengths: from 3,00 m (9.8 ft) to 9,00 m (29.5 ft) with 0,5 m (1.6 ft) increments.

KIT OB/M: HOSE KIT WITH PREASSEMBLED FITTINGS AT ONE END SINGLE STATION APPLICATION
It consist of a pair of ligh pressure flexible hose with fittings featuring turning nuts preassembled at one end only.
It is supplied with 2 non assembled fittings and 2 reinforcing sleeves.
Available on 6 m (1.8’’) and 9 m (2.7’’) standard lenghts that can be cut to fit the desired application.

KIT OB-2S: FITTING FOR A SECOND STEERING STATION OR AUTOPILOT INSTALLATION
It includes all necessary fittings and 8 m (26.3 ft) of 3/8” dia. nylon tube for the compensating line.
KIT OB-2S - 39539 V
**KIT OB-2C: DUAL CYLINDER/DUAL ENGINE CONNECTION KIT**

It consists of a pair of high pressure flexible hoses complete with preassembled fittings and reinforcing sleeves. Three lengths available: 70 cm, 90 cm, 120 cm.

<table>
<thead>
<tr>
<th>KIT OB-2C</th>
<th>LENGTH</th>
<th>PART No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT OB-2C-07</td>
<td>0.7 m - 2.30 ft</td>
<td>41149 U</td>
</tr>
<tr>
<td>KIT OB-2C-09</td>
<td>0.9 m - 2.95 ft</td>
<td>40680 D</td>
</tr>
<tr>
<td>KIT OB-2C-12</td>
<td>1.20 m - 3.95 ft</td>
<td>40686 S</td>
</tr>
</tbody>
</table>

**KIT OB-2C-SVS: DUAL CYLINDER/DUAL ENGINE CONNECTION KIT FOR SilverSteer™ SYSTEMS**

It consists of pair of high pressure Kevlar Standed flexible hoses complete with preassembled fitting and reinforcing sleeves. Three lengths available: 70 cm, 90 cm and 120 cm.

<table>
<thead>
<tr>
<th>KIT OB-2C-SVS</th>
<th>LENGTH</th>
<th>PART No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT OB-2C-SVS-07</td>
<td>0.7 m - 2.30 ft</td>
<td>41705 Y</td>
</tr>
<tr>
<td>KIT OB-2C-SVS-09</td>
<td>0.9 m - 2.95 ft</td>
<td>41706 A</td>
</tr>
<tr>
<td>KIT OB-2C-SVS-12</td>
<td>1.20 m - 3.95 ft</td>
<td>41707 C</td>
</tr>
</tbody>
</table>

- **TU5/16:** 5/16” nylon tubing recommended for outboard engines applications with (TU 5/16)
- **OB-F5/16:** 40849 U Fitting featuring turning nut for use with 5/16” hydraulic hose and connection for 3/8” fitting
- **TU95:** 3/8” nylon tubing. It is not recommended in the applications where the total tubing run exceeds 50 ft (15 m).
- **KIT 95 - 39516 G:** 3/8” copper tube fitting kit. It includes two 1.6 ft (0,5 m) nylon tubes and all necessary fittings for a single station.
- **KIT 100 - 39517 J:** 10 mm copper tube fitting kit. It includes 1.6 ft (0,5 m) nylon tubes and all necessary fittings for a single station.
- **KIT 95-2S - 39518 L:** Fitting kit for a second steering station or for an autopilot installation. It includes all necessary fittings for 3/8” nylon or copper tube.
- **KIT 100-2S - 39519 N:** Fitting kit for a second steering station or for an autopilot installation. It includes all necessary fittings for 10 mm nylon or copper tube.
- **KIT 120-2S - 40821 V:** Fitting kit for a second steering station or for an autopilot installation. It includes all necessary fittings for 12 mm copper tube.
**ACCESSORIES**

**BP 95** - 39520 X:
By-pass for 3/8" nylon tube.

**OIL 15** - 70704 K:
Sold in 1 litre (0.26 gallons) container

- Hydraulic oil: ISO VG 15
- Viscosity: 15 cst at 40 °C
- Viscosity index: <100
- Solidification point: <- 30 °C

**KIT F** - 39664 Y:
Remote fill adapter for rear mount and tilt mount pumps.

**FITTINGS**

**61BCA** - 71004 K: 3/8" (9,5 mm) nut and sleeve assembly, brass

**61CA** - 71013 L: 3/8" (9,5 mm) nut and sleeve assembly, nickel plated

**AF45** - 41284 A: 45° adjustable fitting, helm and tube. Suitable for SilverSteer™ system only.

**SF38** - 39471 L: 3/8" (9,5 mm) connector fitting, helm and tube

**SF12** - 41306 H: straight fitting, helm and tube Ø 12 mm

**EF38** - 39472 N: 3/8" (9,5 mm) elbow fitting, helm and tube

**TF38** - 39502 V: 3/8" (9,5 mm) union T for tube

**VF38** - 39503 X: 3/8" (9,5 mm) bleed T for cylinder, brass

**VFN38** - 39925 A: 3/8" (9,5 mm) bleed T for cylinder, nickel plated

**VFNO38** - 40868 Y: 3/8" (9,5 mm) adjustable bleed T for cylinder, nickel plated

**QCFN** - 41307 K: quick connect bleed T for cylinder, nickel plated

**QCFN94** - 41308 M: quick connect bleed T for UC94-OBF cylinder, nickel plated
STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Thermoplastic antishock material
- Standard 3/4" taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

HARD TOUCH GRIP

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>V32</td>
<td>35458X</td>
<td>Black</td>
</tr>
<tr>
<td>V32W</td>
<td>35509R</td>
<td>White</td>
</tr>
<tr>
<td>V32G</td>
<td>39282H</td>
<td>Grey</td>
</tr>
<tr>
<td>V33</td>
<td>35819L</td>
<td>Black</td>
</tr>
<tr>
<td>V33W</td>
<td>3817H</td>
<td>White</td>
</tr>
<tr>
<td>V33G</td>
<td>37495J</td>
<td>Grey</td>
</tr>
</tbody>
</table>

SOFT TOUCH GRIP

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>V45</td>
<td>37920H</td>
<td>Black</td>
</tr>
<tr>
<td>V45W</td>
<td>38049P</td>
<td>White</td>
</tr>
<tr>
<td>V45G</td>
<td>39291J</td>
<td>Grey</td>
</tr>
</tbody>
</table>

REDUCED DIMENSION:

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>V45</td>
<td>37920H</td>
<td>Black</td>
</tr>
<tr>
<td>V45W</td>
<td>38049P</td>
<td>White</td>
</tr>
<tr>
<td>V45G</td>
<td>39291J</td>
<td>Grey</td>
</tr>
</tbody>
</table>

ULTRAFLEX2010-Ita:ULTRAFLEX2009-Ita.qxd  18/09/09  17:06  Pagina 72
STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Thermoplastic antishock material
- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

SOFT TOUCH GRIP

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V38</td>
<td>36517 Q</td>
<td>Black grip - Black spokes Ø 350 mm (13.8&quot;)</td>
</tr>
<tr>
<td>V38W</td>
<td>37373 T</td>
<td>White grip - White spokes Ø 350 mm (13.8&quot;)</td>
</tr>
<tr>
<td>V38G/W</td>
<td>37387 G</td>
<td>Grey grip - White spokes Ø 350 mm (13.8&quot;)</td>
</tr>
<tr>
<td>V38G/B</td>
<td>37515 P</td>
<td>Grey grip - Black spokes Ø 350 mm (13.8&quot;)</td>
</tr>
<tr>
<td>V40</td>
<td>37374 U</td>
<td>Black - Center pad - Ø 350 mm (13.8&quot;)</td>
</tr>
<tr>
<td>V40G</td>
<td>37376 W</td>
<td>Grey - Center pad - Ø 350 mm (13.8&quot;)</td>
</tr>
</tbody>
</table>

V38 Black grip - Black spokes Ø 350 mm (13.8")
V38W White grip - White spokes Ø 350 mm (13.8")
V38G/W Grey grip - White spokes Ø 350 mm (13.8")
V38G/B Grey grip - Black spokes Ø 350 mm (13.8")
V40 Black - Center pad - Ø 350 mm (13.8")
V40G Grey - Center pad - Ø 350 mm (13.8")

350 13.8" 85 3.3" 90 3.5"
All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Thermoplastic antishock material
- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

**SOFT TOUCH GRIP**
- V60B - 39189 U
- V60W - 39190 C
- V60G - 39274 J
- V60 brc - 39289 Y

**WOOD LOOK OR PAINTED GRIP**
- V61BR - 39191 E
- V61S/B - 39277 R

All Antigua steering wheels are provided with an exclusive hub that easily allows the steering wheel to always be aligned properly.
CORSICA STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Meet with the EN 28848 and ABYC P22 standards
- X63 - 40119 D hub with button (to be ordered separately)

SOFT TOUCH GRIP

- CORSICA B/S - 38333 O
- CORSICA B/B - 38332 N
- CORSICA W/S - 38334 P
- CORSICA G/S - 38393 H
- CORSICA B brc - 38163 O
- CORSICA W brc - 39968 V

CORSICA B/S  Black grip - Silver spokes
Ø 350 mm (13.8”)

CORSICA B/B  Black grip - Black spokes
Ø 350 mm (13.8”)

CORSICA W/S  White grip - Silver spokes
Ø 350 mm (13.8”)

CORSICA G/S  Grey grip - Silver spokes
Ø 350 mm (13.8”)

CORSICA S/S  Silver painted grip
Silver spokes - Ø 350 mm (13.8”)

CORSICA CB/B  Carbon grip
Black spokes - Ø 350 mm (13.8”)

CORSICA BR/B  Burl wood grip
Black spokes - Ø 350 mm (13.8”)

CORSICA BR/S  Burl wood grip
Silver spokes - Ø 350 mm (13.8”)

STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Meet with the EN 28848 and ABYC P22 standards
- X63 - 40119 D hub with button (to be ordered separately)

SOFT TOUCH GRIP

- CORSICA B/S - 38333 O
- CORSICA B/B - 38332 N
- CORSICA W/S - 38334 P
- CORSICA G/S - 38393 H
- CORSICA B brc - 38163 O
- CORSICA W brc - 39968 V

CORSICA B/S  Black grip - Silver spokes
Ø 350 mm (13.8”)

CORSICA B/B  Black grip - Black spokes
Ø 350 mm (13.8”)

CORSICA W/S  White grip - Silver spokes
Ø 350 mm (13.8”)

CORSICA G/S  Grey grip - Silver spokes
Ø 350 mm (13.8”)

CORSICA S/S  Silver painted grip
Silver spokes - Ø 350 mm (13.8”)

CORSICA CB/B  Carbon grip
Black spokes - Ø 350 mm (13.8”)

CORSICA BR/B  Burl wood grip
Black spokes - Ø 350 mm (13.8”)

CORSICA BR/S  Burl wood grip
Silver spokes - Ø 350 mm (13.8”)
**NISIDA, SANTORINI, SPARGI, BURANO, MARETTIMO**

**STEERING WHEELS**

All ULFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Meet with the EN 28848 and ABYC P22 standards
- X63 - 40119 D hub with button (to be ordered separately)

**POLYURETHANE GRIP**

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>NISIDA B/B</td>
<td>61812M</td>
</tr>
<tr>
<td>NISIDA B/S</td>
<td>61813 P</td>
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</table>

**BLACK SOFT TOUCH GRIP WITH INSERTS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>SANTORINI B/S</td>
<td>65995 W</td>
</tr>
<tr>
<td>BURANO S/S</td>
<td>63725 D</td>
</tr>
<tr>
<td>SPARGI S/S</td>
<td>61984 U</td>
</tr>
<tr>
<td>SPARGI BR/B</td>
<td>61814 S</td>
</tr>
<tr>
<td>MARETTIMO B/S</td>
<td>64304 H</td>
</tr>
<tr>
<td>MARETTIMO B/P</td>
<td>64303 F</td>
</tr>
</tbody>
</table>

**STEERING WHEELS**

- **NISIDA B/B Black grip - Black spokes Ø 350 mm (13.8”)**
- **NISIDA B/S Black grip - Silver spokes Ø 350 mm (13.8”)**
- **SANTORINI B/S Silver inserts - Silver spokes - Ø 350 mm (13.8”)**
- **BURANO S/S Silver painted inserts - Silver spokes - Ø 350 mm (13.8”)**
- **SPARGI S/S Silver inserts - Silver spokes - Ø 350 mm (13.8”)**
- **SPARGI BR/B Burl wood inserts - Black spokes - Ø 350 mm (13.8”)**
- **MARETTIMO B/S Black grip - Silver spokes - Ø 350 mm (13.8”)**
- **MARETTIMO B/P Black grip - Polished spokes - Ø 350 mm (13.8”)**
PONZA, LINOSA, VIVARA
STEERING WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Meet with the EN 28848 and ABYC P22 standards
- X63 - 40119 D hub with button (to be ordered separately)

SILVER GRIP OR WITH INSERTS

<table>
<thead>
<tr>
<th>Model</th>
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<tbody>
<tr>
<td>PONZA S/S</td>
<td>61816 W</td>
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<tr>
<td>PONZA S/P</td>
<td>64294 H</td>
</tr>
<tr>
<td>LINOSA S/S</td>
<td>64295 K</td>
</tr>
<tr>
<td>LINOSA BR/B</td>
<td>64296 M</td>
</tr>
<tr>
<td>LINOSA S/P</td>
<td>65274 G</td>
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BL AND A SOFT TOUCH GRIP WITH CHROME INSERTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>VIVARA CH/P</td>
<td>64643 G</td>
</tr>
<tr>
<td>VIVARA CH/B</td>
<td>64644 J</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINOSA S/P</td>
<td>Silver inserts Polished spokes Ø 350 mm (13.8”)</td>
</tr>
<tr>
<td>VIVARA CH/P</td>
<td>Chrome inserts Polished spokes - Ø 350 mm (13.8”)</td>
</tr>
<tr>
<td>VIVARA CH/B</td>
<td>Chrome inserts - Black spokes Chrome center ring - Ø 350 mm (13.8”)</td>
</tr>
<tr>
<td>X63</td>
<td></td>
</tr>
</tbody>
</table>
PALMARIA, BUDELLI, TAVOLARA, LAVEZZI
STEERING WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Meet with the EN 28848 and ABYC P22 standards
- X63 - 40119 D hub with button (to be ordered separately)

POLYURETHANE GRIP
PALMARIA B/B - 63727H
TAVOLARA B/S - 65277 N
LAVEZZI B/S - 65295 R

BLACK SOFT TOUCH GRIP WITH INSERTS
PALMARIA R/B - 63728K
PALMARIA BL/B - 63729M
BUDELLI CH/S - 65293 L
BUDELLI CH/P - 65294 N
BUDELLI CH/C/P - 66001 Z

STEERING WHEELS
WOOD WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards:

- Standard 3/4” taper
- Meet with the EN 28848 and ABYC P22 standards
- X63 - 40119 D hub with button (to be ordered separately)

MAHOGANY GRIP

- SALINA/CP - 62685 N
- SALINA - 62799 E
- LAMPEDUSA - 62684 L
- ALICUDI - 62682 G

WOOD GRIP
REDUCED DIMENSION

- CAPRI - 62465 Y

SALINA Ø 360 mm (14.1”)
LAMPEDUSA Ø 360 mm (14.1”)
ALICUDI Ø 350 mm (13.8”)
CAPRI Ø 320 mm (12.6”)

X63
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP
V25B - 40640 R black
V25W - 40642 V white
V25G - 40641 T grey

MAHOGANY GRIP
V26 - 40644 Z

STAINLESS STEEL GRIP
V27 - 40643 X

V25B Ø 350 mm (13.8”)
V25W Ø 350 mm (13.8”)
V25G Ø 350 mm (13.8”)
V26 Ø 350 mm (13.8”)
V27 Ø 350 mm (13.8”)

CE
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP
V01 - 41687 Z black
V02 - 41688 B white
V03 - 41689 D grey
V04 - 41690 M navy blue

MAHOGANY GRIP
V05 - 41691 P

STAINLESS STEEL GRIP
V06 - 41692 S

<table>
<thead>
<tr>
<th>MOD.</th>
<th>B (mm)</th>
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<tbody>
<tr>
<td>V01</td>
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<tr>
<td>V02</td>
<td>67 (2.6)</td>
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<tr>
<td>V03</td>
<td>67 (2.6)</td>
</tr>
<tr>
<td>V04</td>
<td>67 (2.6)</td>
</tr>
<tr>
<td>V05</td>
<td>67 (2.6)</td>
</tr>
<tr>
<td>V06</td>
<td>67 (2.6)</td>
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</table>
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4" taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP

V10  - 41693 U black
V11  - 41694 W white
V12  - 41695 Y grey
V13  - 41696 A ochre

POLISHED TEAK GRIP

V14  - 41697 C
V15  - 41698 E

STAINLESS STEEL GRIP

V16  - 41699 G
V17  - 41700 M

82
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

STAINLESS STEEL GRIP

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Code</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V23</td>
<td>32397 D</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V35</td>
<td>31602 H</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V65</td>
<td>39436 J</td>
<td>320 mm (12.6&quot;)</td>
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</table>

POLYURETHANE GRIP

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Code</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V52B</td>
<td>40631 P black</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V52W</td>
<td>40633 U white</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V52G</td>
<td>40632 S grey</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V57B</td>
<td>38155 O black</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V57W</td>
<td>38157 Q white</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V57G</td>
<td>38156 P grey</td>
<td>320 mm (12.6&quot;)</td>
</tr>
</tbody>
</table>

STAINLESS STEEL GRIP

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Code</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V23</td>
<td>32397 D</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V35</td>
<td>31602 H</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V65</td>
<td>39436 J</td>
<td>320 mm (12.6&quot;)</td>
</tr>
</tbody>
</table>

POLYURETHANE GRIP

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Code</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V52B</td>
<td>40631 P black</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V52W</td>
<td>40633 U white</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V52G</td>
<td>40632 S grey</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V57B</td>
<td>38155 O black</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V57W</td>
<td>38157 Q white</td>
<td>320 mm (12.6&quot;)</td>
</tr>
<tr>
<td>V57G</td>
<td>38156 P grey</td>
<td>320 mm (12.6&quot;)</td>
</tr>
</tbody>
</table>
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

EXCLUSIVE POLYURETHANE “FIRM GRIP”

V70B - 39442 D black
V70W - 39929 J white
V70G - 39441 B grey

SPEED KNOB FOR V70 WHEELS

KNOB70 P/B - 40155 H black blister packaged:
KNOB70 P/B- b - 40264 N

POLYURETHANE GRIP

V58G - 38650 F grey
V53B - 40634 W black
V53W - 40636 A white
V53G - 40635 Y grey
V54B - 40637 C black
V54W - 40639 G white
V54G - 40638 E grey

V70B Ø 350 mm (13.8”)
V70W Ø 350 mm (13.8”)
KNOB70 P/B

V70G Ø 350 mm (13.8”)

V58G Ø 400 mm (15.7”)
V53B Ø 450 mm (17.7”) - V54B Ø 550 mm (21.6”)

V53W Ø 450 mm (17.7”) - V54W Ø 550 mm (21.6”)
V53G Ø 450 mm (17.7”) - V54G Ø 550 mm (21.6”)

NON-MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

EXCLUSIVE POLYURETHANE “FIRM GRIP”

V70B - 39442 D black
V70W - 39929 J white
V70G - 39441 B grey

SPEED KNOB FOR V70 WHEELS

KNOB70 P/B - 40155 H black blister packaged:
KNOB70 P/B- b - 40264 N

POLYURETHANE GRIP

V58G - 38650 F grey
V53B - 40634 W black
V53W - 40636 A white
V53G - 40635 Y grey
V54B - 40637 C black
V54W - 40639 G white
V54G - 40638 E grey

V70B Ø 350 mm (13.8”)
V70W Ø 350 mm (13.8”)
KNOB70 P/B

V70G Ø 350 mm (13.8”)

V58G Ø 400 mm (15.7”)
V53B Ø 450 mm (17.7”) - V54B Ø 550 mm (21.6”)

V53W Ø 450 mm (17.7”) - V54W Ø 550 mm (21.6”)
V53G Ø 450 mm (17.7”) - V54G Ø 550 mm (21.6”)
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4” taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

MAHOGANY GRIP

- V62 - 39263 D
- V63 - 39264 F
- V66 - 39424 B
- V67 - 39425 D
- KNOB67 - 40677 R
- V68 - 39426 F
- V74 - 41115 A
- V75 - 41116 C
- V76 - 41117 E

POLISHED TEAK GRIP

- V71 - 41112 U
- V72 - 41113 W
- V73 - 41114 Y

NATURAL TEAK GRIP

- V77 - 41152 G
- V78 - 41153 J
- V79 - 41154 L

<table>
<thead>
<tr>
<th>MOD.</th>
<th>B mm (*)</th>
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<tbody>
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<td>108 (4.3)</td>
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<td>V66</td>
<td>80 (3.1)</td>
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<tr>
<td>V67</td>
<td>100 (3.9)</td>
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<td>V68</td>
<td>118 (4.6)</td>
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<td>V71</td>
<td>63 (2.5)</td>
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<td>V72</td>
<td>63 (2.5)</td>
</tr>
<tr>
<td>V73</td>
<td>63 (2.5)</td>
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<tr>
<td>V74</td>
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<td>V78</td>
<td>63 (2.5)</td>
</tr>
<tr>
<td>V79</td>
<td>63 (2.5)</td>
</tr>
</tbody>
</table>

KNOB67 Speed knob for V63 and V67 wheels

V62 Ø 350 mm (13.8”) - V68 Ø 400 mm (15.7”)
V66 Ø 350 mm (13.8”)
V67 Ø 400 mm (15.7”)
V74 Ø 400 mm (15.7”)
V75 Ø 450 mm (17.7”) - V76 Ø 500 mm (19.6”)
V77 Ø 400 mm (15.7”)
V78 Ø 450 mm (17.7”) - V79 Ø 500 mm (19.6”)
V71 Ø 400 mm (15.7”)
V72 Ø 450 mm (17.7”) - V73 Ø 500 mm (19.6”)
NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats. All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards.

- Standard 3/4" taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

MAHOGANY GRIP
V80 - 41683 R
V81 - 41684 T

NATURAL OAK GRIP
V82 - 41685 V
V83 - 41686 X

CAPTAIN'S WHEELS
V89 - 40721 R
V90 - 39931 V
V91 - 39932 X
V92 - 39933 Z
V93 - 40645 B
V94 - 40646 D
KNOB93 - 40647 F

KNOB93 Folding knob for V93 and V94 wheels

V80 Ø 350 mm (13.8")
V81 Ø 400 mm (15.7")
V82 Ø 350 mm (13.8")
V83 Ø 400 mm (15.7")
V89 Ø 500 mm
V90 Ø 370 mm - V91 Ø 420 mm
V92 Ø 490 mm
V93 Ø 460 mm - V94 Ø 550 mm
“LOW PROFILE” SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both with throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Compact single lever controls offering a unique low profile style compared to other controls available on the market
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of marine aluminum, chrome plated or powder coat finish
- Push in button disengages shift for warm-up
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- For use with all Ultraflex control cables except C4 (discontinued):
  - C14 and MACH14 cables require no kit
  - for C2, C8 and MACHZero cables the connection kit K59 - 40144 C is included
  - C5, C16 and MACH5 cables require K60 Kit - 40145 E
  - C36 and MACH36 cables require K62 Kit - 40157 J
  - C22 cable requires K61 Kit - 40146 G

MODELS

B301CR - 40140 U
Single lever control for one engine, chrome plated.

B302CR - 40141 W
Twin lever control for two engines, chrome plated.

X75 - 40662 B
Silver knob optional
“LOW PROFILE” SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both with throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Compact single lever controls offering a unique low profile style compared to other controls available on the market.
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- For use with all Ultraflex control cables except C4 (discontinued):
  - C14 and MACH14 cables require no kit.
  - for C2, C8 and MACHZero cables connection kit is K59 - 40144 C included.
  - C5, C16 and MACH5 cables require K60 Kit - 40145 E.
  - C36 and MACH36 cables require K62 Kit - 40157 J.
  - C22 cable requires K61 Kit - 40146 G.

MODELS

B301B - 40142 Y
Single lever control for one engine, black dome, chrome plated lever.
B302B - 40143 A
Twin lever control for two engines, black dome, chrome plated lever.
X75 - 40662 B
Silver knob optional.
SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of chrome plated marine aluminum
- Pull-out handle disengages shift for warm-up
- Neutral safety switch X43 - 38160 L (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X43 safety switch is installed
- For use with C2, C8 and MACHZero Ultraflex engine control cables.
- To connect C22 cable to B103 control only, use K33 - 38378 D connection kit

MODELS

B103 - 37923 K
Single lever control for one engine

B104 - 37924 L
Twin lever control for two engines

X55 - 39421 V - Silver knob optional
SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

■ Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
■ Made of marine aluminum, chrome plated or powder coat finish
■ Pull-out handle disengages shift for warm-up
■ Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
■ Exceeds EN ISO 11547 standards when X12 safety switch is installed
■ Power trim switch conveniently located in the handle grip enables for easy tilting of the engine
■ For use with all Ultraflex engine control cables except C22, C4 (discontinued), C36 and MACH36.
■ Ultraflex C5, C16 and MACH5 cables require K35 kit - 34730 U

MODELS

B65 - 34731 V
Single lever control for one engine, chrome plated.
B76 - 35312 E
Single lever control for one engine, chrome plated, with trim.
B66 - 34732 W
Twin lever control for two engines, chrome plated.
B78 - 35314 G
Twin lever control for two engines, chrome plated, with trim.
B73 - 35007 U
Single lever control for one engine, black dome, chrome plated lever.
B77 - 35313 F
Single lever control for one engine, black dome, chrome plated lever, with trim.
B74 - 35008 B
Twin lever control for two engines, black dome, chrome plated lever.
B79 - 35315 H
Twin lever control for two engines, black dome, chrome plated lever, with trim.
SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of marine aluminum, chrome plated or powder coat finish
- Pull-out handle disengages shift for warm-up
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Provided with a positive lock-in neutral to prevent accidental gear engagement
- For use with all Ultraflex engine control cables except C22, C4 (discontinued) , C36 and MACH36. Ultraflex C5, C16 and MACH5 cables require K35 kit - 34730 U

MODELS
B665 - 40656 G
Single lever control for one engine. Chrome plated.

B666 - 40657 J
Twin lever control for two engines. Chrome plated.
SINGLE LEVER SIDE MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

■ Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
■ Can be installed horizontally or vertically, on the starboard or port side of the boat
■ Provided with a brake tension release system adjustable from outside
■ Pull-out handle disengages shift for warm-up
■ Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
■ Exceeds EN ISO 11547 standards when X12 safety switch is installed
■ All models are provided with positive lock-in neutral to prevent accidental gear engagement
■ All models are provided with a power trim switch conveniently located in the handle grip that enables an easy tilting of the engine
■ For use with all Ultraflex engine control cables except C22, C36 and MACH36.
■ Ultraflex C5, C16 and MACH5 cables require K35 - 34730 U connection kit

MODELS

B310CH - 41789 H
Provided with a positive lock-in neutral and trim switch

B310BR - 41788 F
Provided with a positive lock-in neutral and trim switch

B310B - 41790 S
Provided with a positive lock-in neutral and trim switch
Single lever / dual action control to operate both throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

**FEATURES**
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Can be installed horizontally or vertically, on the starboard or port side of the boat
- Provided with a brake tension release system adjustable from outside
- Pull-out handle disengages shift for warm-up
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- All models are provided with positive lock-in neutral to prevent accidental gear engagement
- B184 and B184CB models are provided with a power trim switch conveniently located in the handle grip that enables an easy tilting of the engine
- For use with all Ultraflex engine control cables except C4 (discontinued), C22, C36 and MACH36.
- Ultraflex C5, C16 and MACH5 cables require K35 - 34730 U connection kit

**MODELS**
- **B183** - 38945 B
  Provided with a positive lock-in neutral
- **B184** - 38946 D
  Provided with a positive lock-in neutral and trim switch
- **B184CB** - 40666 K
  Provided with a positive lock-in neutral and trim switch
- **B85** - 35682 I
  Standard model, smooth design for use on sailboats. Provided with a positive lock-in neutral.
SINGLE LEVER SIDE MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift. Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Can be installed horizontally or vertically, on the starboard or port side of the boat
- Made of painted marine aluminum
- Pull-out handle disengages shift for warm-up
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Provided with a positive lock-in neutral to prevent accidental gear engagement
- For use with all Ultraflex engine control cables except C4 (discontinued), C22, C36 and MACH36.
- Ultraflex C5, C16 and MACH5 cables require K35 - 34730 U connection kit.
- To connect C14 and MACH14 cables to engine, use K51 - 32526 N connection kit.

MODELS
B89 - 36151 G
Ivory finish with positive lock-in neutral.

B90 - 36152 H
Black finish with positive lock-in neutral.
TWO LEVER TOP MOUNT CONTROLS

Two lever / single action control: each lever operates separately either the throttle or the shift. Suitable for use with outboard, inboard or I/O power plants.

FEATURES
- Flush mount suitable for exposed positions such as flying bridge
- Made of marine aluminum with chrome plated lever
- Throttle lever is provided with adjustable brake tension release system and shift lever with forward, reverse and neutral detents. Both the brake tension release and detents can be installed and adjusted from the outside.
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Available with straight or bent levers
- B58 and B59 models are provided with an interlock kit to prevent accidental gear engagement
- For use with Ultraflex C2, C8 and MACHZero engine control cables.
- Ultraflex C22 cable requires K22 - 34713 Q connection kit.

MODELS

BENT LEVERS:
- B46 - 34461 P Throttle and shift
- B46T - 34462 Q Throttle only
- B46S - 34463 R Shift only
- B58R - 34570 W Throttle and shift. With interlock. Right hand installation
- B58L - 34716 T Throttle and shift. With interlock. Left hand installation

STRAIGHT LEVERS:
- B50 - 34464 S Throttle and shift
- B50T - 34465 T Throttle only
- B50S - 34466 U Shift only
- B59R - 34571 X Throttle and shift. With interlock. Right hand installation
- B59L - 34717 U Throttle and shift. With interlock. Left hand installation
TWO LEVER
TOP MOUNT CONTROLS

Two lever / single action control: each lever operates separately either the throttle or the shift.
Suitable for use with outboard, inboard or I/O power plants.

FEATURES

- Flush mount suitable for exposed positions such as flying bridge
- Levers structure made of die cast zinc provided with a soft thermoplastic ergonomical handgrip
- Adjustable brake to avoid throttle creep and positive detent for shift
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Raked throttle handle and straight gear handle for a better manoeuvring
- B204 and B208 models are provided with an interlock kit to prevent accidental gear engagement
- For use with Ultraflex C2, C8 and MACHZero engine control cables.
- Ultraflex C22 cable requires K22 - 34713 Q connection kit.

MODELS

Black painted controls with black soft hand grip:
B203 - 37378 A Throttle and shift.
B204R - 37383 C Throttle and shift. With interlock.
B204L - 37384 D Throttle and shift. With interlock.

White painted controls with grey soft hand grip:
B207 - 37650 Y Throttle and shift.
B208R - 37654 C Throttle and shift. With interlock.
B208L - 37655 D Throttle and shift. With interlock.
TWO LEVER TOP MOUNT CONTROLS

Two lever / single action control: each lever operates separately either the throttle or the shift.
Suitable for use with outboard, inboard or I/O power plants.

FEATURES
- Made of aluminium, chrome plated or black powder coat finish
- Throttle lever is provided with adjustable brake tension release system and shift lever with forward, reverse and neutral detents.
- Neutral safety switch X12-34543 Q (optional) prevents in-gear starting
- In dual station applications the L23-31649 B selector unit has to be used (page 110)
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Use with all Ultraflex control cables except C4 (discontinued):
  - C14 and MACH14 cables require no kit
  - For C2, C8 and MACHZero cables the connection kit K67 - 40705 T is included
  - C5, C16 and MACH5 cables require K63 kit - 40757 N
  - C22 cable requires K64 kit - 40758 R
  - C36 and MACH36 cables require K65 kit - 40759 T

MODELS
CHROME PLATED:
- B322 - 40669 S Throttle and shift
- B322T - 40670 A Throttle only
- B322S - 40673 G Shift only

BLACK FINISH:
- B324 - 40674 J Throttle and shift
- B324T - 40675 L Throttle only
- B324S - 40676 N Shift only
TWO LEVER
TOP MOUNT CONTROLS

Two lever / single action control: each lever operates separately either the throttle or the shift. Suitable for use with outboard, inboard or I/O power plants.

FEATURES

- All the four versions are provided with the shift lever detents and with a brake tension release system adjustable from the outside of the throttle lever
- Neutral safety switch X12 - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Suitable for exposed positions such as flying bridge
- For use with Ultraflex C2, C8 and MACHZero engine control cables
- Ultraflex C22 cable requires K32 - 34662 Z connection kit

MODELS

B99 - 36854 N
Throttle and shift. Black painted with chrome levers

B100 36855 O
Throttle and shift. Sport black painted

B101 - 36856 P
Throttle and shift. White painted

B102 - 36899 G
Throttle and shift. Black painted
TWO LEVER SIDE MOUNT CONTROLS

Suitable for all outboard engines.

FEATURES
■ Made of nylon fiberglass with anodized aluminum levers
■ Left or right side mount installation
■ For use with Ultraflex engine control cables:
  - C14 and MACH14 with K23 - 32773 D connection kit
  - C2, C8, and MACHZero with K25 - 32775 F connection kit
  - C5 and MACH5 without connection kit

MODELS
B47 - 32770 A - Light grey finish
B49 - 33283 S - Black finish

B35 CONTROL BOX

FEATURES
■ Lever and flange all stainless steel.
■ Flush side mount installation.
■ Particularly suitable for throttle control and hydraulic shift operation.
■ Provided with adjustable brake tension release and detents.
■ For use with Ultraflex C2, C8 and MACHZero engine control cables
B35 - 32386 A
ACCESSORIES FOR CONTROL BOXES

K22 - 34713 Q
Kit to connect C22 cable to top mount two lever control boxes, B46, B50, B58, B59, B203, B204, B207, B208, B322, B324.

K23 - 32773 D
Kit to connect C14 and MACH14 cables to B47 and B49 control boxes.

K25 - 32775 F
Kit to connect C2, C8 and MACHZero cables to B47 and B49 control boxes.

K32 - 34662 Z
Kit to connect C22 cable to top mount two lever control boxes B99, B100, B101 and B102.

K33 - 38378 D
Kit to connect C22 cable to B103 control box.

K35 - 34730 U
Kit to connect C5, C16 and MACH5 cables to single lever control boxes, except B301, B302, B103 and B104.

K51 - 32526 N
Kit to connect C14 and MACH14 cables to engine for use with B89 and B90 controls.

K59 - 40144 C
Kit to connect C2, C8 and MACHzero cables to B301 and B302 controls (supplied with the box).

K60 – 40145 E
Kit to connect C5, C16 and MACH5 cables to B301 and B302 control boxes.

K61 – 40146 G
Kit to connect C22 cable to B301 and B302 control boxes.

K62 – 40147 J
Kit to connect C36 and MACH36 cables to B301 and B302 control boxes.

K63 - 40757 N
Kit to connect C5, C16, MACH5 cables to B322 and B324 controls.

K64 - 40758 R
Kit to connect C22 cable to B322 and B324 controls.

K65 - 40759 T
Kit to connect C36 and MACH36 cables to B322 and B324 controls.

K67 - 40705 T
Kit to connect C2, C8 and MACHZero cables to B322 and B324 controls (supplied with the box).

X12 - 34543 Q
Neutral safety switch to prevent in-gear starting.

X43 - 38160 L
Neutral safety switch to prevent in-gear starting, suitable for B103 and B104 controls.
HOW TO MEASURE FOR CONTROL CABLE INSTALLATION

FOR NEW INSTALLATION, measure A + B distance from the control along an unobstructed cable routing to clutch and / or throttle connection. Round this dimension off to the next whole foot: you will have your cable length. We recommend that the cable bends have a minimum radius of about 8” (200 mm).

For outboard engine installations, it is necessary to add three feet to the obtained length, in order to allow the engine movement.

To determine the needed length of the REPLACEMENT CABLE, measure it from tip to tip.

When ordering, specify the cable length in feet, rounding the dimension off to the next whole value. If any kit is required to complete the cable connection, consult the appropriate section in this catalogue. (Page 107)
MACH™ SERIES
HIGH EFFICIENCY
AND FLEXIBILITY
ENGINE CONTROL CABLES

High efficiency control cables that Ultraflex has developed in order to meet the increasing request for "high performance" cables in various configurations.

HIGH PERFORMANCE

- The PATENTED "high performance" MACH™ Cables are the result of our decades of experience in producing high quality, long lasting, flexible cables. The innovative core design maximizes efficiency and minimizes lost motion, while the exclusive design of the conduit provides extremely high level of flexibility.

FEATURES AND PERFORMANCE

- Available in the following configurations:
  - MACHZero - Universal style (like C2, C8)
  - MACH5 - Mercury® style (like C5)
  - MACH14 - Current OMC® style (like C14)
  - MACH36 - Gen II Mercury® style (like C36)
- Suitable for outboard – inboard and sterndrive engines
- High efficiency for smooth operation
- High flexibility for reduced bend radius. Ideal for long complex cable routings
- Maintenance free
- Stainless steel cables end fittings
- High resistance blue outer jacket against abrasion, UV and chemicals

CONTROL CABLES FOR WEBER® ENGINES

C40 Stroke: 3.5” (90 mm) Throttle cable for Weber® engines
C41 Stroke: 3.1” (78 mm) Shift cable for Jet Weber® engines
ENGINE CONTROL CABLES

C2 Stroke: 87 mm (3.4")
For use with inboard, sterndrive and outboard engines with appropriate accessories.

C8 Stroke: 87 mm (3.4")
For use with inboard, sterndrive and outboard engines, with appropriate accessories.

MACHZero 87 mm (3.4")
For use with inboard, sterndrive and outboard engines. Ideal for high performance applications, long cable runs and complex routings. Blue color jacket.

C14 Stroke: 75 mm (3")
For Johnson®, Evinrude®, OMC® engines manufactured from 1979 to date.

MACH14 Stroke: 75 mm (3").
For Johnson®, Evinrude®, OMC® engines manufactured from 1979 to date.
Blue color jacket
High performance applications

C36 Stroke: 87 mm (3.4")
For Mercury® and Mercruiser® engines and Mercury® Generation II™ series controls.

MACH36 Stroke: 87 mm (3.4").
For Mercury® and Mercruiser® engines and Mercury® Generation II™ series controls.
Blue color jacket
High performance applications

C5 Stroke: 95 mm (3.75")
For Mercury® and Mercruiser® engines. Blue color jacket
High performance applications

MACH5 Stroke: 95 mm (3.75").
For Mercury® and Mercruiser® engines. Blue color jacket
High performance applications

C16 Stroke: 80 mm (3.1"). For Mariner® engines up to 40 hp.

C22 Stroke: 80 mm (3.1")
Stainless steel clamp fittings. Recommended for heavy duty applications.

B14 Stroke: 70 mm (2.8")
Designed for throttle, fuel shut-off and other applications. Supplied with L13 and L14 clamp and shim.

K68 - 40895 B
Recessed bulkhead support for B14 cable.
ACCESSORIES FOR ENGINE CONTROL CABLES

L2 - 30324 D
Cable clamp block
L3 - 30325 E
Shim and clamp block.
Fits C2, C8 and MACHCZero cables.
L7 - 38078 U
Ball joint 10-32 UNF.
Stainless steel, fits C2, C8 and MACHCZero cables.
L12 - 30334 F
Cable end fitting.
Fits C2, C8 and MACHCZero cables.
L13 - 30335 G
Stop collar. Fits C4 and B14 cables.
L14 - 30336 H
Cable clamp block.
Fits C2, C8 and MACHCZero cables.
L25 - 31906 D
Clevis 10-32 UNF.
Fits C2, C8 and MACHCZero cables.
L26 - 33517 N
Clevis 1/4" x 28 threaded. Fits C22 cable.

K56 - 39237 C
Adapts C2, C8 and MACHCZero cables for use with Mercury engines.
K57 - 39238 E
Adapts C2, C8 and MACHCZero cables for use with Johnson / Evinrude engines.

YAMAHA ENGINE KITS*

K7 - 30320 V for 15 hp engines
K8 - 30321 A for 25 hp engines
K9B - 33205 A for 5 hp engines
K14B - 32584 E for 10/15 hp engines
K14F - 38098 C for 10/15 hp engines
K36 - 35034 B for 8 hp engines
S-2674 - 32654 X Yamaha Throttle Connector
S-2675 - 32655 Y Yamaha Shift Connector

* Minimum order quantity: 10 pieces for part number
## SELECTOR UNIT FOR DUAL STATION APPLICATIONS

Selector unit for use with single lever controls in dual station applications. It enables independent control over throttle and shift from either the main station or the flying bridge station.

**NOTE:** before changing station, throttle must be on idling position and shift in neutral.

L23 - 31649 B

## CONTROL CABLE APPLICATION MATRIX

### SINGLE LEVER CONTROLS

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*: Supplied with the control
X: No kit required
- : No connection

### TWO LEVER CONTROLS

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<td>MACH14</td>
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<td></td>
<td>X</td>
<td>-</td>
<td>K23</td>
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</tbody>
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*: Supplied with the control
X: No kit required
- : No connection
### MECHANICAL PRODUCTS

#### AVAILABLE SPARE PARTS

WARNING

In order to maintain the correct functionality of the product, the replacement with spare parts has to be made by qualified technicians only.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T67</td>
<td>Black bezel 59336 W</td>
</tr>
<tr>
<td></td>
<td>White bezel 59601 U</td>
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<tr>
<td></td>
<td>Zinc-chrome steel bushing 56402 K</td>
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<tr>
<td></td>
<td>Installation kit 38070 K</td>
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<tr>
<td></td>
<td>Shaft kit 70550 J</td>
</tr>
<tr>
<td>M58</td>
<td>Lock nut engine side 55170 M</td>
</tr>
<tr>
<td>T85</td>
<td>Black bezel 59336 W</td>
</tr>
<tr>
<td></td>
<td>White bezel 59601 U</td>
</tr>
<tr>
<td></td>
<td>Shaft kit 70550 J</td>
</tr>
<tr>
<td></td>
<td>Spent travel nylon tube 59869 F</td>
</tr>
<tr>
<td></td>
<td>Plastic ferrule for nylon tube 59857 Z</td>
</tr>
<tr>
<td></td>
<td>Cable lock-in screw 59926 R</td>
</tr>
<tr>
<td></td>
<td>Installation kit 41165 S</td>
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<tr>
<td>T71FC - T72FC - T73NRFC - T74NRFC</td>
<td>90° Black bezel 58051 L</td>
</tr>
<tr>
<td></td>
<td>90° White bezel 71942 H</td>
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<tr>
<td></td>
<td>Shaft kit 70549 A</td>
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<tr>
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<td>Cable lock-in screw 70022 G</td>
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<td>Spent travel nylon tube 59869 F</td>
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<td>Plastic ferrule for nylon tube 59857 Z</td>
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<tr>
<td>X52 Tilt Mechanism</td>
<td>Upper cover 70123 N</td>
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<tr>
<td></td>
<td>Lower cover 70140 N</td>
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<td>Gasket 70138 C</td>
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<tr>
<td>T86 - T88</td>
<td>2 Shaft kits 71109 A</td>
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#### Steering Wheels

<table>
<thead>
<tr>
<th>Part Number</th>
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<tr>
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<td>Stainless steel silver screws 60957 Q</td>
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<tr>
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<td>Stainless steel black screws 60984 T</td>
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<tr>
<td></td>
<td>Black cap for V32 58078 Y</td>
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<tr>
<td></td>
<td>White cap for V32 58079 Z</td>
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<tr>
<td></td>
<td>Grey cap for V32 70155 C</td>
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<tr>
<td></td>
<td>Black cap for V33 59763 O</td>
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<tr>
<td></td>
<td>White cap for V33 59764 P</td>
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<td></td>
<td>Grey cap for V33 59765 Q</td>
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<tr>
<td></td>
<td>Black cap for V45 59061 O</td>
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<td></td>
<td>White cap for V45 59002 D</td>
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<td></td>
<td>Grey cap for V45 71108 Y</td>
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<td></td>
<td>Black cap for V38 59061 O</td>
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<td></td>
<td>White cap for V38 59002 D</td>
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<tr>
<td></td>
<td>Black cap for Antigua 70161 X</td>
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<td></td>
<td>White cap for Antigua 70162 Z</td>
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<td>Grey cap for Antigua 70163 V</td>
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<td></td>
<td>Silver painted cap for Antigua 70165 F</td>
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<td>Burl wood cap for Antigua 70164 D</td>
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<td></td>
<td>Wood cap for V23 and V35 56384 G</td>
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#### B301CR - B302CR - B301B - B302B - B322 - B324

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td></td>
<td>Lever assembly with black knob 40897 F</td>
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<tr>
<td></td>
<td>Lever assembly with red knob B322 - B324 40898 H</td>
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<tr>
<td></td>
<td>Black knob 72054 G</td>
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<tr>
<td></td>
<td>Red knob 72020 N</td>
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<tr>
<td></td>
<td>Chrome rear cover B301CR 71461 R</td>
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<td>Black painted rear cover B301B 71501 A</td>
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<td>Gasket for B301CR - B301B 71366 X</td>
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<tr>
<td></td>
<td>Gasket for B302CR - B322B - B322 - B324 71516 P</td>
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<td>Installation kit B301B 40744 D</td>
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<td>Installation kit B302CR 40743 B</td>
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<td>Installation kit B302B 40192 P</td>
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<td>Installation kit B322 - B324 40703 N</td>
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#### B103 - B104

<table>
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<tr>
<th>Part Number</th>
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<tbody>
<tr>
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<td>Lever with handle 60909 N</td>
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<tr>
<td></td>
<td>Black knob 34830001</td>
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<td></td>
<td>X55 Silver knob B103/B104 39421 V</td>
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<td>Gasket for B103 61425 E</td>
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<td>Gasket for B104 61426 G</td>
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<td></td>
<td>Rear cover for B103 61738 C</td>
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<td>Installation kit B103 60979 B</td>
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<td>Installation kit B104 60804 D</td>
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#### B65 - B665 - B66 - B666

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>B73 - B74 - B76 - B77 - B78 - B79</td>
<td>Lever assembly B66 - B65 – B73 – B74 57076 R</td>
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<td>Lever assembly B665 40915 E</td>
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<td>Lever assembly B666 40916 G</td>
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<td>Lever assembly with trim B76-B77-B78-B79 57459 E</td>
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<td>Chrome rear cover 55529 Z</td>
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<td>Black rear cover 543608 X</td>
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<td>Installation kit B65 - B665 300E7 K</td>
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<td>Installation kit B73 30049 F</td>
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<td>Installation kit B74 35366 S</td>
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<td>Installation kit B76 36134 F</td>
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<td>Installation kit B77 30016 Q</td>
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<td>Installation kit B78 36135 G</td>
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<td>Installation kit B79 30017 R</td>
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#### B310CH - B310BR - B310B

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<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>B183 - B184 - B184CB - B85</td>
<td>Lever assembly B183 70013 F</td>
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<td>Lever assembly B184 70020 C</td>
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<td>Lever assembly B184CB 72005 T</td>
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<td>Cover for B183 – B184 – B184CB – B85 56012 A</td>
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<td>Flange for B183 – B184 – B184CB – B85 56011 V</td>
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<td>Installation kit B103 38947 F</td>
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<td>Installation kit B184 – B184CB 38979 V</td>
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#### B99 - B90

<table>
<thead>
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<th>Part Number</th>
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<tbody>
<tr>
<td>Black lever with lock 58245 T</td>
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<tr>
<td>White lever with lock 57899 L</td>
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<td>Installation kit B99 - B90 36168 R</td>
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#### B46 - B50 - B58 - B59

<table>
<thead>
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<th>Part Number</th>
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<tbody>
<tr>
<td>Cover 57960 T</td>
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<tr>
<td>Black knob 32394 A</td>
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<td>Red knob 32472 Q</td>
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<td>Installation kit 35365 R</td>
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#### B203 - B204 - B207 - B208

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<thead>
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<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>Black cover 57960 T</td>
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<td>White cover 59446 B</td>
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<tr>
<td>Burl wood cover 38985 P</td>
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<td>Installation kit 35365 R</td>
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#### B99 - B100 - B101 - B102

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>Red knob B99 – B100 – B101 – B102 58266 Y</td>
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<tr>
<td>Black knob B99 – B100 – B101 – B102 53185 V</td>
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<td>Installation kit B99 – B101 – B102 35391 A</td>
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<tr>
<td>Installation kit B100 35403 G</td>
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#### B14 Engine Stop Cable

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>B14 Kit 59976 G</td>
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</tbody>
</table>
SPARE PARTS – HYDRAULIC PRODUCTS

**HELM PUMPS**
- Vented filter plug kit with valve: 40801 N
- Non vented filter plug kit: 40800 L
- Shaft seal kit: 40875 V
- Installation kit for UP20 F: 40248 R
- Installation kit for UP20 T: 39501 T
- Installation kit for UP25 T/28 T/33 T/39 T: 39501 T
- Installation kit for UP28 R/33 R/39 R: 39500 R
- Nylon round flange for X57: 70666 E
- Nylon square flange for X64: 70670 V
- Chrome plated cover ring - X68: 40894 Z
- Pump filling kit: 40876 X

**AVAILABLE SPARE PARTS**

- **UC94-OBF OUTBOARD CYLINDER**
  - Black bull horn mounting bracket: 40977 Z
  - Through tube stainless steel rod: 40174 M
  - Spacer kit: 40878 B

- **UC128-OBF OUTBOARD CYLINDER**
  - Black bull horn mounting bracket: 39490 R
  - Through tube stainless steel rod: 39491 T
  - Spacer kit: 41812 Z
  - Plastic cap kit: 41810 V
  - UC128 Hardware kit: 39979 A
  - Tiller arm connecting (ultrabolt): 40822 X

- **UC68- OBS OUTBOARD CYLINDER**
  - Stainless steel tilt tube extension: 39495 B

- **UC132- OBS OUTBOARD CYLINDER**
  - Stainless steel tilt tube extension: 39495 B
  - Extension rod connecting pin: 40917 J

**INBOARD CYLINDERS**
- Balljoint for UC69-I: 40883 U
- Balljoint for UC116-I: 39477 Z
- Balljoint for UC188-I and UC215-I: 39478 B
- Balljoint for UC293-I: 40178 W
- Balljoint for UC378-I: 41310 Y
- Balljoint and shim for UC69-I: 40884 W
- Balljoint and shim for UC116-I: 39479 D
- Balljoint and shim for UC188-I e UC215-I: 39480 M
- Balljoint and shim for UC293-I: 40180 G
- Balljoint and shim for UC378-I: 41311 A

**STERNDRIVE CYLINDERS**
- Extension rod connecting pin: 40917 J

**NUT AND SLEEVE**
- Brass nut and sleeve: 71004 K
- Nickel plated brass nut and sleeve: 71013 L

**WARNING**
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