

# UFLEX 13

A WORLD OF  
MARINE  
EQUIPMENT

 **UFLEX**

# NEWS 13



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# ULTRAFLEX GROUP

## 78 years

1935-2013



### 1935 - 2013

Ultraflex Group has 78 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.

### Quality Management System

The Ultraflex and Uflex Quality Management Systems are certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 9001 rule, certification n° 6669/02/S (former 420/96). Certification Uflex n° 8875/03/S. 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
- Maintain and verify conformity with ABYC requirements.

The Ultraflex Environmental Management System is certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 14001. 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.



Steering and control systems for pleasure boats



Worldwide distribution of marine accessories



### ULFLEX - Renewable Energy

Systems and accessories for alternative energy applications



Window and skylight remote controls. Innovative LED road signs



### INDUSTRIA di LEVI

Mechanical remote controls in the industrial field



Manufacturing the world's finest marine products





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# WES<sup>®</sup>

ULTRAFLEX CONTROL SYSTEMS S.r.l.



Si ringraziano, per la cortese collaborazione, i cantieri Gobbi S.p.A. e Sessa Marine S.p.A.

HATCH LIFTERS

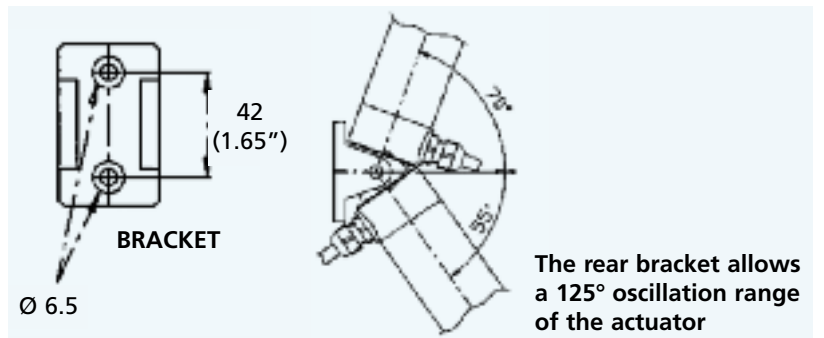
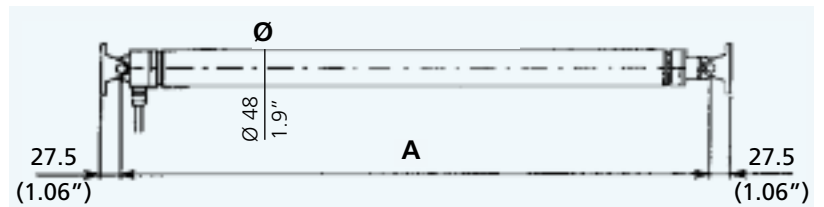
## AV SERIES ELECTRICAL HATCH LIFTERS

The AV hatch lifters are electromechanical products, especially designed for marine use on pleasure boats. They allow full or partial opening and closing of heavy engine hatches, peak tanks, hatch beams etc.

By activating a switch, it is possible to lift the hatch to any desired position from closed to full open; an internal self-locking mechanism will maintain the position preventing any accidental hatch closing. In case of a power failure an emergency device allows for manual opening.

### TECHNICAL FEATURES

- According to the load required, the AV hatch lifter can be mounted individually, or in twin cylinder installation for heavier loads. It is also possible to install more than two AV actuators in multiple applications.
- **Maximum load for single installations: 1200N (120 kg - 265 lbs)**
- **Maximum load for dual installations: 2400N (240 kg - 529 lbs)**
- Maximum load is recommended not to be exceeded.
- Supplied with all mounting hardware.
- Stainless steel telescopic ram for manual operation in case of emergency.
- Available on request without manual emergency opening device for high performance boats.
- Circuit breaker to stop accidental overloading of the system and electronic stop at closed or full open position.
- IP 65 protection rated
- Speed: 25mm/sec no load applied, 17 mm/sec maximum load
- Current absorption in single installations: 10A at 12V, 5A at 24V
- Current absorption in dual installations: 20A at 12V, 10A at 24V
- AV 12VDC models are Ignition Protected. UL1500 - ISO8846 approved.



The rear bracket allows a 125° oscillation range of the actuator

MODEL	PART No.	VOLTS	STROKE	LENGTH A (FULL CLOSED ACTUATOR)	EXTERNAL DIA.
<b>AV 3012</b>	40671 C	12V DC	300 mm (12")	677 mm (26.6")	48 mm (1.9")
<b>AV 3024</b>	40672 E	24V DC	300 mm (12")	677 mm (26.6")	48 mm (1.9")
<b>AV 4512</b>	40582 D	12V DC	450 mm (18")	827 mm (32.5")	48 mm (1.9")
<b>AV 4524</b>	40583 F	24V DC	450 mm (18")	827 mm (32.5")	48 mm (1.9")
<b>AV 6012</b>	40584 H	12V DC	600 mm (24")	977 mm (38.4")	48 mm (1.9")
<b>AV 6024</b>	40585 K	24V DC	600 mm (24")	977 mm (38.4")	48 mm (1.9")

### OPTIONAL COMPONENTS:

**RB12** - 40738 Y Relay box 12V  
**RB24** - 40742 C Relay box 24V  
 It contains the relays needed for cycle reversion.

**SW20** - 61101 T  
 1 x 3 way single pole momentary switch

**BR/AV** - 80382 I  
 Spare fixing bracket



SW20



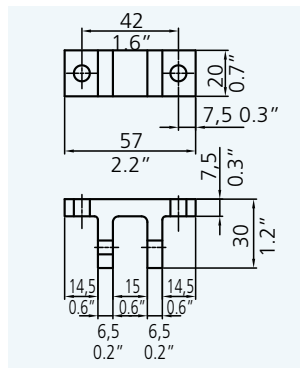
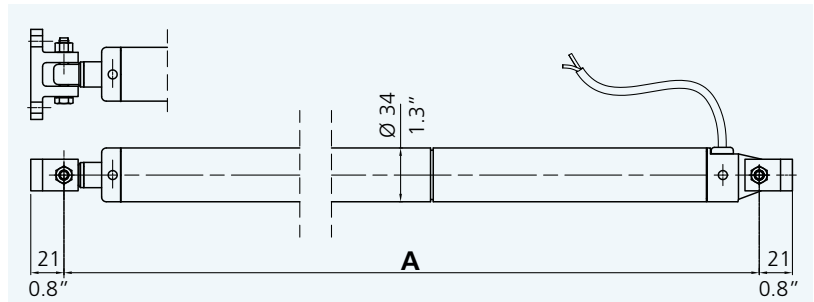
RB12



# ULYSSES SERIES ELECTRICAL LINEAR ACTUATORS

## TECHNICAL FEATURES

- **Single installation only**
- **Pull and push maximum load: 650N (65 kg - 144 lbs)**
- Pull and push maximum load is recommended not to be exceeded.
- Supplied with all mounting hardware.
- Aluminium ram.
- Circuit breaker to stop accidental overloading of the system and electronic stop at closed or full open position.
- IP 65 protection rated
- Speed:
  - 12V model:
    - 5 mm/sec no load applied
    - 4 mm/sec maximum load
  - 24V model:
    - 8 mm/sec no load applied
    - 6 mm/sec maximum load
- Current absorption: 2A at 12V, 1A at 24V



Highest installation flexibility: 180° oscillation range

MODEL	PART No.	VOLTS	STROKE	LENGTH A (FULL CLOSED ACTUATOR)	EXTERNAL DIA.
<b>ULYSSES 1812</b>	40924 Q	12V DC	180 mm (7")	515 mm (20.3")	34 mm (1.3")
<b>ULYSSES 1824</b>	40926 S	24V DC	180 mm (7")	515 mm (20.3")	34 mm (1.3")
<b>ULYSSES 3012</b>	40925 R	12V DC	300 mm (12")	635 mm (25.0")	34 mm (1.3")
<b>ULYSSES 3024</b>	40927 T	24V DC	300 mm (12")	635 mm (25.0")	34 mm (1.3")

## OPTIONAL COMPONENTS:

**SW20** - 61101 T  
1 x 3 way single pole momentary switch

**BR/UL** - 35697 P  
Spare fixing bracket



SW20

**AV AND  
ULYSSES  
SERIES  
ELECTRICAL  
HATCH  
LIFTERS**

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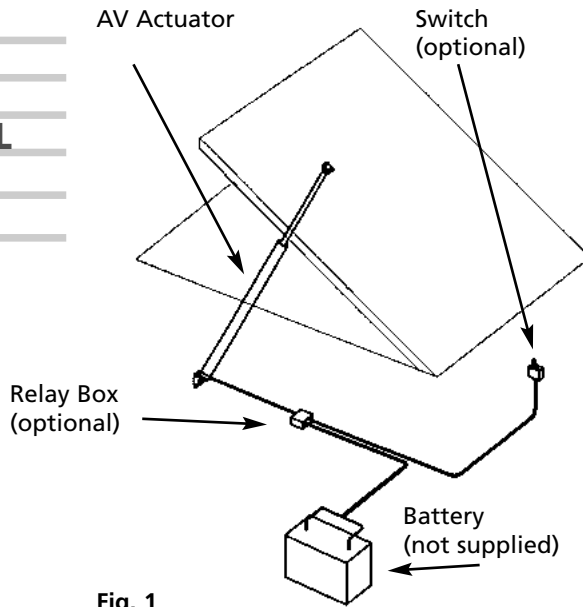


Fig. 1

**COMPONENTS DESCRIPTION**

**AV Series Hatch Lifters**

- n° 1 AV actuator for single installation (Fig.1)
- n° 2 AV actuators for dual installation (Fig.2)
- External diameter: 1.9" (48 mm)
- Length at closed position: 14.8" (377 mm)+ stroke
- Maximum oscillation range: 125°

**ULYSSES Series actuators**

- n° 1 Ulysses actuator (Fig.1) **no dual installation**
- External diameter: 1.3" (34 mm)
- Length at closed position: 12.1" (308 mm)+ stroke
- Maximum oscillation range: 180°

**Power supply cable:**

- **AV** and **ULYSSES** actuators are supplied with 5 ft (1,5 m) of electrical cable
- Warning: in case of longer cable length required, do not substitute the existing harness, but make a junction following the instructions supplied with the product.

**Two way push-button** with central off position (optional)

**Fuse** (not supplied)

**Battery** (not supplied)

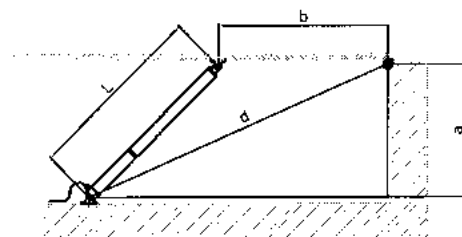


Fig. 3

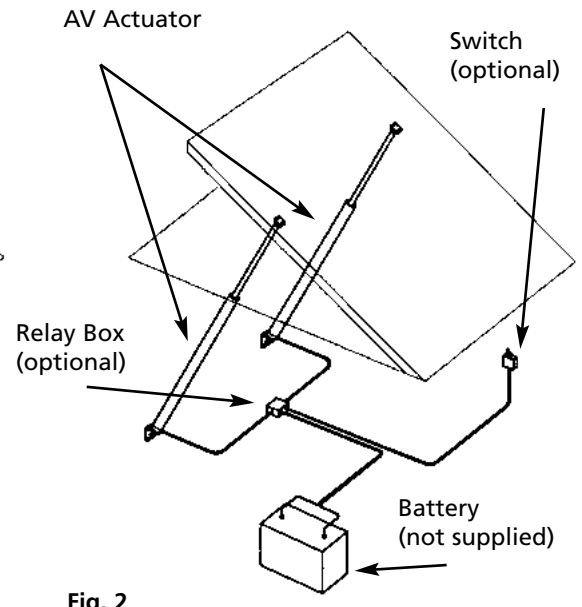


Fig. 2

**INSTALLATION**

- The following equation will help you to calculate the maximum strength (Fmax) required from the hatch lifter to open your hatch, knowing the dimensions and weight of the hatch and the position of the mounting brackets.

$$F_{max} = \frac{P}{2} \times \frac{d}{b} \times \frac{L}{a}$$

P = weight of the hatch in Newton

c, a, b = dimensions in metres indicated in Fig. 3 and Fig. 4

Fig. 3 and Fig. 4

L = hatch lifter length when in closed position

**Maximum load (Fmax):**

• **AV Series actuators:**

1200 N (120 kg - 265 lbs) single installation, pushing only

2400 N (240 kg - 530 lbs) dual installation pushing only

*Note: when the load exceeds 2400 N (240 kg - 530 lbs), it is possible to install more than two AV actuators*

• **ULYSSES actuators:**

650 N (65 kg - 144 lbs) single installation only, both pull and push

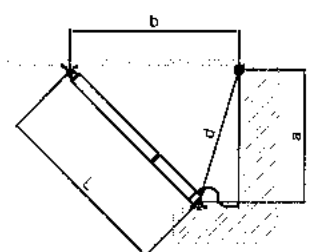
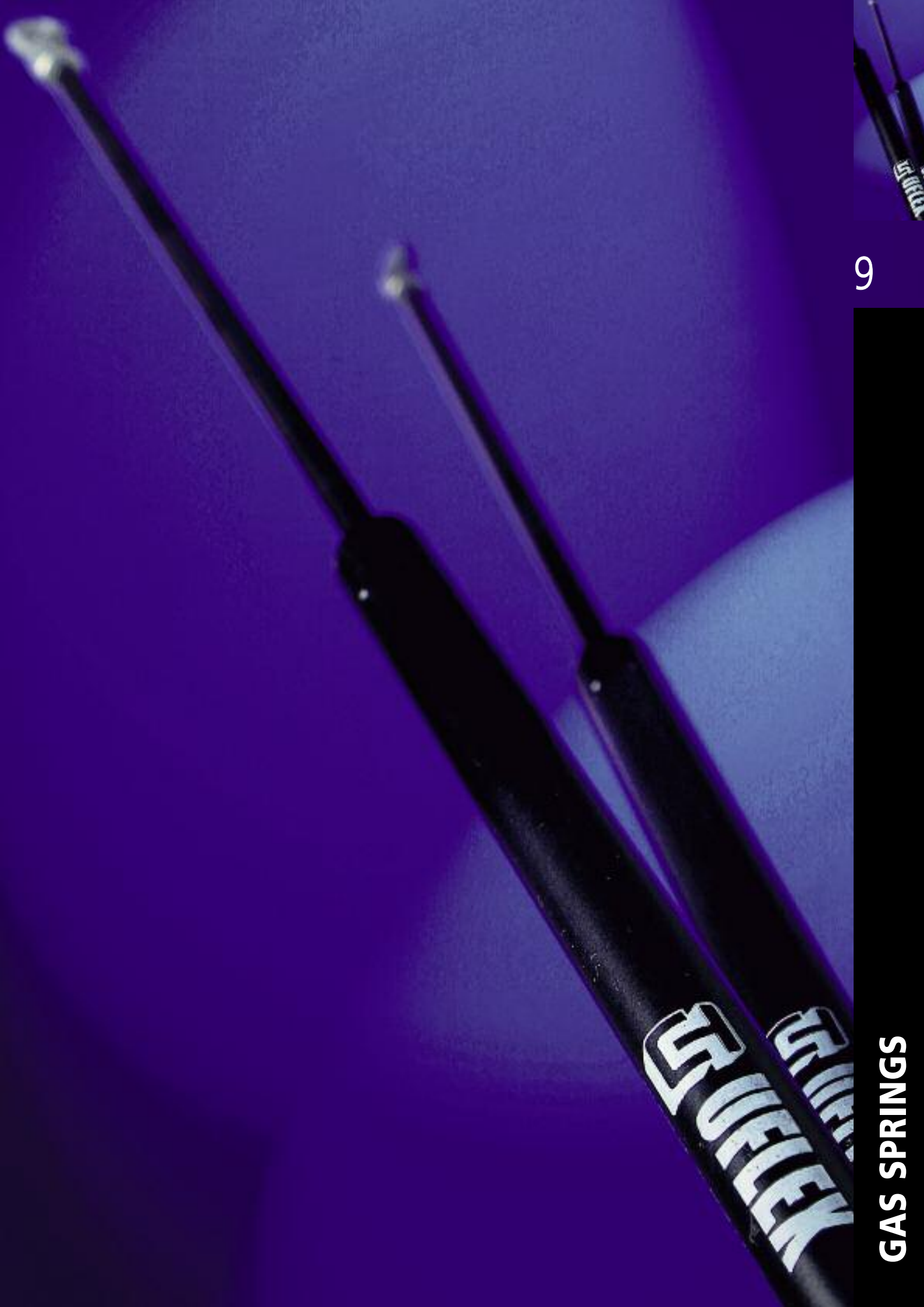


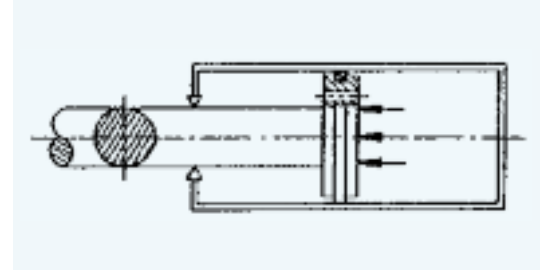
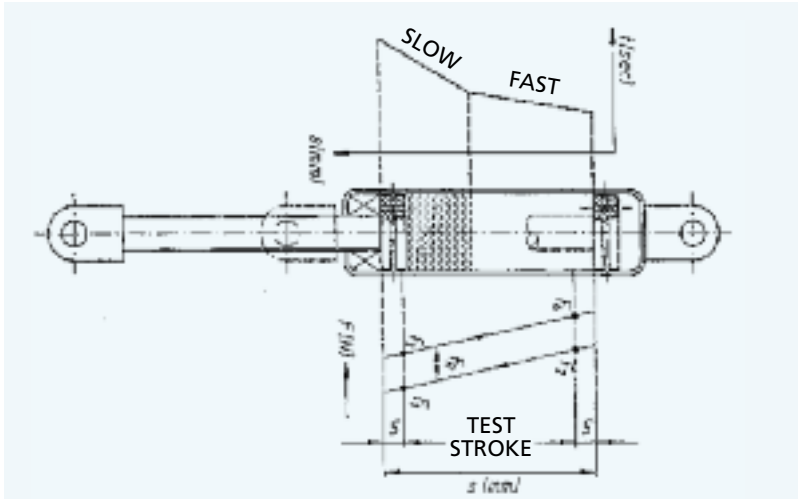
Fig. 4



## UFLEX GAS SPRINGS

Gas springs are pneumatic force accumulators mainly used to lift, hold open and smoothly lower hatches, covers, lids and doors. A gas spring, not equipped with a lock device, functions as follows: the pressure of the compressed nitrogen gas contained in a tube provides the extension force of the spring as the result of the difference between the internal tube pressure and the atmospheric pressure. The gas flows from the highest to the lowest pressure compartment of the tube through a self-cleaning orifice in the piston rod causing the spring rod to telescope out of the pressure tube.

Each tube incorporates a small quantity of oil that provides lubrication of the seals and of the piston rod and, at the same time, a damping medium to control the opening speed of the cover or hatch.



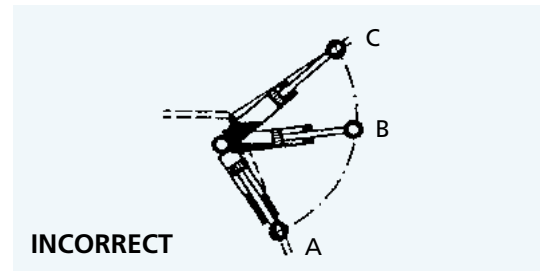
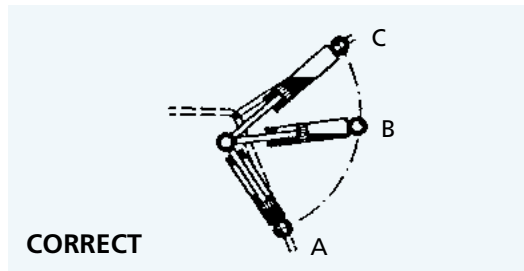
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### INSTALLATION

Ideal damping conditions are obtained when the spring gas is mounted with an angle of  $30^\circ$  from the vertical axis with the piston rod turned towards the hinge point: this proper installation provides optimal performance and appropriate oil damping operation.

If your application allows for quite large opening angles, a pointing up piston rod mounting may be more appropriate, especially if the opening operation includes the passage of the rod from the horizontal position. When the spring rotates from B to C, the oil leaks into the gas through the orifice in the piston rod; the residual quantity of oil that remains between rod and conductors provides appropriate spent travel damping.

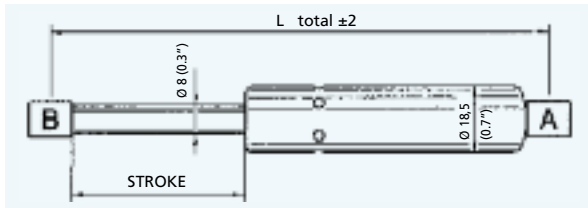
With the piston rod pointing down and the spring in closed position, the oil is almost all leaked into the gas through the holes and the residual quantity of oil remained between internal surface and piston head is not sufficient to provide a good spent travel damping.



### WARNING

- The rod surface should be protected against physical or chemical damages.
- Lateral loads should be carefully avoided.
- Attachment pivots should be well aligned.
- Springs should be mounted according to previous installation instructions ensuring correct orientation.
- Tensile forces exceeding the output force as indicated for each single spring should be avoided.
- Working temperature –  $30^\circ\text{C}$  and  $+80^\circ\text{C}$ .

# BLACK PAINTED GAS SPRINGS

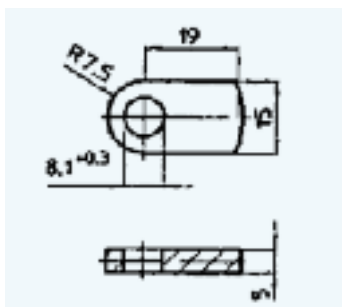


Nitro-protected steel rod and marine corrosion resistant black painted cylinder

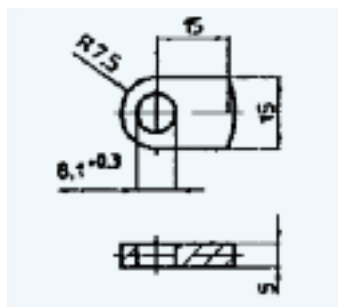
MODEL	TOTAL LENGTH mm (")	STROKE mm (")	OUTPUT FORCE Kg (lbs)	ROD DIA. mm (")	END FITTING		OEM PACKAGING Part No.	AFTERMARKET PACKAGING Part No.
					SIDE A TYPE	SIDE B TYPE		
U95-5	257 (10.1)	95 (3.7)	5 (11.0)	8 (0.3)	1	2	64312 G	64412 L
U95-10	257 (10.1)	95 (3.7)	10 (22.0)	8 (0.3)	1	2	64313 J	64413 N
U95-20	257 (10.1)	95 (3.7)	20 (44.0)	8 (0.3)	1	2	64314 L	64414 R
U140-10	365 (14.4)	142 (5.6)	10 (22.0)	8 (0.3)	1	1	64315 N	64415 T
U140-20	365 (14.4)	142 (5.6)	20 (44.0)	8 (0.3)	1	1	64316 R	64416 V
U140-30	365 (14.4)	142 (5.6)	30 (66.1)	8 (0.3)	1	1	64317 T	64417 X
U235-10	550 (21.6)	234 (9.2)	10 (22.0)	8 (0.3)	1	1	64318 V	64418 Z
U235-20	550 (21.6)	234 (9.2)	20 (44.0)	8 (0.3)	1	1	64319 X	64419 B
U235-30	550 (21.6)	234 (9.2)	30 (66.1)	8 (0.3)	1	1	64320 F	64420 K
U235-40	550 (21.6)	234 (9.2)	40 (88.1)	8 (0.3)	1	1	64321 H	64421 M
U260-20	600 (23.6)	262 (10.3)	20 (44.0)	8 (0.3)	2	3	64322 K	64422 P
U260-30	600 (23.6)	262 (10.3)	30 (66.1)	8 (0.3)	2	3	64323 M	64423 S
U260-40	600 (23.6)	262 (10.3)	40 (88.1)	8 (0.3)	2	3	64324 P	64424 U
U300-30	683 (26.8)	300 (11.8)	30 (66.1)	10 (0.4)	2	2	65297 V	65300 E
U300-40	683 (26.8)	300 (11.8)	40 (88.1)	10 (0.4)	2	2	65298 X	65301 G
U300-50	683 (26.8)	300 (11.8)	50 (110.2)	10 (0.4)	2	2	65299 Z	65302 J

**NOTE:** The total length is measured from center pivot line to end fitting at fully extended spring. Further lengths, strokes and output forces available on request (20 pieces each size minimum order)

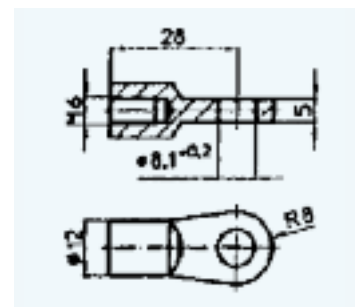
## END FITTINGS



**TYPE 1**  
Welded Eyelet



**TYPE 2**  
Welded Eyelet



**TYPE 3**  
Threaded Eyelet

## APPLICATIONS

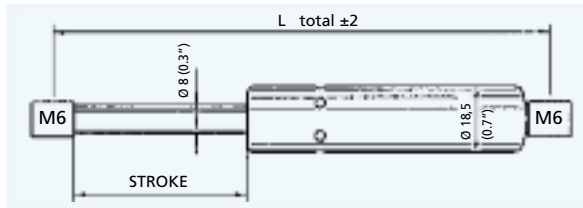
Uflex provides gas springs in a variety of pressures to suit various installation needs, nevertheless it is the customer who decides which is the most convenient selection for a specific application. For more detailed information, please contact our Technical Service.

## PACKAGING

UFLEX gas springs are supplied in **OEM** or in **Aftermarket packaging**. Please specify when ordering.



**BLACK  
PAINTED  
GAS SPRINGS  
UB SERIES**



Nitro-protected steel rod and marine corrosion resistant black painted cylinder. Thermoplastic ball bearing end fittings to be threaded on.

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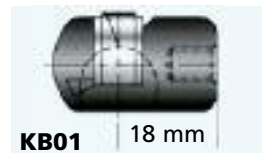
**NOTE:**  
End fittings to be ordered separately  
Kit XB01 - 66510 K

MODEL	TOTAL LENGTH	STROKE	OUTPUT FORCE	ROD DIA.	OEM PACKAGING	AFTERMARKET PACKAGING
	mm (")				kg (lbs)	Part No.
UB100-5	275 (10.8)	100 (3.9)	5 (11.0)	6 (0.2)	66420 W	66443 J
UB100-10	275 (10.8)	100 (3.9)	10 (22.0)	6 (0.2)	66421 Y	66444 L
UB100-20	275 (10.8)	100 (3.9)	20 (44.0)	6 (0.2)	66422 A	66445 N
UB120-10	315 (12.4)	120 (4.7)	10 (22.0)	6 (0.2)	66423 C	66446 R
UB120-20	315 (12.4)	120 (4.7)	20 (44.0)	6 (0.2)	66424 E	66447 T
UB120-30	315 (12.4)	120 (4.7)	30 (66.1)	6 (0.2)	66425 G	66448V
UB150-10	375 (14.7)	150 (5.9)	10 (22.0)	6 (0.2)	66426 J	66449 X
UB150-20	375 (14.7)	150 (5.9)	20 (44.0)	6 (0.2)	66427 L	66450 F
UB150-30	375 (14.7)	150 (5.9)	30 (66.1)	6 (0.2)	66428 N	66451 H
UB180-10	445 (17.5)	180 (7.0)	10 (22.0)	8 (0.3)	66429 R	66452 K
UB180-20	445 (17.5)	180 (7.0)	20 (44.0)	8 (0.3)	66430 Z	66453 M
UB180-30	445 (17.5)	180 (7.0)	30 (66.1)	8 (0.3)	66431 B	66454 P
UB220-10	525 (20.6)	220 (8.6)	10 (22.0)	8 (0.3)	66432 D	66455 S
UB220-20	525 (20.6)	220 (8.6)	20 (44.0)	8 (0.3)	66433 F	66456 U
UB220-30	525 (20.6)	220 (8.6)	30 (66.1)	8 (0.3)	66434 H	66457 W
UB220-40	525 (20.6)	220 (8.6)	40 (88.1)	8 (0.3)	66436 M	66458 Y
UB250-20	585 (23.0)	250 (9.8)	20 (44.0)	8 (0.3)	66437 P	66459 A
UB250-30	585 (23.0)	250 (9.8)	30 (66.1)	8 (0.3)	66438 S	66460 J
UB250-40	585 (23.0)	250 (9.8)	40 (88.1)	8 (0.3)	66439 U	66461 L
UB300-30	700 (27.5)	300 (11.8)	30 (66.1)	10 (0.4)	66440 C	66462 N
UB300-40	700 (27.5)	300 (11.8)	40 (88.1)	10 (0.4)	66441 E	66463 R
UB300-50	700 (27.5)	300 (11.8)	50 (110.2)	10 (0.4)	66442 G	66464 T

**NOTE:** The total length is measured from center pivot line to end fitting at fully extended spring. Further lengths, strokes and output forces available on request (20 pieces each size minimum order)

**END FITTINGS**

Kit **KB01** - 66510 X: 2 ball bearing end fittings to be threaded on the gas spring



**APPLICATIONS**

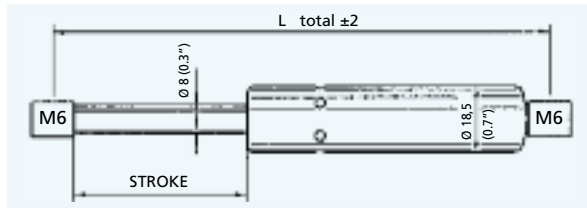
Uflex provides gas springs in a variety of pressures to suit various installation needs, nevertheless it is the customer who decides which is the most convenient selection for a specific application. For more detailed information, please contact our Technical Service.

**PACKAGING**

UFLEX gas springs are supplied in **OEM** or in **Aftermarket packaging**. Please specify when ordering.



**STAINLESS  
STEEL  
GAS SPRINGS  
USS SERIES**



AISI 316 stainless steel rod, cylinder and threaded end fittings  
End fittings to be ordered separately

**NOTE:**  
End fittings to be ordered separately:  
Kit KSS01 - 66514 F (ball-joint)  
or  
Kit KSS02 - 66512 B (clevis)

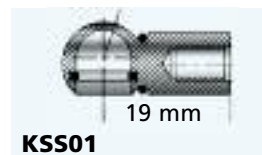
MODEL	TOTAL LENGTH	STROKE	OUTPUT FORCE	ROD DIA.	OEM PACKAGING	AFTERMARKET PACKAGING
	mm (")				mm (")	kg (lbs)
USS100-5	275 (10.8)	100 (3.9)	5 (11.0)	6 (0.2)	66465 V	66487 F
USS100-10	275 (10.8)	100 (3.9)	10 (22.0)	6 (0.2)	66466 X	66488 H
USS100-20	275 (10.8)	100 (3.9)	20 (44.0)	6 (0.2)	66467 Z	66489 K
USS120-10	315 (12.4)	120 (4.7)	10 (22.0)	6 (0.2)	66468 B	66490 U
USS120-20	315 (12.4)	120 (4.7)	20 (44.0)	6 (0.2)	66469 D	66491 W
USS120-30	315 (12.4)	120 (4.7)	30 (66.1)	6 (0.2)	66470 M	66492 Y
USS150-10	375 (14.7)	150 (5.9)	10 (22.0)	6 (0.2)	66471 P	66493 A
USS150-20	375 (14.7)	150 (5.9)	20 (44.0)	6 (0.2)	66472 S	66494 C
USS150-30	375 (14.7)	150 (5.9)	30 (66.1)	6 (0.2)	66473 U	66495 E
USS180-10	445 (17.5)	180 (7.0)	10 (22.0)	8 (0.3)	66474 W	66496 G
USS180-20	445 (17.5)	180 (7.0)	20 (44.0)	8 (0.3)	66475 Y	66497 J
USS180-30	445 (17.5)	180 (7.0)	30 (66.1)	8 (0.3)	66476 A	66498 L
USS220-10	525 (20.6)	220 (8.6)	10 (22.0)	8 (0.3)	66477 C	66499 N
USS220-20	525 (20.6)	220 (8.6)	20 (44.0)	8 (0.3)	66478 E	66500 U
USS220-30	525 (20.6)	220 (8.6)	30 (66.1)	8 (0.3)	66479 G	66501 W
USS220-40	525 (20.6)	220 (8.6)	40 (88.1)	8 (0.3)	66480 R	66502 Y
USS250-20	585 (23.0)	250 (9.8)	20 (44.0)	8 (0.3)	66481 T	66503 A
USS250-30	585 (23.0)	250 (9.8)	30 (66.1)	8 (0.3)	66482 V	66504 C
USS250-40	585 (23.0)	250 (9.8)	40 (88.1)	8 (0.3)	66483 X	66505 E
USS300-30	700 (27.5)	300 (11.8)	30 (66.1)	10 (0.4)	66484 Z	66506 G
USS300-40	700 (27.5)	300 (11.8)	40 (88.1)	10 (0.4)	66485 B	66507 J
USS300-50	700 (27.5)	300 (11.8)	50 (110.2)	10 (0.4)	66486 D	66508 L

**NOTE:** The total length is measured from center pivot line to end fitting at fully extended spring. Further lengths, strokes and output forces available on request (20 pieces each size minimum order)

**END FITTINGS**

Kit **KSS01** - 66514 F: 2 stainless steel ball bearing end fittings to be threaded on the gas spring

Kit **KSS02** - 66512 B: 2 stainless steel eyelet end fittings to be threaded on the gas spring



**APPLICATIONS**

Uflex provides gas springs in a variety of pressures to suit various installation needs, nevertheless it is the customer who decides which is the most convenient selection for a specific application. For more detailed information, please contact our Technical Service.

**PACKAGING**

UFLEX gas springs are supplied in **OEM** or in **Aftermarket packaging**. Please specify when ordering.





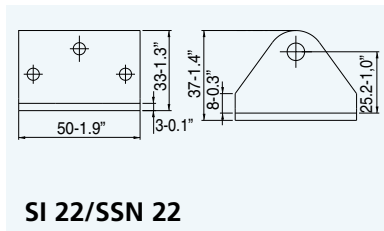
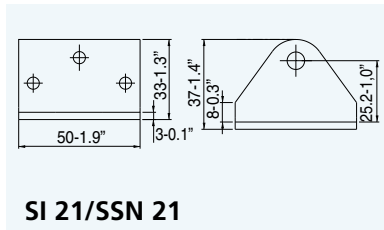
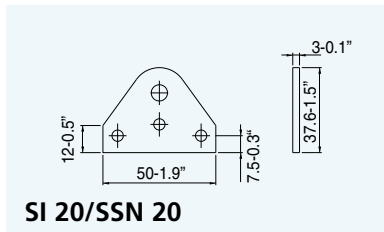
# GAS SPRING MOUNTING BRACKETS

## POLISHED STAINLESS STEEL BRACKETS AND STUDS

**Flat bracket:**  
SI 20 - 64327 W  
SSN 20 - 65289 W - With self-locking nuts

**Square bent bracket with forward attachment point:**  
SI 21 - 64328 Y  
SSN 21 - 65290 E - With self-locking nuts

**Square bent bracket with reverse attachment point:**  
SI 22 - 64329 A  
SSN 22 - 65291 G - With self-locking nuts

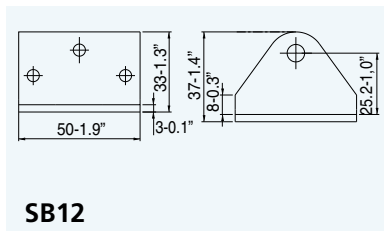
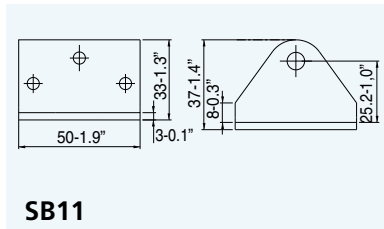
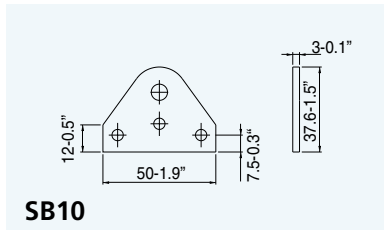


## POLISHED STAINLESS STEEL BRACKETS AND STUDS TO CARRY BALL BEARING END FITTINGS

**Flat bracket:**  
SB 10 - 66540 G

**Square bent bracket with forward attachment point:**  
SB 11 - 66541 J

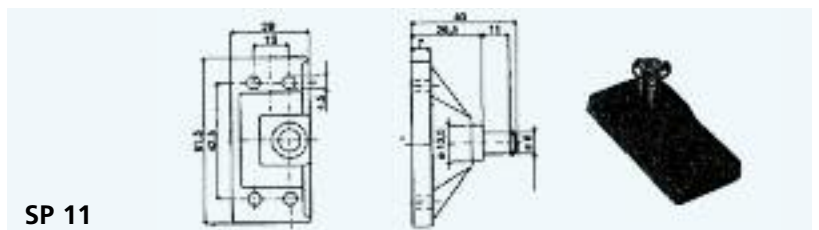
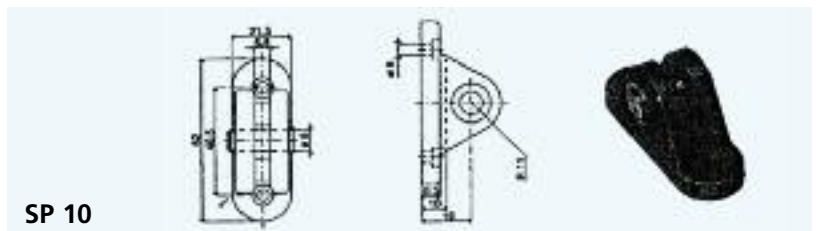
**Square bent bracket with reverse attachment point:**  
SB 12 - 66542 L



## BLACK THERMOPLASTIC BRACKETS WITH ZINC PLATED STEEL STUDS

SP 10 - 64325 S

SP 11 - 64326 U







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**WIFLEX<sup>®</sup>**



**ELECTROMECHANICAL TRIM TABS**



## UFLEX ELECTROMECHANICAL TRIM TAB SYSTEMS

Improve fuel economy and passenger comfort with Uflex electromechanical trim tabs. Featuring electropolished stainless steel planes and low consumption, high speed, composite actuators, these tabs are built to last in the most demanding sea conditions.

Uflex trim tabs have been specifically designed for easy installation using a quick connect bracket-actuator, requiring only one small hole per tab through the transom. The patented transom mounting bracket encapsulates the wiring to ensure protection against any wiring damage.

Uflex trim tab systems are available in 2 versions:

**MTW** systems with white actuators and brackets

**MTB** systems with black actuators and brackets

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### FEATURES

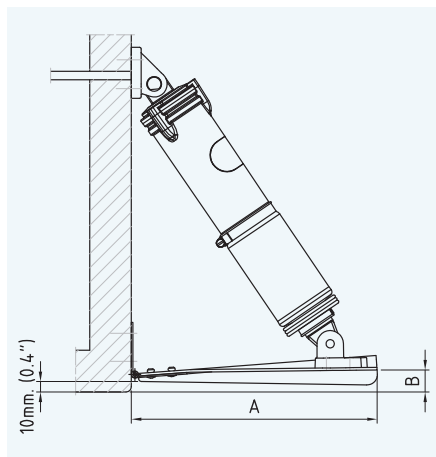
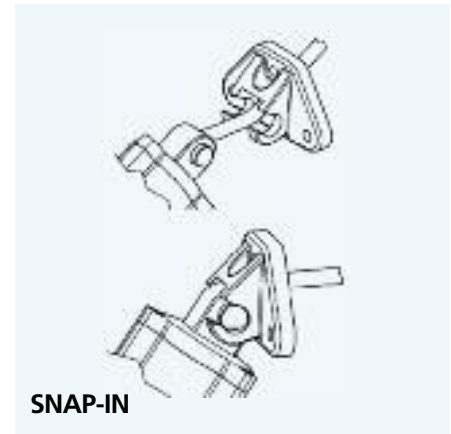
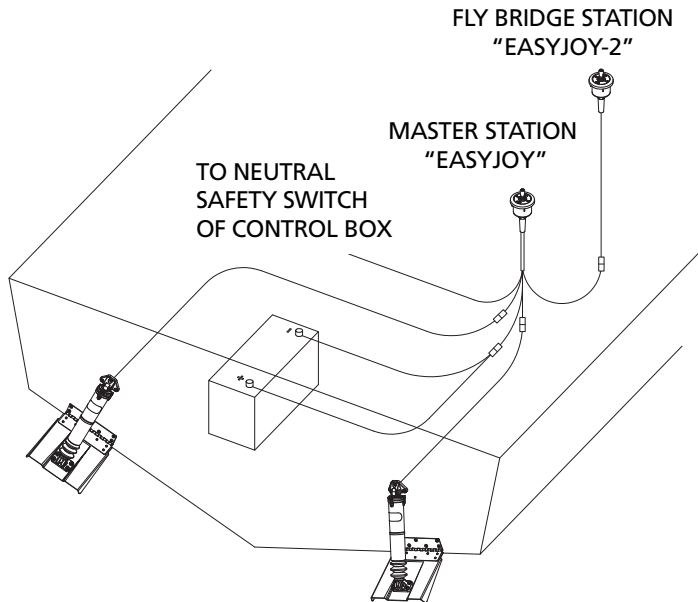
- Operating system with hardened steel ballscrew, suitable to withstand high push loads.
- **EASYJOY**: prompt and easy control with the innovative use of a Joystick (PATENTED)
- **AUTO LINE-UP**: automatic flap re-alignment function
- Completely sealed thermoplastic resin tab actuators: maximum protection guaranteed by dual seals and a rubber bellow (PATENTED)
- Snap-in system (PATENTED) with protected harness for an easy installation
- Stainless steel rod and tabs
- The innovative profile of the tabs increases the efficiency of the system
- The top surface of the tabs is mirror polished to give higher resistance to marine environment
- Hole hinge design (PATENTED) allows for precise retrofit replacement with Lenco® and Bennett® same size tabs
- Fully maintenance free
- Voltage: 12V DC
- Actuator total length (full closed): 301 mm (11.8")
- Stroke: 57 mm (2.25")
- Waterproof: IP68 protection
- CE Certification
- Meets with the EN 60945 standards

## STANDARD COMPONENTS (SINGLE ACTUATOR PER TAB)

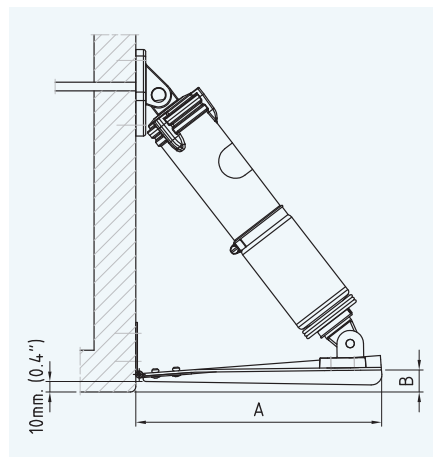
- 1 pair of electromechanical actuator (white or black version) complete with connection brackets and 1 m (3.28') wiring harness.
- 1 Easyjoy (joystick) control unit with 0.50 m (1.64') wiring harness
- 1 pair of stainless steel tabs. Tabs are sold separately: specify selected size when ordering

## OPTIONAL COMPONENTS

- 1 extension wiring harness kit for the power cable and the actuator cables. Deutsch plugs included
- 1 second station Easyjoy-2 (joystick) control unit with 0.50 m (1.64') wiring harness
- 1 zinc alloy sacrificial anode kit to neutralize the galvanic currents on tabs ( 2 anode kits for every 1 pair tab installation)



STANDARD INSTALLATION



INSTALLATION WITH  
BENNETT® RETROFIT BRACKET

STANDARD	BENNETT® RETROFIT
A: 228.6 mm - 9"	A: 304.8 mm - 12"
B: 19.5 mm - 0.77"	B: 21 mm - 0.83"

## APPLICATIONS

BOAT LENGTH	BOAT LENGTH (m)	TAB SIZE (length x width)	TAB SIZE (cm)
14' - 18'	4,5 - 5,5	9" x 9"	22,8 x 22,8
16' - 25'	5,0 - 8,0	12" x 9"	30,5 x 22,8
18' - 30'	5,5 - 9,0	12" x 12"	30,5 x 30,5
26' - 36'	8,0 - 11,0	18" x 12"	45,7 x 30,5

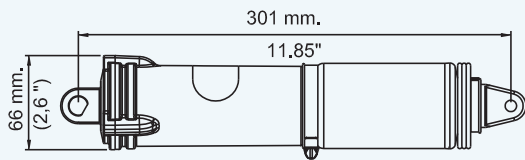
These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician. For any further information please contact our Technical Service

## ACTUATORS

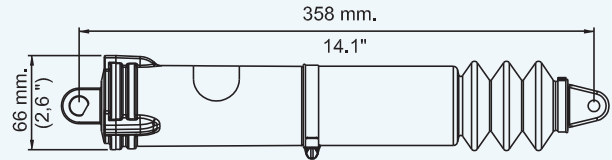
**AW12 - 41838 U**  
 12 VDC Actuator and brackets – White colour  
 1 m (3.28') wiring harness included



**AB12 - 41842 J**  
 12 VDC Actuator and brackets – Black colour  
 1 m (3.28') wiring harness included



Full closed actuator



Full open actuator

## CONTROL UNIT

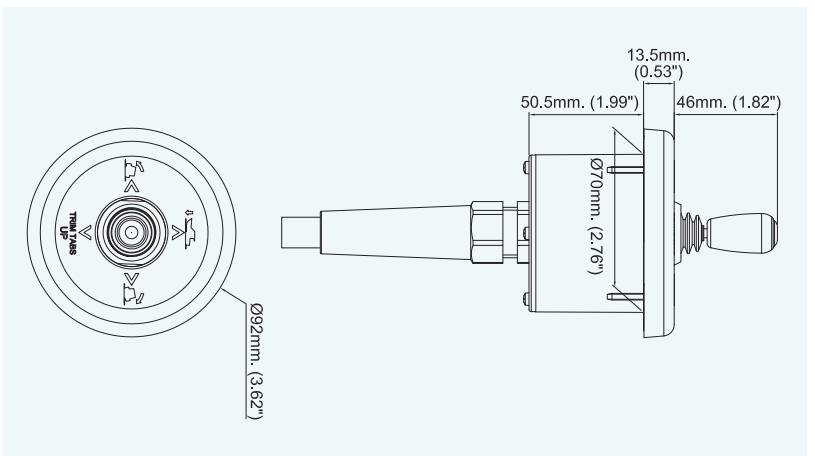
**EASYJOY 41849 Z**  
 Main station compact control unit with joystick  
 (PATENTED) **Auto line -up** function included  
 (automatic flap re-alignment) 0.50 m (1.64')  
 wiring harness included

- 70 mm (2.76") hole size



**EASYJOY-2 42306 N**  
 Second station control unit with joystick;  
 0.50 m (1.64') wiring harness included

- 70 mm (2.76") hole size



EASYJOY - Dimensions

## TABS

Stainless steel , mirror electro-polished trim tab blades. Innovative design allows for excellent performances.  
No need for new holes in case of Lenco® or Bennett® same size replacements



MODEL	PART No.	DESCRIPTION	WEIGHT PER PAIR KG (LBS)
P99	41844 N	Stainless steel tab pair 9"x9"	2,8 kg (6,2 lbs)
P912	41845 R	Stainless steel tab pair 9"x12"	3,6 kg (7,9 lbs)
P1212	41846 T	Stainless steel tab pair 12"x12"	4,6 kg (10,1 lbs)
P1218	41847 V	Stainless steel tab pair 18"x18"	6,7 kg (14,8 lbs)

## OPTIONAL COMPONENTS

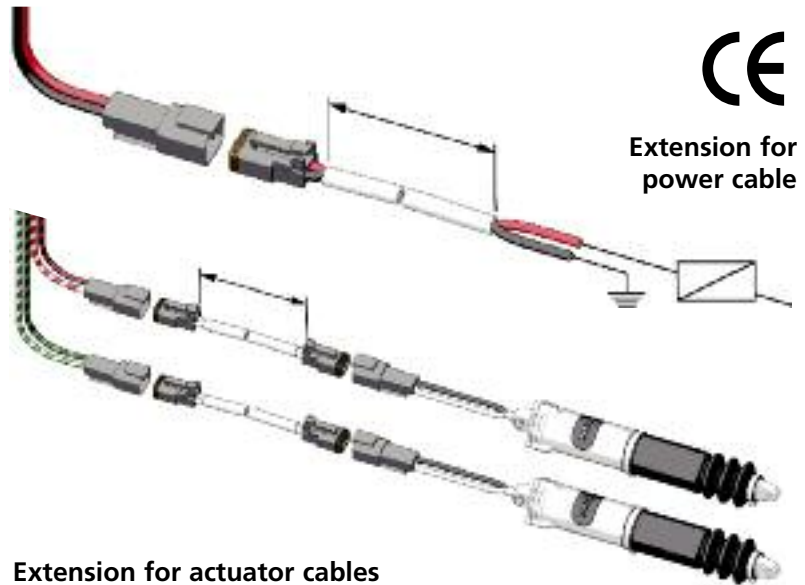
### EXTENSION WIRING HARNESS KITS

#### KE20 - 42378 R

Kit includes one 5,0 m (16.4') length wiring harness extension for the power cable and two 6,0 m (19.7') length wiring harness extensions for the actuator cables. Deutsch plugs included

#### KE30 - 42379 T

Kit includes one 5,0 m (16.4') length wiring harness extension for the power cable and two 9,0 m (29.5') length wiring harness extensions for the actuator cables. Deutsch plugs included



Extension for power cable

Extension for actuator cables

### ANODE KITS

Zinc alloy anode kit neutralizes the galvanic currents endangering the trim tabs. 2 anode kits are necessary for every 1 pair tab installation.

#### KA70 - 42441 V

Ø 70 sacrificial anode kit for tab up to 12" x 12" size.

#### KA90 - 42442 X

Ø 90 sacrificial anode kit for tab 12" x 18" size



KA70



KA90

### RETROFIT BRACKETS FOR BENNETT® TRIM TABS

BNKW or BNKB brackets will adapt Uflex trim tabs to pre-existing mounting holes, in case of Bennett® replacement. Screws included.

BNKW - 41885 U - white bracket

BNKB - 42360 V - black bracket



BNKW



BNKB



## SPARE PARTS

DESCRIPTION	PART No.
White bracket kit - actuator-boat	42297 R
Black bracket kit - actuator-boat	42298 T
White bracket kit - actuator-tab	42295 L
Black bracket kit - actuator-tab	42296 N
Wiring harness extension for power cable 5,0 m (16.4')	42440 T
Wiring harness extension for actuator cable 6,0 m (19.7')	42302 E
Wiring harness extension for actuator cable 9,0 m (29.5')	42439 J

## PACKAGED UFLEX TRIM TAB SET



The prepackaged UFLEX set includes 1 pair of actuators complete with brackets and 1 EASYJOY Joystick. The tabs are not included and sold separately: selected model has to be specified when ordering.

### WHITE ACTUATOR SET - 12VDC

MODEL	PART No.	DESCRIPTION
MTW12	41854 S	2 white actuators 12VDC + 1 Easyjoy Joystick

### BLACK ACTUATOR SET - 12VDC

MODEL	PART No.	DESCRIPTION
MTB12	41864 V	2 black actuators 12VDC + 1 Easyjoy Joystick

CE Certification  
Waterproof: IP68  
EN60945 Certification



**IT'S**  
*Smooth*  
**BOATING  
AHEAD!**

WITH INSTATRIM BOAT LEVELERS

**INSTA<sup>®</sup>  
TRIM** **Boat  
Leveler Co.**

**ELECTROHYDRAULIC TRIM TABS**

## BOAT ATTITUDE CORRECTION SYSTEM (TRIM TABS)

In boating performance is key. During acceleration or cruising, many factors can create unnecessary drag and an inefficient upward or listing attitude. You correct this with the simple touch of a switch: InstaTrim will deflect water downward to raise the stern and lower the bow.

Automatically you are up and running and cruising at peak performance with dramatically increased visibility, speed and control.



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**Note:** two hydraulic cylinders per tab are supplied from 36" (92 cm) and larger tabs.

### One cylinder per tab complete set

Components:

- Motor 12V DC (24V DC on request)
- 1 Pair of stainless steel tabs
- 1 Pair of hydraulic cylinders complete with fitting
- 1 Litre of hydraulic oil
- 1 Water resistant rocker switch
- Hydraulic hose and harness
- 1 Funnel

### Two cylinders per tab complete set

Components:

- Motor 12V DC (24V DC on request)
- 1 Pair of stainless steel tabs
- 2 Pair of hydraulic cylinders complete with fitting
- 1 Litre of hydraulic oil
- 1 Water resistant rocker switch
- Hydraulic hose and harness
- 1 Funnel

## GENERAL SIZING RECOMMENDATIONS

ENGINE	BOAT LENGTH	TAB SIZE (cm)	TAB SIZE (in)	PART No.	WEIGHT kg (lbs)
Single outboard or I/O's	-	25 x 20	10" x 8"	61080 N	10.1 (22.3)
	-	30 x 20	12" x 8"	60096 U	11.4 (25.1)
	-	46 x 20	18" x 8"	60194 Y	12.7 (27.9)
Twin engine outboard or I/O	-	30 x 28	12" x 11"	60197 B	12.7 (27.9)
	-	35 x 28	14" x 11"	60953 P	14.2 (31.3)
	-	46 x 28	18" x 11"	60198 E	15.5 (34.2)
	-	61 x 28	24" x 11"	60199 F	16.8 (37.0)
Inboards	22' - 25'	61 x 20	24" x 8"	60195 Z	14.5 (31.9)
	22' - 25'	76 x 20	30" x 8"	60196 A	16.3 (35.9)
	26' - 29'	92 x 20	36" x 8"	60262 M*	18.2 (40.1)
	30' - 36'	102 x 20	40" x 8"	60828 N*	19.8 (43.6)

\* Two hydraulic cylinders per tab

**Note:** other tabs measurements are available on request.



## ACCESSORIES



- 62595 M - Tab locator - Single station - Black
- 62596 P - Tab locator - Additional station - Black

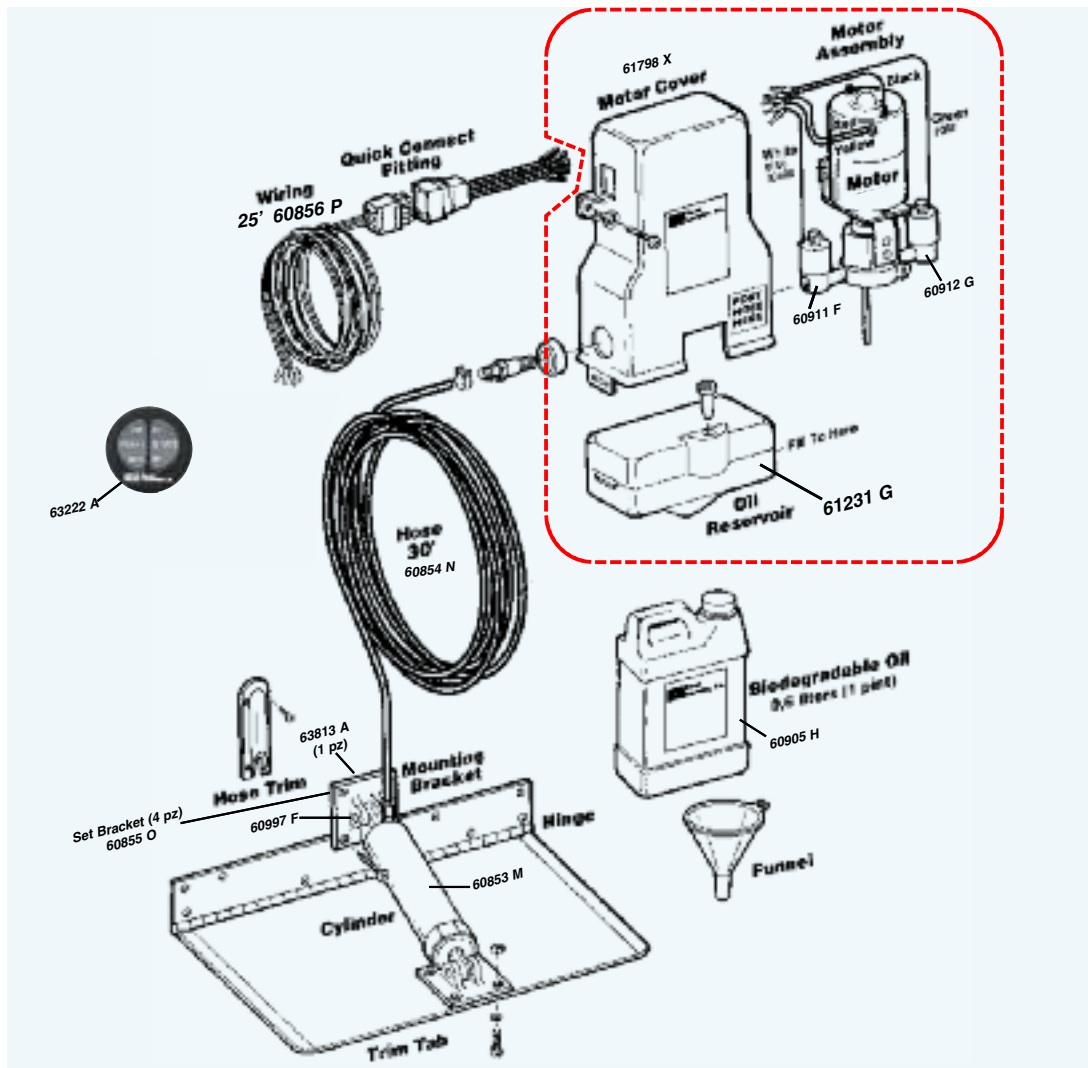


- 62597 S - Tab locator - Single station - White
- 62598 U - Tab locator - Additional station - White



- 63222 A - Water resistant rocker switch round - Additional station
- Note:** Do not simultaneously activate one tab up and the other tab down.

## SPARE PARTS



Cylinder 60853 M length: 240 mm (9.5")

### Warning

The page 90 general guideline makes the selection easier, however final selection should be made with the assistance of a qualified installation technician. When given a choice of more than one tab size, the largest trim tabs possible for your boat are the most efficient.

**NOTE:** These part numbers refer to 12 Volt systems. 24 Volt systems available on request.

**UNIVERSAL MOTOR PUMP**

Universal Motor Pump that fits all brands of hydraulic trim tab motor pumps (eg. Bennett and Trim Master).

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Universal Motor Pump - 63736 J

**FEATURES**

- Pump has an adjustable pressure relief valve set at 28 Bar.
- Built-in bypass to permit fluid circulation in order to prevent pump stalling.
- Motor has thermal overload protection.
- Kit includes all necessary fittings for a 12V single cylinder system.
- Kit contains biodegradable oil and funnel.
- Heavy duty solenoid valves that lock cylinder in place.
- 45 cm (18") wire harness with colour coding instructions for other brands.
- Installation instruction included.

**COLOURFUL PACKAGING**



- Complete InstaTrim® system kit in a colourful promotional packaging.
- Especially designed for distributors.
- When ordering, please specify the optional packaging.



**Strong, versatile, multifunctional mounting systems and accessories for leisure and adventure sports on the water.**

# STARPORT™ - TRACPORT™



Sailboats  
Jetskis

Powerboats  
Dinghies

Ribs/Inflatables  
Stand-up paddleboards

Kayaks  
ATVS

**MULTIFUNCTIONAL MOUNTING SYSTEMS**

# STARPORT™, RAILMOUNT AND RIBPORT MOUNTING SYSTEMS

## STARPORT™ MOUNTING SYSTEM

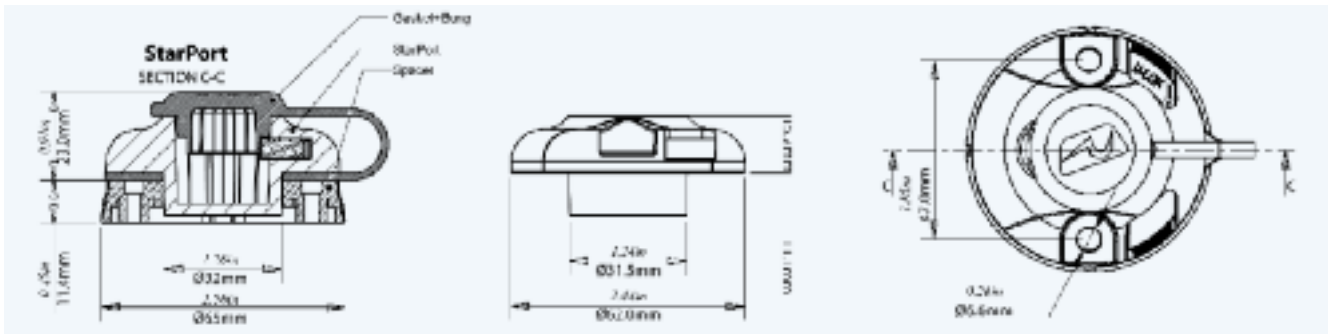
RAILBLAZA StarPorts™ are modeled on the existing winch handle receivers on most top brand sailboat winches, and can be surface or recess-mounted on any sail or power boat, kayak, utility vehicle or ATV.



StarPorts™ mounting system is supplied with all mounting hardware and must be ordered separately from the requested accessory.

- StarPort™ can be horizontally or vertically mounted
- Low profile surface mount and minimal intrusion depth when recess mounting.
- Each StarPort™ includes a stylish locking slide for securing accessories firmly in place.
- Gasket and bung reduces water ingress.

- 67664 G** - StarPort black - 1 pair
- 67665 J** - StarPort white 1 pair (optional)
- 68090 M** - StarPort black - 1 piece



## SIDEPORT MOUNTING SYSTEM

**new**

If you need to mount on a vertical surface, but require a horizontal socket, the SidePort is the mount for you. It is ideally suited for gunwales of smaller aluminium boats or vertical cockpit wells on kayaks.



- 68092 S** - SidePort black
- 68096 A** - SidePort white (optional)

## RAILMOUNT MOUNTING SYSTEM

Allows you to mount your StarPort™ to a 20-25 mm or 32 mm rail, creating new places and purpose for RAILBLAZA accessories. RailMount™ (without StarPorts™) are supplied in pairs.



- 67666 L** - Railmount black 20-25 mm
- 67667 N** - Railmount white 20-25 mm (optional)
- 67674 K** - Railmount black 32 mm
- 67675M** - Railmount white 32 mm (optional)



## RIBPORT MOUNTING SYSTEM

RibPort™ add useful StarPort™ attachments to your inflatable without having holes cut into the tubing. Completely compatible with all StarPort™ accessories.



- 67668 R** - RibPort white
- 67669 T** - RibPort grey (optional)



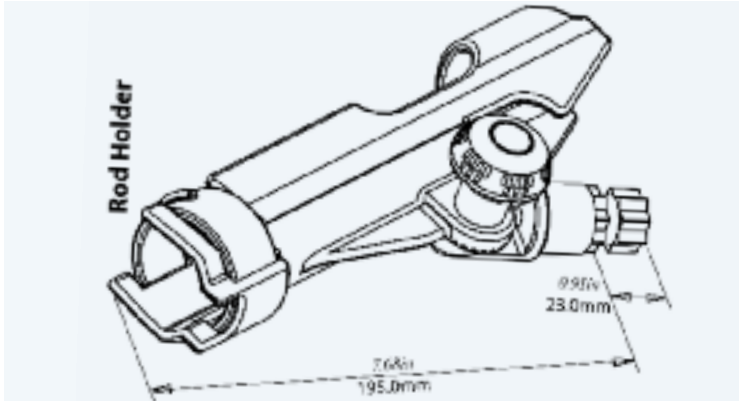


**ROD HOLDER**

Ideal for family and casual fishing.

- Fully adjustable 360° around, 90° vertical
- Allows easy access to reel while in position
- Free your hands up for more mischief
- Optional locking mechanism for sailboat winch applications is supplied

**67636 B** - Rod Holder black (**67637 D** - Rod Holder white, optional)



**FILLET TABLE / BAITBOARD**

A firm cutting surface that contains the mess, and is easily removed for cleaning, or to re-task your StarPorts™ for something new. The table is mounted on the StarPort™ Adjustable Platform Mounts, meaning the surface can be tilted up to 90° from horizontal.

- 67656 H** - Fillet table / baitboard dim. 465x340x50mm
- 67657 K** - Fillet table / baitboard dim. 570x390x50mm



**new**

**FILLET TABLE II**

The design allows for knife storage, has an all-round drain that stops spill from the front, and no front lip to get in the way while filleting. It includes two adjustable platforms.

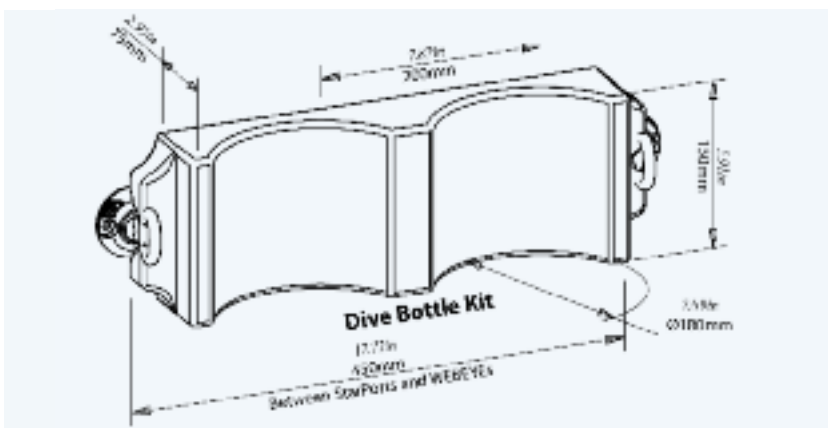
- 69000 N** - Fillet table 465x340x50 mm (18.3"x13.4"x2")



**DIVE BOTTLE HOLDER KIT**

Take care of your air. The Dive Bottle Holder Kit comes with the RAILBLAZA Dive Bottle pad, two StarPorts™, WEBEYE30s and strap. Strap dive bottles in, or when the pad isn't needed, re-task the StarPorts™ with any other RAILBLAZA™ StarPort™ attachments. The pad alone can be used to transport bottles in your vehicle.

- 67683 L** - Dive bottle kit
- 67694 S** - Dive bottle pad only



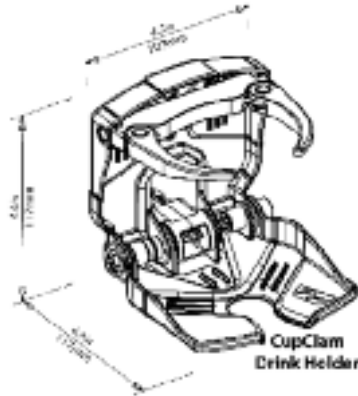
## CUPCLAM

Can be mounted in either horizontally or vertically mounted StarPorts™, to hold mugs, stubbies, wine glasses, even cell phones. The extendable fingers hold the taller items in place, yet everything collapses into a convenient flat-pack for storage.

- Supplied in singles
- Adjustable angles forward and back 90°

**67658 M** - Cupclam black

**67659 P** - Cupclam white (optional)



## MOBILE DEVICE HOLDER

The holder uses a retaining strap to ensure your mobile device doesn't escape. Be it an iPhone, GPS, VHF, small fire extinguisher, or any of a wide range of devices, the Mobi will hold it securely, and only let go when you let it. Available in two models: adjustable or fixed.

**67692 M** - Fixed mount

**67691 K** - Adjustable mount



## SCRENGRABBA

The ScreenGrabba holds your portable screen, tablet or touchscreen firmly, while allowing 360° horizontal rotation and over 90° of tilt.

**68093 U** - Screengrabba black



**new**

## BIMINI SUPPORT

Simple to use, this support is designed to secure biminis, canopies and covers to your boat, with the advantage of being easily removed using the StarPort™ System. Bimini Supports are supplied in pairs.

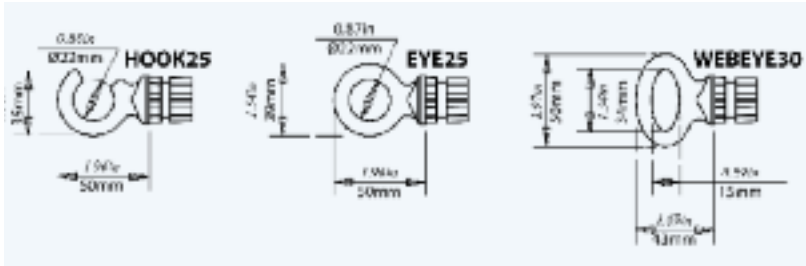
**67660 Y** - Bimini support black



**HOOK 25, EYE 25, WEBEYE 30**

These simple accessories can be used in myriad ways. WEBEYEs are crafted for webbing straps to reduce fold over. Each accessory is supplied in pairs.

- 67643 Y** - Hook 25 black
- 67640 S** - Eye 25 black
- 67644 A** - Webeye 30 black

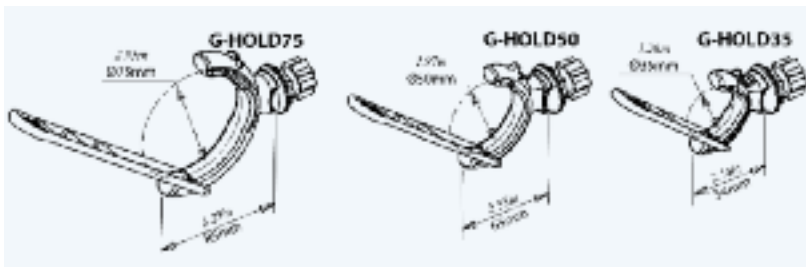


**G-HOLDS**

Hold varying sizes of poles, like boathooks, oars, gaffs, long stabby things. G-HOLDS are supplied in pairs and available in white on request.

- Three diameters - 35, 50 or 75 mm (1.3, 2 or 3 in)
- The flexible quick-release strap has two securing points for minimum and maximum diameters.

- 67646 E** - 35 mm black
- 67648 J** - 50 mm black
- 67650 V** - 75 mm black



**FLAGPOLE**

Light and strong, whether you need to mount a diving flag or just proudly display your allegiance to your club, sport, country or hoist the Jolly Roger. Easily removing for stowing.

- 67652 Z** - Flagpole



**FLAGWHIP**

Light, mobile & flexible, ideal for kayaks or wherever you need to be seen. It increase visual presence on the water or farm.

- Length: 1200 mm
- Supplied with 300x150 mm pennant
- Easily removed for transporting

- 67654 D** - Flagwhip black
- 67655 F** - Flagwhip white (optional)



**STARPORT™ ATTACHMENT ADAPTER**

Attach this adapter to any item you want, to make it StarPort™ compatible.

- 67662 C** - Adapter black
- (67663 E)** - Adapter white (optional)





# TRACPORT™ SUPPORTS

## TRACPORT™

RAILBLAZA's TracPort™ mounting system 'floats' above your insulation, providing a strong, versatile framework to hold fuel filters, pumps, battery switches, black boxes and a whole lot more. You can add, move and remove equipment on TracPort™ without cutting more insulation from your engine room. You can even span across pipes, hoses and wiring looms, reclaiming more installation space! TracPort™ is also 100% compatible with RAILBLAZA's StarPort™ range of handy interchangeable accessories, including eyes, hooks, G-HOLDS and adjustable platform mounts.

- Adjustable positioning on the extrusion
- Mounting above engine room insulation, hoses and wiring, etc.
- Avoids drilling multiple holes in bulkheads and panels



## TRACPORT™ STARTER PACK

The basic extrusion, including mounting feet, endcaps, infill and all screws needed for installation.

TracPort™ extrusions come in 0.5, 1.0 and 1.5 m lengths, and are joinable.

- 67629 E** - Kit TracPort™ 500, length 500 mm
- 67630 N** - Kit TracPort™ 1000, length 1000 mm
- 67631 R** - Kit TracPort™ 1500, length 1500 mm



**new**

## TRACPORT™ DASH 500

Strong and affordable, it includes one extrusion length 500 mm (19.7"), 4 StarPort™ and two StarPort™ adaptor for mounting. It allows to add and remove whole collections of StarPort™ accessories easily and quickly.

- 68088 B** - TracPort™ DASH 500



## MOUNTING PADS

Equipment may be screwed or bolted into the pad. For larger equipment, two or more pads may be used to bridge the equipment along the extrusion. Ideally suited for mounting fuel filters, pumps, battery switches and a whole lot more.

**Note:** Please note that this is NOT a StarPort™ accessory: the Mounting Pad bolts directly to the TracPort™.

- 67632 T** - Mounting pad (102x102 mm)
- 67633 V** - Mounting pad (150x70 mm)



## TRACPORT™ INSTALLATION COMPONENTS

### TracNuts

Used as a strong base for connecting custom equipment to your TracPort™ system. Supplied in pairs.



- 67634 X** - TracNut x 2

### Connection kit

It allows you to add another extrusion in-line with an existing TracPort™



- 67635 Z** - Connection kit

### Infill

It allows you to add another extrusion in-line with an existing TracPort™.

- 67695 U** - 500 mm
- 67696 W** - 1000 mm



## STARPORT/TRACNUT COMBO

Each StarPort is held on by the StarPort TracNut, specifically designed to slide and grip within the TracPort™.

- 67678 U** - StarPort™ TracNut Combo



## AQ-DM-4B WATERPROOF DIGITAL MEDIA LOCKER

Keep your i-Phone, i-Pod or MP3 player dry, safe and protected

View song and radio information on the remote control display

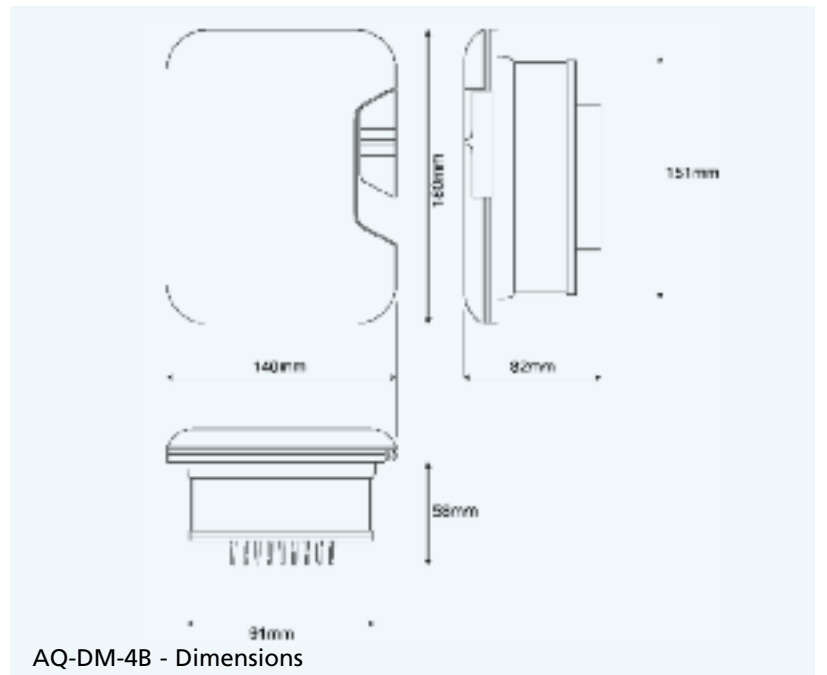
Control i-Phone, i-Pod, MP3 and FM radio remotely

### AQ-DM-4B - 68065 N

- Plays i-Phone, i-Pod, MP3, Smartphone. Patented design
- 30-pin i-Pod & 3,5 mm Inputs
- 2-way RF Remote Control with LCD
- FM Radio with 3 station memory
- Built-in 288W Amplifier
- Loudness, Bass, Treble, DSP
- Balance & Fader
- 12V Trigger function
- Waterproof Locker & remote
- Power Supply: 12V DC



AQ-DM-4B



AQ-DM-4B - Dimensions

## AQ-RFDM-4F WIRELESS FLUSH-MOUNT REMOTE CONTROL

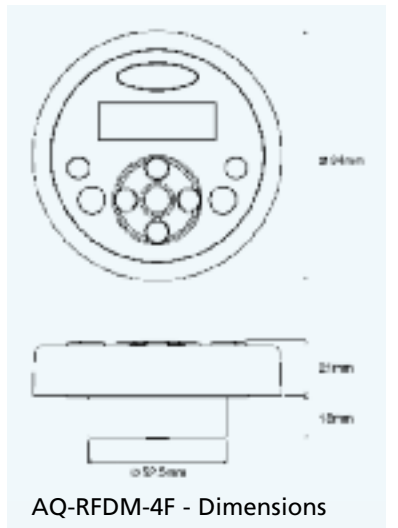
For use with AQ-DM-4B digital media locker only

### AQ-RFDM-4F - 68240 E

- 2-way, Wireless, Flush-Mount Remote Control
- Range: 15 m (50')
- Power Requirement: 12V DC, 50 mA
- Waterproof IP66 & CFR46 compliant
- Polished Stainless Steel Bezel
- RF Receiver included



AQ-RFDM-4F



AQ-RFDM-4F - Dimensions

## AQ-IP-3B MULTI-ENVIRONMENT DIGITAL MEDIA CENTER

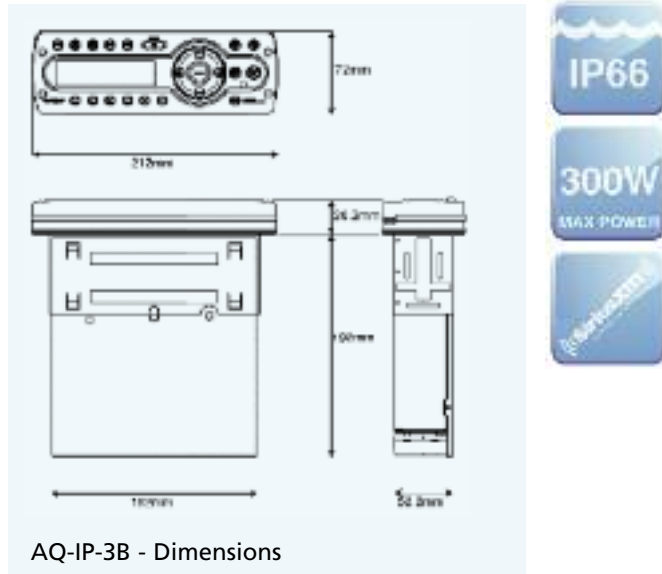


AQ-IP-3B

Complete waterproof protection for your i-Phone, i-Pod, MP3

### AQ-IP-3B - 68241 G

- Plays i-Phone, i-Pod, MP3, FM/AM, Sirius XM
- Power Supply: 12V DC
- 30-pin i-Pod & 3,5 mm Inputs
- Auxiliary Input
- FM/AM Radio (30 station memory)
- Built-in 288W Amplifier
- Loudness, Bass, Treble, DSP
- Balance & Fader
- 12V Trigger function
- Waterproof IP66 rated
- Compatible with AQ-RF-3FB 2-way RF Remote



AQ-IP-3B - Dimensions

### AQ-RF-3FB - 68243 L

- RF Receiver included, RF Range: 12 m (40')
- To be ordered separately
- Waterproof IP66 & CFR46 compliant

## AQ-DVD-4B WATERPROOF DVD MEDIA CONTROL CENTER

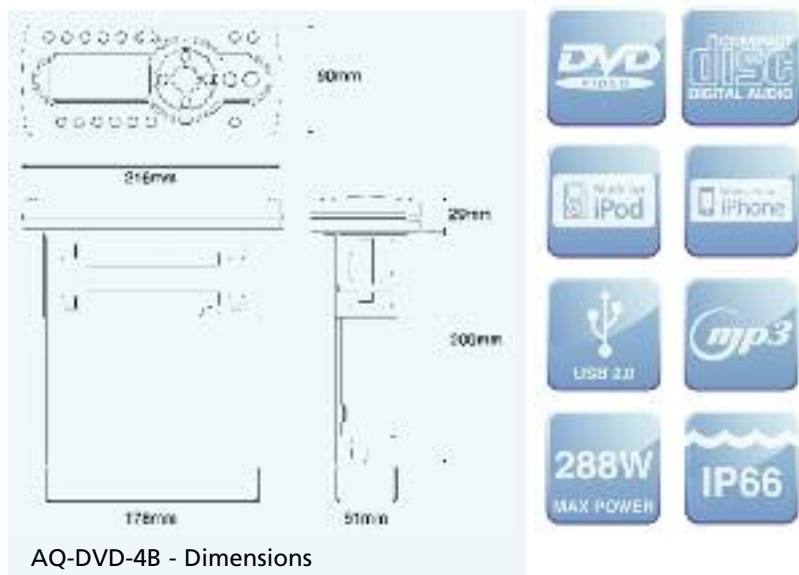


AQ-DVD-4B

Perfect audio-video reproduction for DVD, CD, i-Pod, i-Phone, USB, MP3, AM/FM, Dual Zone

### AQ-DVD-4B - 68242 J

- Power Supply: 12V DC
- Inputs: Video in, USB, Aux In (2x RCA), IR (3,5 mm Jack)
- AM/FM Tuner: 18x FM, 12x AM pre-set memory
- Built-in 288W Amplifier
- Waterproof IP66 rated
- 2x12V Trigger outputs
- Compatible with AQ-WR-4F wired Remote Control



AQ-DVD-4B - Dimensions

### AQ-WR-4F - 68251 K

- Waterproof IP66 rated
- Power Supply: 12V DC
- Polished Stainless Steel Bezel
- Extension cables:
  - AQ-EXT-12 (3,5 m - 12') 68252 M
  - AQ-EXT-24 (7,2 m - 24') 68335 S
 all sold separately

**7.5" 2-WAY  
WATERPROOF SPEAKERS  
AQ-SPK7.5-DW  
AQ-SPK7.5-G**



**AQ-SPK7.5-DW**

**SPECIFICATIONS:**

- Waterproof
- Cone size: 6,5"
- Tweeter size: 20 mm
- Impedance: 4 Ohm
- Frequency response: 80 Hz – 20 kHz
- Power (max) : 100 W
- Cone material: polypropylene
- Tweeter material: neodymium
- Magnet material: ferrite
- Weight (single speaker): 840 g
- Removable grill
- Mounting hole diameter: 142 mm
- Outside grill diameter: 195,3 mm
- Mounting depth: 65 mm

**AQ-SPK7.5-DW - 68245 R**

White Speakers - 1 pair

**AQ-SPK7.5-G - 68246 T**

Black Speakers - 1 pair



**AQ-SPK7.5-G**

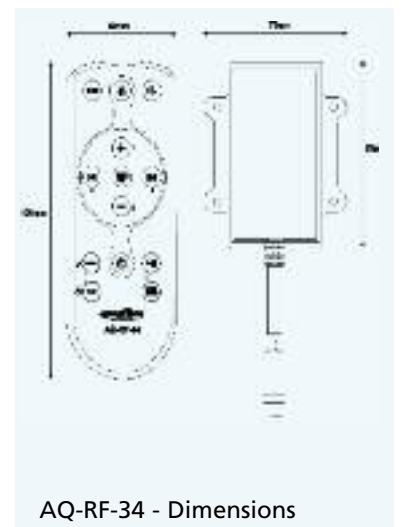
**AQ-RF-34 WIRELESS RF  
HANDHELD REMOTE CONTROL**

**AQ-RF-34 - 68244 N**

- Waterproof Remote Control, compatible with AQ-IP-3B and AQ-DVD-4B
- RF Range: 6 m (20')
- Waterproof IP66
- Power Requirement: 1 x CR2302 battery (3V, 280 mAh, Lithium type)
- Dimensions (HxWxD): 150x60x11 mm
- Weight: 70 g
- RF Receiver included
- Floating design
- 2x12V Triggers



**AQ-RF-34**



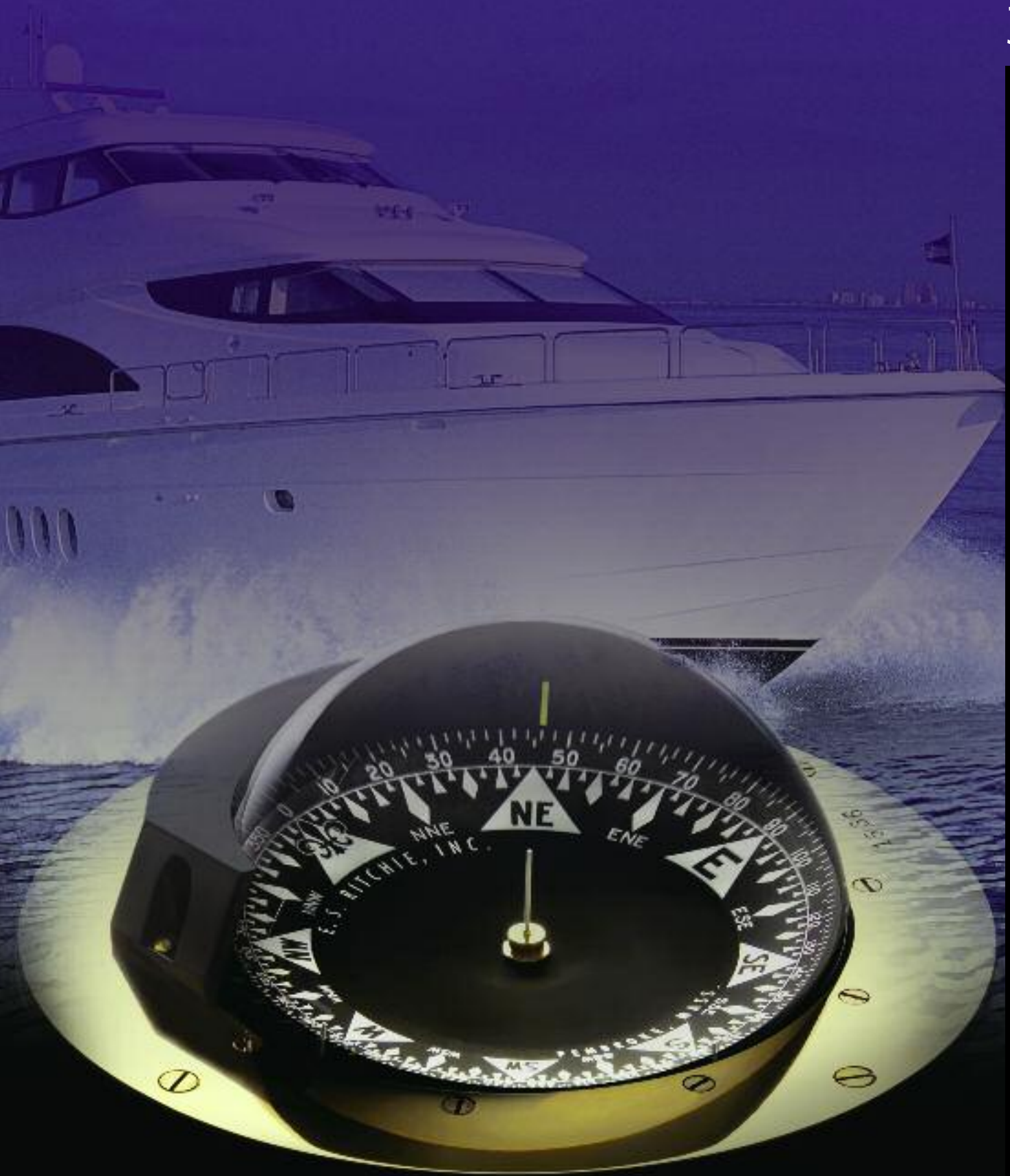
**AQ-RF-34 - Dimensions**



# RITCHIE<sup>®</sup> NAVIGATION



35



**MAGNETIC COMPASSES**

# RITCHIE® MAGNETIC COMPASSES

Since 1861, Ritchie has been making only one thing – compasses. When properly sized, installed and compensated a marine compass is the most important instrument on any boat.

It will provide accurate, trouble-free heading references under the most adverse conditions without relying on electricity, radio signals or satellite communications.






Quality components aid accuracy, smooth response, stability and trouble-free operation.



## SELECTING AND INSTALLING YOUR COMPASS

When you choose your compass, you should always consider four things: mounting style, size, readability of the card and the design of your boat.

### MOUNTING STYLE

DASH MOUNT	BULKHEAD MOUNT	BRACKET MOUNT
 <p>Ideal for powerboats with limited dash space</p>	 <p>Often used on sailboats to reduce interference with lines and to save space</p>	 <p>Can be mounted on the deck or dash; allows compass to remain at proper viewing angle</p>
FLUSH/SURFACE MOUNT	BINNACLE MOUNT	
 <p>Ideal for today's compact helm designs</p>	 <p>Features an outer case, often with a light-shielding hood</p>	

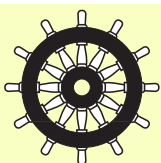
### DIAL DESIGN

Dial dimensions refer to apparent dial diameter.

FLAT-CARD DIAL	DIRECT-READ DIAL	COMBI-DIAL
 <p>Allows you to look down on the compass to see the course heading</p>	 <p>Allows you to see the compass heading and lubber line from directly in front; good for when boat design requires your compass to be positioned at eye level</p>	 <p>A combination of the direct-read and flat-card designs; incorporates dials that can be read from both above and directly in front of the compass and maximizes readability from any angle</p>

### POSITIONING

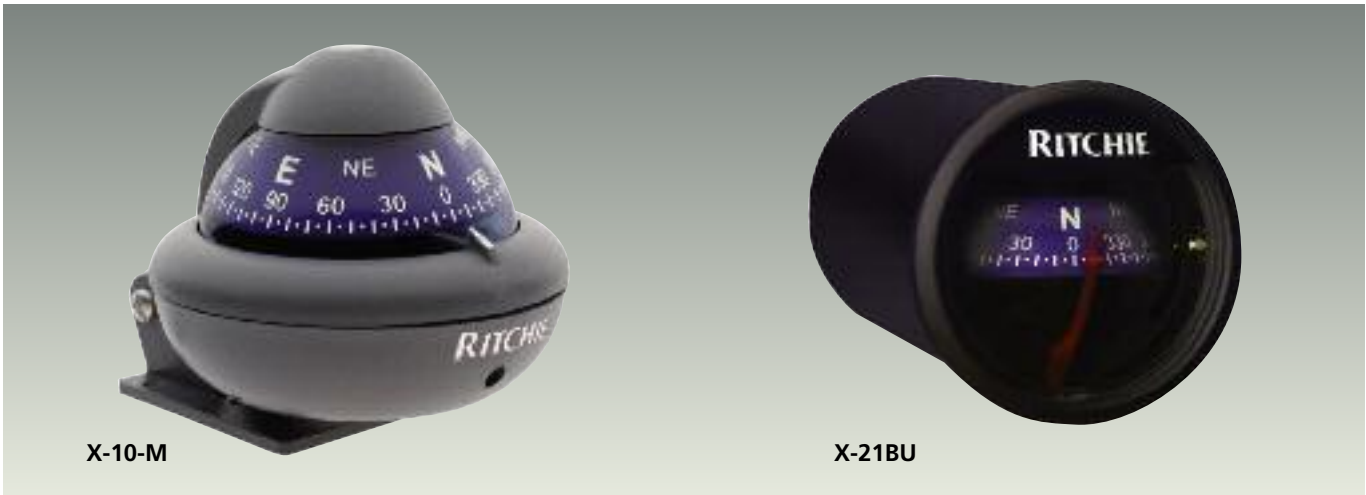
In an ideal situation, a compass should be mounted directly in front of the helm, as well as directly above the centerline of the hull. If this is not possible, the compass should be mounted parallel to the centerline. And on powerboats with upper steering stations, you should have a compass installed at both locations.



This wheel mark symbol denotes conformance with standards ISO 25862:2009, ISO 101316 (E) and ISO 613:2000 (E)

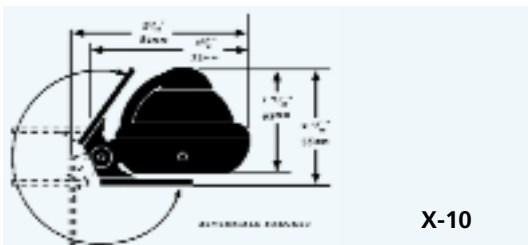
# SPORT® SERIES

DIAL APP. DIAMETER: 2" (51 mm)

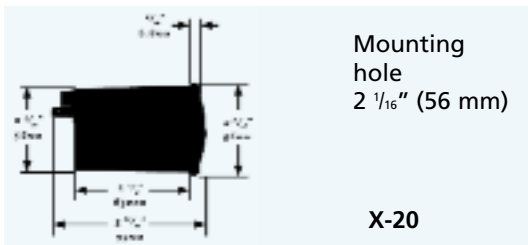


**REVERSIBLE BRACKET MOUNT**  
 The fully adjustable and reversible Bracket allows a mounting range of over 300° from overhead, through angled and vertical mounts to horizontal surfaces. These mounting position options and your choice of mounting hardware permit mounting on everything from windshield or supporting frame structures, to slanted dashboards and consoles, to almost any flat, angled or vertical surface.

RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
X-10-M	67099 B	2"	bracket	powerboats	front	12V green	built-in	142 g - 5 oz
X-10W-M	67331 C	2"	bracket	powerboats	front	12V green	built-in	142 g - 5 oz
X-10B-M	67332 E	2"	bracket	powerboats	front	12V green	built-in	142 g - 5 oz
X-21BB	67333 G	2"	bulkhead	powerboats	front	12V green	-	142 g - 5 oz
X-21BU	67334 J	2"	bulkhead	powerboats	front	12V green	-	142 g - 5 oz
X-21WW	67335 L	2"	bulkhead	powerboats	front	12V green	-	142 g - 5 oz

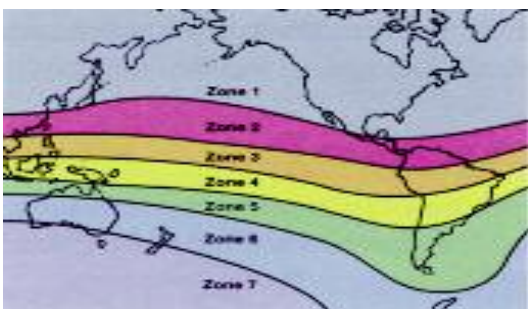


X-10



Mounting hole  
 2 1/16" (56 mm)

X-20



**CARD BALANCING**

The dials in magnetic compasses should be balanced to compensate for dip caused by Earth's magnetic field. All Ritchie® Compasses come standard for Zone 1 (essentially all of the Northern Hemisphere). When requesting a compass for Zone 2-7, please indicate the zone most central to your boating area. Once balanced for a specific Zone, the compass will maintain accuracy for one Zone north or south.

# TREK® SERIES

DIAL APP. DIAMETER: 2 1/4" (57 mm)



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TR-35G

TR-31

TR-33W



TR-35



TR-31



TR-33



TR-35W



TR-31W



TR-33W



TR-35G



TR-31G



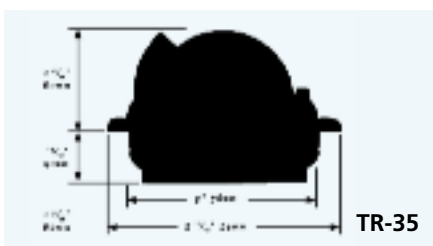
TR-33G

### ADJUSTABLE REVERSIBLE BRACKET MOUNT

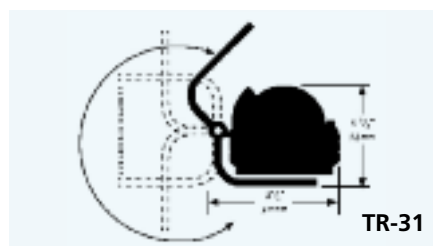
The fully adjustable and reversible bracket allows a mounting range of over 300° from overhead, through angled and vertical mounts to horizontal surfaces.

These mounting position options and your choice of mounting hardware permit mounting on everything from windshield or supporting frame structures, to slanted dashboards and consoles, to almost any flat, angled or vertical surface.

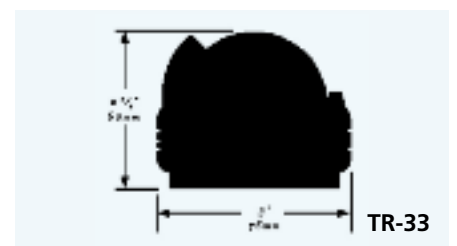
RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
TR-35	67346 S	2 1/4"	flush	powerboats	front	12V green	built-in	256 g - 9 oz
TR-35W	67347 U	2 1/4"	flush	powerboats	front	12V green	built-in	256 g - 9 oz
TR-35G	67348 W	2 1/4"	flush	powerboats	front	12V green	built-in	256 g - 9 oz
TR-31	67349 Y	2 1/4"	bracket	powerboats	front	12V green	built-in	256 g - 9 oz
TR-31W	67350 G	2 1/4"	bracket	powerboats	front	12V green	built-in	256 g - 9 oz
TR-31G	67351 J	2 1/4"	bracket	powerboats	front	12V green	built-in	256 g - 9 oz
TR-33	67100 G	2 1/4"	surface	powerboats	front	12V green	built-in	256 g - 9 oz
TR-33W	67101 J	2 1/4"	surface	powerboats	front	12V green	built-in	256 g - 9 oz
TR-33G	67316 G	2 1/4"	surface	powerboats	front	12V green	built-in	256 g - 9 oz



TR-35



TR-31



TR-33



## ANGLER® SERIES FISHING BOAT COMPASSES

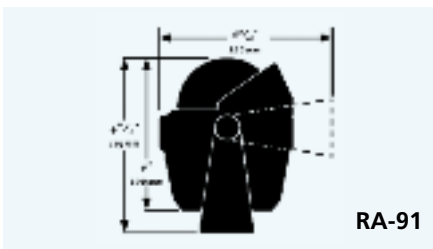
DIAL APP. DIAMETER: 2 3/4" (70 mm)



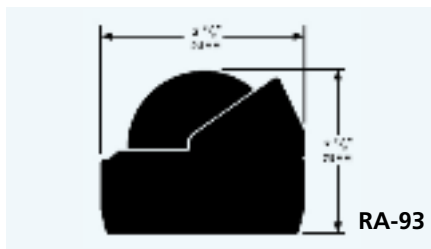
RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
RA-91	67352 L	2 3/4"	bracket	powerboats	front	12V green	built-in	454 g - 1 lbs
RA-93	67353 N	2 3/4"	surface	powerboats	front	12V green	built-in	454 g - 1 lbs
S-OFF90	67354 R	2 3/4"	surface	powerboats	front	12V green	built-in	454 g - 1 lbs

S-OFF90: 90° off for viewing from starboard

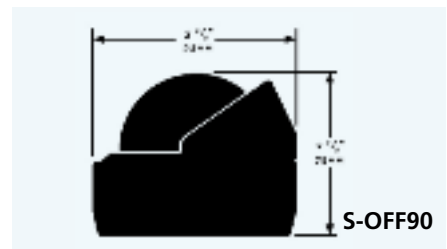
Optional protective cover E-50-C 67355 T: for RA-93 and S-OFF90 magnetic compasses



RA-91



RA-93



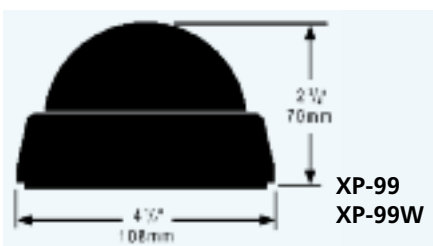
S-OFF90

## KAYAK COMPASSES AND ACCESSORIES

DIAL APP. DIAMETER: 3" (76 mm)

RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	DIAL READING	WEIGHT
XP-99	68295 G	3"	combi dial	454 g - 1 lbs
XP-99W	68296 J	3"	combi dial	454 g - 1 lbs

K-TD.2 - 68297 L (Compass not included). Designed for mounting the Ritchie Kayaker. No drill, no holes in the deck, flexible pad and foam ring.



XP-99  
XP-99W



XP-99

XP-99W

K-TD-2

# EXPLORER® SERIES

DIAL APP. DIAMETER: 2 3/4" (70 mm)

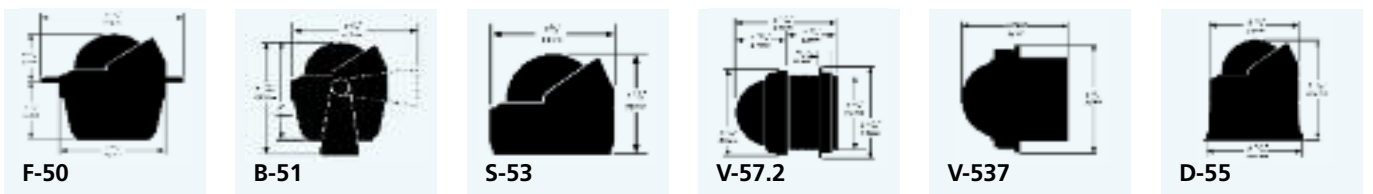
40



RITCHE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
F-50	67102 L	2 3/4"	flush	powerboats	front	12V green	built-in	454 g - 1 lbs
F-50W	67317 J	2 3/4"	flush	powerboats	front	12V green	built-in	454 g - 1 lbs
B-51	67103 N	2 3/4"	bracket	powerboats	front	12V green	built-in	454 g - 1 lbs
B-51W	67356 V	2 3/4"	bracket	powerboats	front	12V green	built-in	454 g - 1 lbs
B-51G	67318 L	2 3/4"	bracket	powerboats	front	12V green	built-in	454 g - 1 lbs
S-53	67104 R	2 3/4"	surface	powerboats	front	12V green	built-in	454 g - 1 lbs
S-53W	67320 X	2 3/4"	surface	powerboats	front	12V green	built-in	454 g - 1 lbs
S-53G	67319 N	2 3/4"	surface	powerboats	front	12V green	built-in	454 g - 1 lbs
V-57.2	67358 Z	2 3/4"	dash	powerboats	front	12V	built-in	454 g - 1 lbs
V-57W.2	67359 B	2 3/4"	dash	powerboats	front	12V	built-in	454 g - 1 lbs
V-537	67360 K	2 3/4"	bulkhead	sail	front	12V	built-in	454 g - 1 lbs
V-537B	67361 M	2 3/4"	bulkhead	sail	front	12V	built-in	454 g - 1 lbs
V-537W	67362 P	2 3/4"	bulkhead	sail	front	12V	built-in	454 g - 1 lbs
D-55	67357 X	2 3/4"	binnacle	powerboats	front	12V green	built-in	454 g - 1 lbs

Optional protective cover E-50-C 67355 T: for F-50, S-53 and D-55 magnetic compasses

Note: V-57.2 and V-537 compasses are adjustable to 30°, heel angle to 25°.



Mounting hole 3" (76 mm)

Mounting hole 3" (76 mm)

# VOYAGER® SERIES

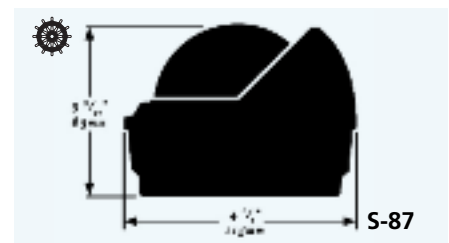
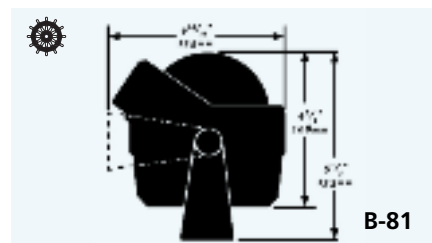
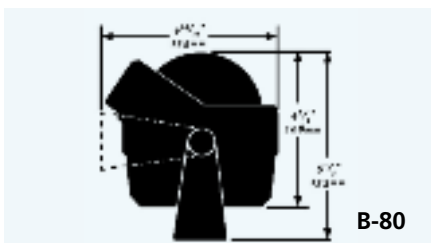
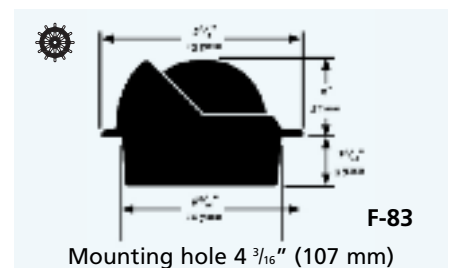
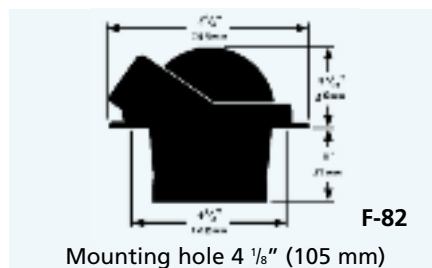
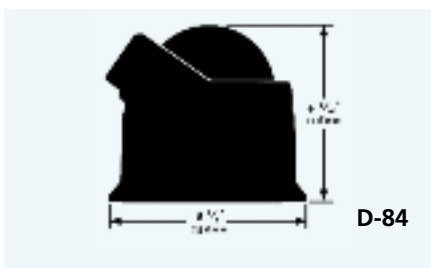
DIAL APP. DIAMETER: 3" (76 mm)




RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
D-84	67365 W	3"	binnacle	powerboats	flat-card	12V green	built-in	680 g - 1.8 lbs
F-82	67105 T	3"	flush	powerboats	flat-card	12V green	built-in	680 g - 1.8 lbs
F-82W	67367 A	3"	flush	powerboats	flat-card	12V green	built-in	680 g - 1.8 lbs
F-83	67106 V	3"	flush	powerboats	combi-dial	12V green	built-in	567 g - 1.4 lbs
F-83W	67321 Z	3"	flush	powerboats	combi-dial	12V green	built-in	567 g - 1.4 lbs
B-80	67363 S	3"	bracket	powerboats	flat-card	12V green	built-in	680 g - 1.8 lbs
B-81	67364 U	3"	bracket	powerboats	combi-dial	12V green	built-in	680 g - 1.8 lbs
S-87	67322 B	3"	surface	powerboats	combi-dial	12V green	built-in	539 g - 1.3 lbs
S-87W	67366 Y	3"	surface	powerboats	combi-dial	12V green	built-in	539 g - 1.3 lbs

Optional protective cover V-80-C 67368 C: for D-84, F-82 and B-80 compasses

Optional protective cover V-83-C 67369 E: for F-83, B-81 and S-87 compasses



 Compasses with wheel mark symbol are available on request

# HELMSMAN™ SERIES

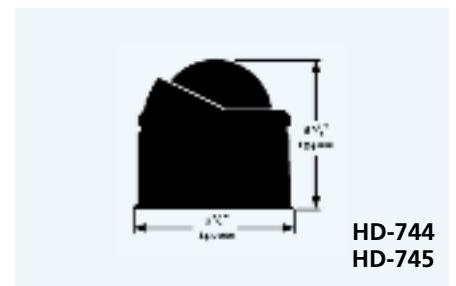
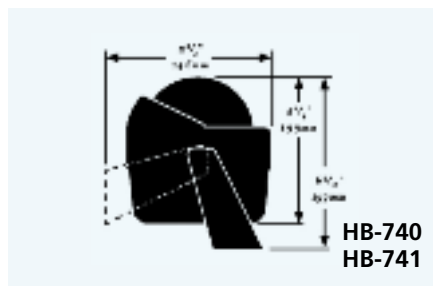
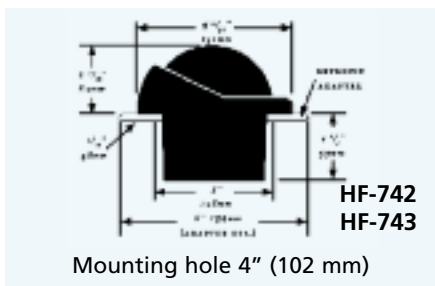
DIAL APP. DIAMETER: 3 3/4" (94 mm)

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RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
HF-742	67373 V	3 3/4"	flush	power/sail	flat-card	12V green	built-in	907 g - 2 lbs
HF-742W	67323 D	3 3/4"	flush	power/sail	flat-card	12V green	built-in	907 g - 2 lbs
HF-743	67107 X	3 3/4"	flush	power/sail	combi-dial	12V green	built-in	907 g - 2 lbs
HF-743W	67375 Z	3 3/4"	flush	power/sail	combi-dial	12V green	built-in	907 g - 2 lbs
HB-740	67370 N	3 3/4"	bracket	power/sail	flat-card	12V green	built-in	907 g - 2 lbs
HB-741	67371 R	3 3/4"	bracket	power/sail	combi-dial	12V green	built-in	907 g - 2 lbs
HD-744	67108 Z	3 3/4"	binnacle	power/sail	flat-card	12V green	built-in	907 g - 2 lbs
HD-745	67372 T	3 3/4"	binnacle	power/sail	combi-dial	12V green	built-in	907 g - 2 lbs

Optional protective cover H-741-C 67376 B: for HF-742, HF-743, HB-740, HB-741, HD-744 and HD-745 compasses



# VENTURE® AND SUPERSPORT™ SERIES

DIAL APP. DIAMETER: 3 3/4" (94 mm)



VENTURE SR-2

SUPERSPORT SS-1002

SUPERSPORT SS-PR2



INC-45



SR-CM2  
Compensator for  
SR-2 compass  
(optional)



SS-1002



SS-1002W

Mount at any angle up  
to 45°

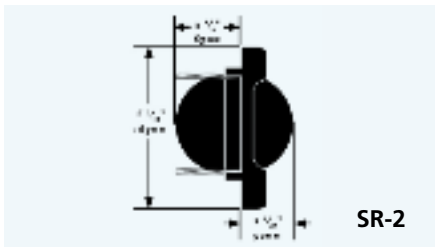


SS-PR-2

RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
SR-2	67109 B	3 3/4"	bulkhead	sail	combi-dial	-	optional	910 g - 2 lbs
SS-1002	67377 D	3 3/4"	flush	high perform. power	powerdamp + flat-card dial	12V green	built-in	907 g - 2 lbs
SS-1002W	67378 F	3 3/4"	flush	high perform. power	powerdamp + flat-card dial	12V green	built-in	907 g - 2 lbs
SS-PR2	67380 S	3 3/4"	bulkhead	powerboats	combi-dial	12V green	built-in	910 g - 2 lbs

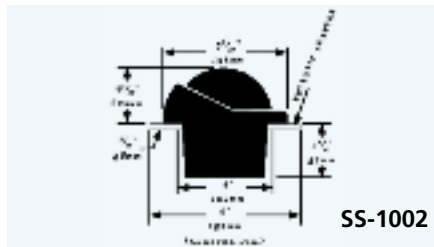
Venture® compass is provided with protective cover (front and back cover) and with inclinometer **INC-45** 67381 U. **SR-CM2** 67382 W compensator is optional. Supersport™ **SS-PR2** compass is provided with protective cover.

Optional protective cover **H-741-C** 67376 B: for SS-1002 compasses



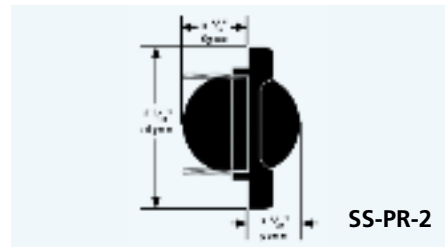
SR-2

Mounting hole: 4 1/2" (113 mm)  
4 5/8" (122 mm) with compensator



SS-1002

Mounting hole 4" (102 mm)



SS-PR-2

Mounting hole 4 5/8" (122 mm)

# NAVIGATOR™ AND SUPERSPORT™ SERIES

DIAL APP. DIAMETER: 4 1/2" (114 mm)

44



BN-202

FNW-201

DNP-200



N-LB BOX



FN-201



FN-203



SS-2000



DNB-200



FNW-201



FNW-203



SS-2000W



DNW-200

**N-LB BOX - 67438 X:**  
Navigator bulkhead leveling block for BN-202 compass



WS-P

Weather shield WS-P (optional) – 67403B for DN-200 compasses

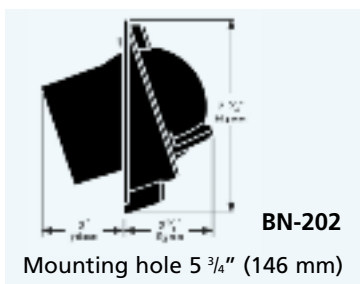


DNP-200

RITCHEE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
BN-202	67324 F	4 1/2"	bulkhead mount	power/sail	combi-dial	12V	built-in	1050 g - 2.05 lbs
FN-201	67386 E	4 1/2"	flush	power/sail	flat-card	12V green	built-in	1190 g - 2.1 lbs
FNW-201	67325 H	4 1/2"	flush	power/sail	flat-card	12V green	built-in	1190 g - 2.1 lbs
FN-203	67326 K	4 1/2"	flush	power/sail	combi-dial	12V green	built-in	1190 g - 2.1 lbs
FNW-203	67387 G	4 1/2"	flush	power/sail	combi-dial	12V green	built-in	1190 g - 2.1 lbs
SS-2000 SUPERSPORT	67379 H	4 1/2"	flush	high perform power	powerdamp + antivibrazione	12V green	built-in	1190 g - 2.1 lbs
SS-2000W SUPERSPORT	67327 M	4 1/2"	flush	high perform power	powerdamp + flat-card dial	12V green	built-in	1190 g - 2.1 lbs
DNB-200	67391 X	4 1/2"	binnacle	power/sail	flat-card	12V green	built-in	1650 g - 3.1 lbs
DNW-200	67392 Z	4 1/2"	binnacle	power/sail	flat-card	12V green	built-in	1650 g - 3.1 lbs
DNP-200	67393 B	4 1/2"	binnacle	power/sail	flat-card	12V green	built-in	1650 g - 3.1 lbs

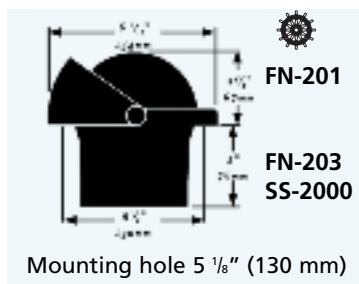
Optional protective cover BN-C 67394 D: for BN-202 compass

Optional protective cover N-203-C 67395 F: for FN-201, FN-203, SS-2000 and DN-200 compasses



BN-202

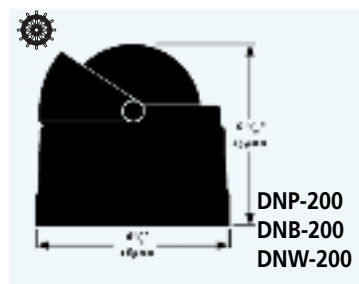
Mounting hole 5 3/4" (146 mm)



FN-201

FN-203  
SS-2000

Mounting hole 5 1/8" (130 mm)



DNP-200  
DNB-200  
DNW-200



Compasses with wheel mark symbol are available on request

# GLOBEMASTER® AND SUPERSPORT™ SERIES

DIAL APP. DIAMETER: 5" (127 mm)



RITCHIE MODEL	UFLEX PART No.	DIAL APP. Ø	MOUNT	BOAT TYPE	DIAL READING	NIGHT LIGHTING	COMPENSATORS	WEIGHT
SP-5B	67329 S	5"	binnacle	power/sail	flat-card	12V/24V green	built-in	2720 g - 6 lbs
SP-5C	67328 P	5"	binnacle	power/sail	flat-card	12V/24V green	built-in	2720 g - 6 lbs
D-515-EP	67396 H	5"	binnacle	power/sail	flat-card	12V/24V green	built-in	4540 g - 10 lbs
D-515-X	67397 K	5"	binnacle	power/sail	flat-card	12V/24V green	built-in	4540 g - 10 lbs
FB-500	67398 M	5"	flush	power/sail	flat-card	12V/24V green	built-in	2610 g - 5 lbs
SS-5000 SUPERSPORT	67399 P	5"	flush	high perform. power	powerdamp + flat-card dial	12V/24V green	built-in	2610 g - 5 lb
SS-5000W SUPERSPORT	67400 V	5"	flush	high perform. power	powerdamp + flat-card dial	12V/24V green	built-in	2610 g - 5 lbs

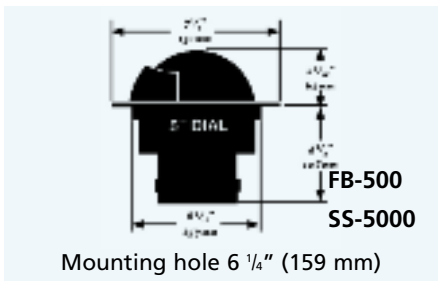
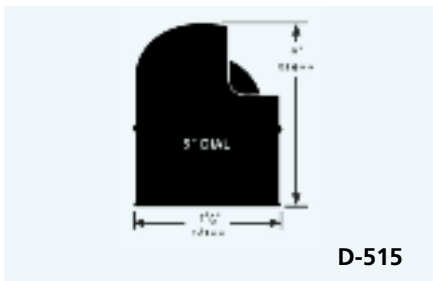
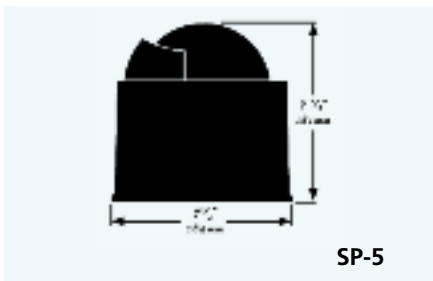
Voltage available on request: 32V

Optional protective cover GM-5-C 67401 X:  
for SP-5 and D-515-EP compasses

Optional protective cover LL-C 67402 Z:  
for FB-500 and SS-5000

Weather shield WS-P (optional) 67403 B:  
for SP-5 and D-515-EP

All Globemaster® compasses are individually custom assembled to order.  
When ordering a Globemaster® compass it is important to specify your choice of power or sailboat model; 2°, 2° w/points, or 5° dial; 12, 24, or 32-volt night lighting and your choice of Polished Stainless (P), Black (B) or Polished Brass (X) finish on all models.



## SUPER YACHT SERIES

DIAL APP. DIAMETER: 5" (127 mm) AND 6" (152 mm)

The Super Yacht Series is a unique blend of heritage polished bronze bezel, dial bushing and modern Ritchie compass technology.

Your compass can be personalized with engraving on the bezel.

Each compass is marked with a sequential coined serial number recorded at the factory.

Voltages available: 12, 24 and 32 VDC.



SY-600LL

## GLOBEMASTER® SKYLIGHT SERIES

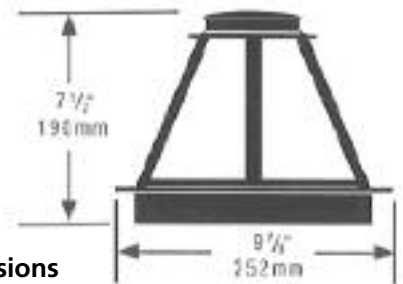
DIAL APP. DIAMETER: 6" (152 MM)



SK-615-C Chrome



SK-615-X Polished brass



SK-615 Dimensions

- Binnacle mount
- 12V green powerlight lighting (optional 24V or 32V)
- 45° or 90° degree lubber lines for easy reading
- Built-in compensators
- Weight: 907 g – 20 lb

Frosted Sunshine Pane – Hood rotate to allow positioning of sunshade.

## RITCHIE® POINT OF PURCHASE DISPLAY

For our distributors and dealers a **FREE** of charge Display is available ordering 12 compasses, two for each type, selected among the following models:

TR-31, TR-31W, B-51, B-51W, B-81, S-53, S-53W, F-83, F-83W, SS-1002, SS-1002W

Ritchie® Display: 67577 M









ULTRA



ULTRA WHITE

**FEATURES:**

- Perimeter-lighted black (ULTRA) or white dial (ULTRA WHITE) with bold graphics.
- 12V DC, negative ground
- Black aluminum bezel.
- Flat glass lens.
- Metric and american scales.

**Uflex instruments are single tested and CE marked according to the European Standards.**



INSTRUMENT	DIAL RANGE	DESCRIPTION	SENDER	HOLE SIZE mm - in	ULTRA PART No.	ULTRA WHITE PART No.
Tachometer	6000 RPM	• For all 4, 6 & 8 cylinder inboard & I/O gas engine.	Not required	85 - 3.37	60738 G	60691 K
	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	60509 S	60533 T
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	60510 J	60534 U
	4000 RPM	• Diesel, variable ratio for alternator connection	Not required	85 - 3.37	60510 J	60534 U
Tach-Hourmeter	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	61766 H	61767 K
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	62049 H	62050 S
	4000 RPM	• Diesel, variable ratio for alternator connection	Not required	85 - 3.37	62049 H	62050 S
Speedometer	30 Knot 50 Knot 70 Knot	-	Requires pitot tube (page 56)	85 - 3.37 85 - 3.37 85 - 3.37	60512 L 60513 M 60514 N	60536 W 60537 X 60538 A
Fuel level gauge	E - 1/2 - F	-	page 56, 57, 60	53 - 2.07	60518 T	60542 U
Water level gauge	E - 1/2 - F	-	Page 60	53 -2.07	60520 L	60544 W
Oil pressure gauge	5 bar 10 bar	-	Page 56	53 - 2.07 53 - 2.07	60521 M 60522 N	60545 X 60546 Y
Transmission pressure gauge	25 bar	-	Not available	53 - 2.07	60523 O	60547 Z
Water temperature gauge	40 - 120 °C	-	Page 56	53 - 2.07	60526 R	60550 U
Voltmeter	10-16 Volt 20-32 Volt	For all 12 Volt electrical system For all 24 Volt electrical system	Not required Not required	53 - 2.07 53 - 2.07	60529 W 60741 Z	60553 X 60742 A
Hourmeter	10.000 hours	Elapsed in hour/tenths, (12-32 volt)	Not required	53 - 2.07	60530 Q	60554 Y
Ammeter	60 - 0 - 60	Indicates electrical charge/discharge rate	Not required	53 - 2.07	60532 S	60540 S
Battery charge indicator	E - 1/2 - F	12 Volt, internally illuminated, remote mounted sensor with 20' harness included	Not required	53 - 2.07	62080 B	62081 D
Clock	-	Quartz analog	Not required	53 - 2.07	60531 R	60539 B
Synchronizer	-	All twin gas & diesel inboard	Not required	85 - 3.37	60517 Q	60541 T
Rudder angle indicator	Port-Starboard	Indicates relative position of rudder	Page 56	53 - 2.07	60699 U	60700 Q
Trim gauge	Up-Down	• Mercury & Mariner outboard, Mercruiser, Volvo DP, '96 & newer, Volvo & Yamaha EST sterndrive. • OMC outboard Johnson & Evinrude. • Yamaha & Evinrude Yamaha outboard '97 & newer.	Requires sender for outboard and sterndrive engines	53 -2.07	61655 Y	62044 X
				53 -2.07	62045 Z	62046 B
				53 -2.07	62047 D	62048 F



## ELECTRONIC FLUX-GATE COMPASS

### FEATURES:

- Auto compensation
- Easy to install and to read in all weather conditions
- Unaffected by metal objects in the vicinity of the compass indicator
- Includes: remote mounted sensor with 20' plug in harness, instruction manual and mounting hardware

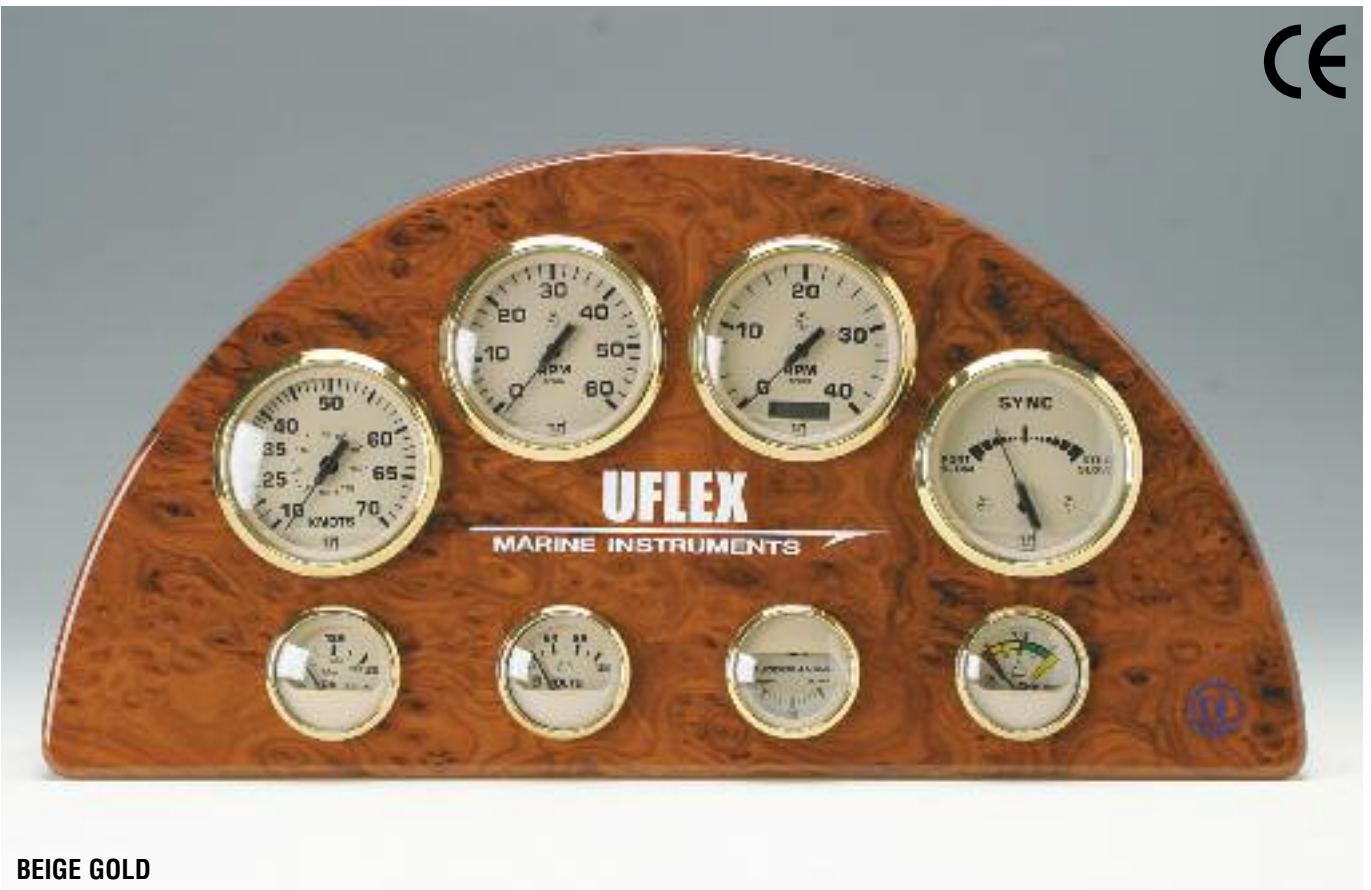
**61076 N** – ULTRA Style Electronic Compass

**61077 O** – ULTRA WHITE Style Electronic Compass



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INSTRUMENTS - BEIGE GOLD AND ULTRAWHITE SS SERIES



BEIGE GOLD



ULTRAWHITE SS

**FEATURES:**

- Perimeter-lighted beige (BEIGE GOLD) or white dial (ULTRAWHITE SS) with bold graphics.
- 12V DC, negative ground
- Polished gold or polished stainless steel bezel.
- Domed glass lens.
- Metric and american scales.

**Uflex instruments are single tested and CE marked according to the European Standards.**



INSTRUMENT	DIAL RANGE	DESCRIPTION	SENDER	HOLE SIZE mm - in	BEIGE-GOLD PART No.	U-WHITE SS PART No.
Tachometer	6000 RPM	• For all 4, 6 & 8 cylinder inboard & I/O gas engine.	Not required	85 - 3.37	62053 Y	62004 J
	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	62051 U	62003 G
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	62054 A	62005 L
Tach-Hourmeter	4000 RPM	• Diesel, variable ratio for alternator connection	Not required	85 - 3.37	62054 A	62005 L
	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	62055 C	62006 N
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	62056 E	62007 R
Speedometer	30 Knot 50 Knot 70 Knot	-	Requires pitot tube (page 56)	85 - 3.37	62057 G	62008 T
				85 - 3.37	62058 J	62009 V
Fuel level gauge	E - 1/2 - F	-	page 56, 57, 60	53 - 2.07	62063 B	62014 M
Water level gauge	E - 1/2 - F	-	Page 60	53 - 2.07	62067 K	62018 W
Oil pressure gauge	5 bar 10 bar	-	Page 56	53 - 2.07	62065 F	62016 S
				53 - 2.07	62066 H	62017 U
Transmission pressure gauge	25 bar	-	Not available	53 - 2.07	62077 N	62052 W
Water temperature gauge	40 - 120 °C	-	Page 56	53 - 2.07	62073 E	62024 R
Voltmeter	10-16 Volt 20-32 Volt	For all 12 Volt electrical system For all 24 Volt electrical system	Not required	53 - 2.07	62071 A	62022 L
			Not required	53 - 2.07	62072 C	62023 N
Hourmeter	10.000 hours	Elapsed in hour / tenths (12-32 volt)	Not required	53 - 2.07	62064 D	62015 P
Ammeter	60 - 0 - 60	Indicates electrical charge / discharge rate	Not required	53 - 2.07	62060 V	62011 F
Battery charge indicator	E - 1/2 - F	12 Volt, internally illuminated, remote mounted sensor with 20' harness included	Not required	53 - 2.07	62061 X	61012 H
Clock	-	Quartz analog	Not required	53 - 2.07	62062 Z	62013 K
Synchronizer	-	All twin gas & diesel inboard	Not required	85 - 3.37	62074 G	62025 T
Rudder angle indicator	Port-Starboard	Indicates relative position of rudder	Page 56	53 - 2.07	62076 L	62027 X
Trim indicator	Up-Down	• For Mercury and Mariner outboards, Mercruiser, Volvo DP, '96 and newer, Volvo and Yamaha EST sterndrives • For OMC outboards • For Yamaha outboards '97 and newer	Requires sender for outboard and sterndrive engines	53 -2.07	62068 M	62019 Y
				53 -2.07	62069 P	62020 G
				53 -2.07	62070 Y	62021 J



## ELECTRONIC FLUX-GATE COMPASS

### FEATURES:

- Auto compensation
- Easy to install and to read in all weather conditions
- Unaffected by metal objects in the vicinity of the compass indicator
- Includes: remote mounted sensor with 20' plug in harness, instruction manual and mounting hardware

**62078 R** – BEIGE GOLD Style Electronic Compass

**62079 T** – ULTRAWHITE SS Style Electronic Compass



DRESS WHITE

**FEATURES:**

- Perimeter-lighted white dial with bold black graphics.
- 12V DC, negative ground
- White aluminum bezel.
- Flat glass lens.
- Metric and american scales.



PROFESSIONAL

**FEATURES:**

- Perimeter-lighted black dial with red graphics.
- 12V DC, negative ground
- Black aluminum bezel.
- Flat glass lens.
- Metric and american scales.

**Uflex instruments are single tested and CE marked according to the European Standards.**

INSTRUMENT	DIAL RANGE	DESCRIPTION	SENDER	HOLE SIZE mm - in	DRESS/WHITE PART No.	PROFESSIONAL PART No.
Tachometer	6000 RPM	• For all 4, 6 & 8 cylinder inboard & I/O gas engine.	Not required	85 - 3.37	62656 F	63196 C
	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	62657 H	63197 E
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	62658 K	63198 G
Tach-Hourmeter	4000 RPM	• Diesel, variable ratio for alternator connection	Not required	85 - 3.37	62658 K	63198 G
	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	62659 M	63199 J
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	62660 W	63200 P
Speedometer	30 Knot 50 Knot 70 Knot	-	Requires pitot tube (page 56)	85 - 3.37	62661 Y	63201 S
				85 - 3.37	62662 A	63202 U
				85 - 3.37	62663 C	63203 W
Fuel level gauge	E - 1/2 - F	-	page 56, 57, 60	53 - 2.07	62664 E	63204 Y
Water level gauge	E - 1/2 - F	-	Page 60	53 - 2.07	62665 G	63205 A
Oil pressure gauge	5 bar 10 bar	-	Page 56	53 - 2.07	62666 J	63206 C
				53 - 2.07	62667 L	63207 E
Transmission pressure gauge	25 bar	-	Not available	53 - 2.07	62668 N	63208 G
Water temperature gauge	40 - 120 °C	-	Page 56	53 - 2.07	62669 R	63209 J
Voltmeter	10-16 Volt 20-32 Volt	For all 12 Volt electrical system For all 24 Volt electrical system	Not required Not required	53 - 2.07	62670 Z	63210 T
				53 - 2.07	62671 B	63211 V
Hourmeter	10.000 hours	Elapsed in hour / tenths (12-32 volt)	Not required	53 - 2.07	62672 D	63212 X
Ammeter	60 - 0 - 60	Indicates electrical charge / discharge rate	Not required	53 - 2.07	62673 F	63213 Z
Battery charge indicator	E - 1/2 - F	12 Volt, internally illuminated, remote mounted sensor with 20' harness included	Not required	53 - 2.07	62674 H	63214 B
Clock	-	Quartz analog	Not required	53 - 2.07	62676 M	63216 F
Synchronizer	-	All twin gas & diesel inboard	Not required	85 - 3.37	62677 P	63217 H
Rudder angle indicator	Port-Starboard	Indicates relative position of rudder	Page 56	53 - 2.07	62678 S	63218 K
Trim indicator	Up-Down	• For Mercury and Mariner outboards, Mercruiser, Volvo DP, '96 and newer, Volvo and Yamaha EST sterndrives • For OMC outboards • For Yamaha outboards '97 and newer	Requires sender for outboard and sterndrive engines	53 -2.07	62679 U	63219 M
				53 -2.07	62680 C	63220 W
				53 -2.07	62681 E	63219 M



## ELECTRONIC FLUX-GATE COMPASS

### FEATURES:

- Auto compensation
- Easy to install and to read in all weather conditions
- Unaffected by metal objects in the vicinity of the compass indicator
- Includes: remote mounted sensor with 20' plug in harness, instruction manual and mounting hardware

**62675 K** – DRESS WHITE Style Electronic Compass



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PERFORMANCE

**FEATURES:**

- Perimeter-lighted white dial with black graphics
- 12V DC negative ground
- Stainless steel bezel
- Domed glass fog free lens
- Metric and American scales



CALYPSO

**FEATURES:**

- Perimeter-lighted white dial with bold black graphics
- Stainless steel bezel
- Domed glass fog free lens
- 12V DC, negative ground
- Metric and American scales

Uflex instruments are single tested and CE marked according to the European Standards.





INSTRUMENT	DIAL RANGE	DESCRIPTION	SENDER	HOLE SIZE mm - in	PERFORMANCE PART No.	CALYPSO PART No.
Tachometer	6000 RPM	• For all 4, 6 & 8 cylinder inboard & I/O gas engine.	Not required	85 - 3.37	65316 W	66639 C
	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	65315 U	66638 A
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	65317 Y	66640 L
	4000 RPM	• Diesel, variable ratio for alternator connection	Not required	85 - 3.37	65317 Y	66640 L
Tach-Hourmeter	7000 RPM	• Universal for all outboard engines 4, 6, 8, 10, 12 & 20 pole.	Not required	85 - 3.37	65318 A	-
	4000 RPM	• Diesel 5:1, 1:1, 1.5:1, 2:1 mechanical take off	Page 56	85 - 3.37	65319 C	-
	4000 RPM	• Diesel, variable ratio for alternator connection	Not required	85 - 3.37	65319 C	-
Speedometer	30 Knot 50 Knot 70 Knot	-	Requires pitot tube (page 56)	85 - 3.37 85 - 3.37 85 - 3.37	65320 L 65321 N 65322 R	66642 R 66643 T 66644 V
Fuel level gauge	E - 1/2 - F	-	page 56, 57, 60	53 - 2.07	65323 T	66645 X
Water level gauge	E - 1/2 - F	-	Page 60	53 - 2.07	65324 V	66660 T
Oil pressure gauge	5 bar 10 bar	-	Page 56	53 - 2.07 53 - 2.07	65325 X 65326 Z	66646 Z 66647 B
Transmission pressure gauge	25 bar	-	Not available	53 - 2.07	65327 B	66659 J
Water temperature gauge	40 - 120 °C	-	Page 56	53 - 2.07	65328 D	66648 D
Voltmeter	10-16 Volt 20-32 Volt	For all 12 Volt electrical system For all 24 Volt electrical system	Not required Not required	53 - 2.07 53 - 2.07	65329 F 65330 P	66649 F 66656 C
Hourmeter	10.000 hours	Elapsed in hour / tenths (12-32 volt)	Not required	53 - 2.07	65331 S	66650 P
Ammeter	60 - 0 - 60	Indicates electrical charge / discharge rate	Not required	53 - 2.07	65332 U	66655 A
Battery charge indicator	E - 1/2 - F	12 Volt, internally illuminated, remote mounted sensor with 20' harness included	Not required	53 - 2.07	65333 W	66657 E
Clock	-	Quartz analog	Not required	53 - 2.07	-	66651 S
Synchronizer	-	All twin gas & diesel inboard	Not required	85 - 3.37	65334 Y	66641 N
Rudder angle indicator	Port-Starboard	Indicates relative position of rudder	Page 56	53 - 2.07	65335A	66658 G
Trim indicator	Up-Down	• For Mercury and Mariner outboards, Mercruiser, Volvo DP, '96 and newer, Volvo and Yamaha EST sterndrives • For OMC outboards	Requires sender for outboard and sterndrive engines	53 - 2.07	65336 C	66653 W
				53 - 2.07	65337 E	66652 U



SENDERS AND ACCESSORIES	SCALE	DESCRIPTION	PART No.
Diesel tachometer sender	-	Attaches to diesel sender mechanical take-off. Includes coupling and 4 drive keys	60613 S
Pitot kits	-	Pitot tube complete with transom mount mounting hardware	60515 O
		As above complete with 20' of tubing	60516 P
		Tubing - 20'	61717 U
Oil pressure sender	5 bar	Single station, 1/8" NPTF	60525 Q
	5 bar	Dual station, 1/8" NPTF	60610 P
	10 bar	Single station, 1/8" NPTF	60611 Q
	10 bar	Dual station, 1/8" NPTF	60612 R
Water temperature sender	40 - 120 °C	Single station, 1/8" NPTF	60528 V
	40 - 120 °C	Dual station, 1/8" NPTF	60614 T
Fuel level sender	20 - 60 cm (7.9" - 23.6")	Single station	66180 C
Rudder angle sender	-	Single station	60701 R
		Dual station To use with Uflex rudder angle indicator only.	60702 S
Bushing kit	Temperature and pressure senders	1/8" NPTF - M10x1	60618 Z
		1/8" NPTF - M12x1	60619 A
		1/8" NPTF - M16x1.5	60620 R
24 Volt adaptor kit	12 - 24V	<ul style="list-style-type: none"> <li>Tachometer - Synchronizers</li> <li>Ammeter - Speedometer (24V bulb only)</li> <li>Water temperature</li> <li>Oil pressure - fuel level - water level - rudder angle</li> </ul>	60621 S 60623 U 60703 T 60704 U
Installation kit	-	Fuel level sender installation kit (for plastic fuel tanks)	60696 P



**NOTE:** SINGLE SENDER: to connect to one gauge  
 DUAL SENDER: to connect to two gauges

## FUEL LEVEL KIT

### 66234 Z

Fuel level Ultra Series gauge complete with sender 20 - 60 cm (7.9" - 23.6")

### 66235 B

Fuel level Ultra White Series gauge complete with sender 20 - 60 cm (7.9" - 23.6")



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## PROMOTIONAL ITEMS

We present to our distributors particularly elegant displays to enhance the quality and design of our instruments.

**Black** - 67315 E  
**White** - 62564 A



Due to our customers care and attention for a stylish packaging for the instruments, we have decided to offer optional boxes that meet their requirements.

To present a quality product in a visually appealing packaging will increase the instruments sale possibility.

When ordering, please specify the optional packaging.



## DIGITAL INSTRUMENTS

Digital instruments featuring the most advanced technology in the electronic field. They are supplied complete with senders. Available in Dress White style only: white dial and bezel.

### DEPTH SOUNDER

- 61 meter Depth Sounder with Keel Offset, Automatic Gain and Shallow/Deep alarms. Depth Sounder measures in Meters, Feet or Fathoms.
- Out-of-range indication.
- Shallow and deep alarms are both audible and visible to operator.
- Quick-Set mode for rapid adjustment or settings.
- Back illumination for maximum night vision.
- Keel-Offset adjustment and indication.
- 53 mm ( 2.07" ) gauge cut out

#### DEPTH SOUNDER - 62777 U

Depth Sounder includes 1 gauge, 1 depth sender and 1 installation cable.



DEPTH SOUNDER



### FUEL MANAGER FOR GASOLINE ENGINES

The Fuel Manager System consists of a digital fuel gauge and fuel flow transducer that monitors and measures fuel as it is being used.

The gauge shows not only how much fuel has been used but, more importantly, how much is left.

Other features include a settable "low fuel alarm", trip log and total fuel consumed log. Fuel flow is measured in litres (2,5 to 160 litres per hour) or gallons (0.5 to 34 gallons per hour).

- 53 mm ( 2.07" ) gauge cut out

#### FUEL MANAGER - 67706 W

Fuel Manager includes 1 gauge and 1 fuel flow sender.



FUEL MANAGER



Fuel Manager is for use on gasoline engines only.

### SPARE SENDERS FOR DIGITAL INSTRUMENTS

**NOTE:** Senders are supplied with the instrument.

PART No.	MODEL	SUPPLIED WITH:
64311 E	Depth sender	Depth Sounder
64310 C	Fuel flow sender	Fuel Manager





## WATER AND FUEL LEVEL MONITORING SYSTEM

### WATER AND FUEL LEVEL INDICATORS

- Available in black, white colours and with silver bezel
- 12V/24V DC standard illumination
- Resistance rating:
  - 0 Ohm (empty)
  - 180 Ohm (full)
- 52 mm (2") gauge cut out

FUEL/B - 65836 Z - black

FUEL/W - 65837 B - white

WATER/B - 65838 D - black

WATER/W - 65839 F - white

FUEL/B-S - 67869 B - black, silver bezel

FUEL/W-S - 67870 K - white, silver bezel

WATER/B-S - 67871 M - black, silver bezel

WATER/W-S - 67872 P - white, silver bezel



FUEL/B



FUEL/W



WATER/B



WATER/W



FUEL/B-S



FUEL/W-S



WATER/B-S



WATER/W-S

### S5 FUEL/WATER SENSORS

- Stainless steel
- Flange SAE 5-hole - bolt circle 54 mm (2.1")
- Resistance rating:
  - 0 Ohm (empty) - 180 Ohm (full)
- S5 sensors interface all Uflex fuel and water level indicators

**NOTE:** Longer lengths available on request

LENGTH	MODEL	PART No.
150 mm (5.9")	S5-E150	64689 H
175 mm (6.9")	S5-E175	64690 S
200 mm (7.9")	S5-E200	64691 U
225 mm (8.9")	S5-E225	64692 W
250 mm (9.8")	S5-E250	64693 Y
275 mm (10.8")	S5-E275	64694 A
300 mm (11.8")	S5-E300	64695 C
350 mm (13.8")	S5-E350	64696 E
400 mm (15.7")	S5-E400	64697 G
450 mm (17.7")	S5-E450	64698 J
500 mm (19.7")	S5-E500	64699 L
550 mm (21.7")	S5-E550	64700 S
600 mm (23.6")	S5-E600	64701 U



S5

## HOLDING TANK LEVEL MONITORING SYSTEM



HTG/B



HTG/W

### HTG HOLDING TANK LEVEL INDICATORS

- Available in black or white colours
- 12V/24 Volt DC standard illumination
- Resistance rating:  
240 Ohm (empty) – 33 Ohm (full)
- 52 mm (2") gauge cut out

HTG/B - 64683 V - black

HTG/W - 64684 X - white

### S3H HOLDING TANK SENSORS

- Stainless steel
- Resistance rating:  
240 Ohm (empty) – 30 Ohm (full)

LENGTH	MODEL	PART No.
100 mm (3.9")	S3H-1	64685 Z
205 mm (8.0")	S3H-2	64686 B
305 mm (12.0)	S3H-3	64687 D
410 mm (16.1")	S3H-4	64688 F



S3H

- HFL - 64719 P - Flange 1 1/4" - NPT threads (to be ordered separately)



HFL

## GPS SPEEDO

GPS Speedo is a "plug and play" speedometer that precisely shows actual speed (speed over ground) and actual heading (compass heading over ground).

- Speed (0-60 knots) shown analogically and compass heading digitally, both guided by GPS signals.
- GPS Speedo has a "high-end" 32 channel GPS Receiver suitable for all types of boats (12V)
- Easy to install, it has a favourable price.
- GPS Speedo is in no way dependant of the boat main control and monitoring systems.
- Hole diameter: 85 mm (3.37")

**IGPS-BB-60** - 66878 X - black dial and bezel, 12VDC, speed 0-60 knots

**IGPS-WW-60** - 66879 Z - white dial and bezel, 12VDC, speed 0-60 knots



IGPS-BB-60



IGPS-WW-60

## TACHOMETER WITH HOURMETER

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Scale: 4000 RPM or 8000 RPM
- 85 mm (3,3") gauge cut out

**IMHB-BS-4KL** - 67873 S - black / 4000 RPM

**IMHB-WS-4KL** - 67874 U - white / 4000 RPM

**IMHB-BS-8KL** - 67875 W - black / 8000 RPM

**IMHB-WS-8KL** - 67876 Y - white / 8000 RPM



**IMHB-BS-4KL**



**IMHB-WS-4KL**



**IMHB-BS-8KL**



**IMHB-WS-8KL**

## HOURMETER

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- LCD Display
- Scale: 10.000 hours
- 52 mm (2") gauge cut out

**ICUR-BS** - 67877 A - black with silver bezel

**ICUR-WS** - 67878 C - white with silver bezel



**ICUR-BS**



**ICUR-WS**

## WATER TEMPERATURE LEVEL INDICATORS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Resistance rating: 450-23 Ohm
- Scale: 25 – 120°C
- 52 mm (2") gauge cut out

**IPTR-BS** - 67879 E - black with silver bezel

**IPTR-WS** - 67880 N - white with silver bezel



**IPTR-BS**



**IPTR-WS**

## OIL TEMPERAURE LEVEL INDICATORS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Resistance rating: 450-23 Ohm
- Scale: 25 – 120°C
- 52 mm (2") gauge cut out

**IPYR-BS** - 67881 R - black with silver bezel

**IPYR-WS** - 67882 T - white with silver bezel



**IPYR-BS**



**IPYR-WS**



## OIL PRESSURE LEVEL INDICATORS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Resistance rating: 10-180 Ohm
- Scale: 0 – 2 Bar, 0 – 5 Bar, 0 – 10 Bar or 0 – 25 Bar
- 85 mm (3,3") gauge cut out

**IORP-BS-02** - 67883 V - black (0-2 Bar)  
**IORP-WS-02** - 67884 X - white (0-2 Bar)

**IORP-BS-05** - 67885 Z - black (0-5 Bar)  
**IORP-WS-05** - 67886 B - white (0-5 Bar)

**IORP-BS-010** - 67887 D - black (0-10 Bar)  
**IORP-WS-010** - 67888 F - white (0-10 Bar)

**IORP-BS-025** - 67889 M - black (0-25 Bar)  
**IORP-WS-025** - 67890 S - white (0-25 Bar)



**IORP-BS-02**



**IORP-WS-02**



**IORP-BS-05**



**IORP-WS-05**



**IORP-BS-010**



**IORP-WS-010**



**IORP-BS-025**



**IORP-WS-025**

## AMMETERS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Scale: 8-32V
- 52 mm (2") gauge cut out
- Supplied with sensor

**AMP KIT-BS** - 67905 C - black with silver bezel  
**AMP KIT-WS** - 67906 E - white with silver bezel



**AMP KIT-BS**



**AMP KIT-WS**



## VOLTMETERS

- Available in black or white colours with silver bezel
- 12V, 24V or 12/24V DC standard illumination
- Scale: 8-16V, 18-32V or 8-32V
- 52 mm (2") gauge cut out

**IPVR-BS-8-16** - 67899 L - black 8-16V

**IPVR-WS-8-16** - 67900 S - white 8-16V

**IEVR-BS-8-32** - 67903 Y - black 8-32V

**IEVR-WS-8-32** - 67904 A - white 8-32V



**IPVR-BS-8-16**



**IPVR-WS-8-16**



**IEVR-BS-8-32**



**IEVR-WS-8-32**

## RUDDER ANGLE INDICATORS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Resistance rating: 0-190 Ohm
- Scale: 25 – 120°C
- 52 mm (2") gauge cut out

**IMRR-BS** - 67891 U - black with silver bezel

**IMRR-WS** - 67892 W - white with silver bezel



**IMRR-BS**



**IMRR-WS**

## TRIM INDICATORS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Resistance rating:  
- 10 Ohm - 180 Ohm
- 52 mm (2") gauge cut out

**TRIM-BS-10-180** - 67895 C - black with silver bezel

**TRIM-WS-10-180** - 67896 E - white with silver bezel



**TRIM-BS-10-180**



**TRIM-WS-10-180**

## CLOCKS

- Available in black or white colours with silver bezel
- 12/24 Volt DC standard illumination
- Not standby battery
- 52 mm (2") gauge cut out

**IMCR-BS** - 67893 Y - black with silver bezel

**IMCR-WS** - 67894 A - white with silver bezel



**IMCR-BS**



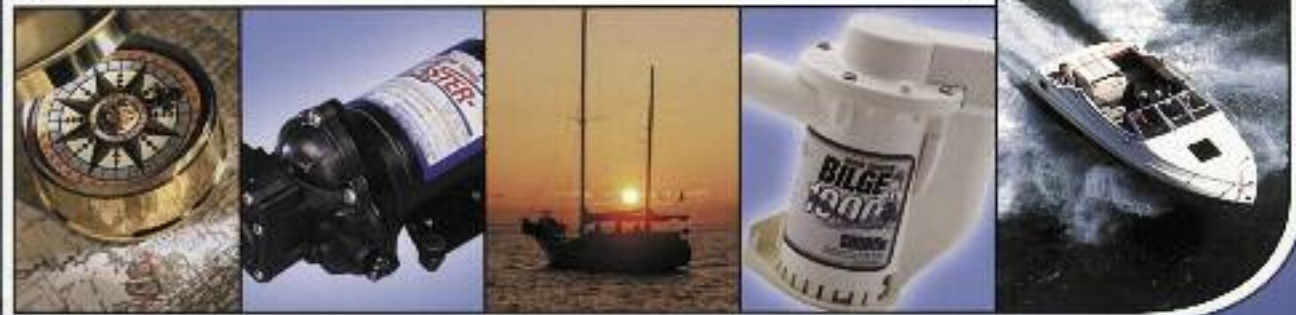
**IMCR-WS**

# SHURflo®

*First in Fluid Innovation*

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## Marine Product Catalog



FRESH WATER AND BILGE PUMPS

## AQUA KING™ FRESH WATER PUMPS

NEXT generation



**Aqua King™ Junior 2.0**



**Aqua King™ Standard 3.0**



**Aqua King™ Premium 4.0**

The Next Generation SHURflo® pumps guarantee quiet operation and smooth performance while providing the ultimate in durability and reliability. These automatic water pumps are self priming with a three-chamber design to lift water up to 8ft (2,4 m).

- Run dry capability
- Built-in check valve prevents backflow into the tank
- Sealed switch
- Corrosion resistant seamless e-coated motor
- Thermally Protected. Ignition Protected
- CE marked

MODEL	PART No.	VOLT	DESCRIPTION	DIMENSIONS mm (")	FLOW RATE	AMP MAX	SHUT-OFF PRESSURE
<b>Aqua King™ Mini</b>	67285 Y	12V DC	single fixture	162x81x114 (6.4x2.2x4.5)	1.0 GPM - 3,8 l/min	3,0	30 PSI - 2,0 Bar
<b>Aqua King™ Junior</b>	65338 G	12V DC	up to 2 fixtures	184x127x118 (7.3x5.0x4.6)	2.0 GPM - 7,6 l/min	4,0	30 PSI - 2,0 Bar
<b>Aqua King™ Standard 12V</b>	65339 J	12V DC	multifixtures	184x127x118 (7.3x5.0x4.6)	3.0 GPM - 11,35 l/min	5,0	45 PSI - 3,1 Bar
<b>Aqua King™ Standard 24V</b>	65340 T	24V DC	multifixtures	184x127x118 (7.3x5.0x4.6)	3.0 GPM - 11,35 l/min	3,0	45 PSI - 3,1 Bar
<b>Aqua King™ Premium</b>	65341 V	12V DC	multifixtures	210x134x127 (8.3x5.3x5)	4.0 GPM - 15,1 l/min	10,0	45 PSI - 3,1 Bar

## EXTREME™ SERIES SMART SENSOR™ 4.0

The Smart Sensor™ 4.0 is designed specifically for cruisers and midsize yachts. Delivering 4.0 GPM and pressure up to 50 PSI, this micro-control based variable speed pump precisely monitors your system's water pressure and adjust the motor speed, eliminating the need for a pressure switch.

- Superior four-chamber design that incorporates large inlet and outlet passages to maximize water flow and efficiency, providing a "Just Like Home" shower.
- Run dry capability
- Self priming up to 9 ft (2,7 m)
- Sealed switch
- Corrosion resistant seamless e-coated motor
- Thermally Protected. Ignition Protected
- CE marked

NEXT generation



**Smart Sensor™ 4.0**

MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	SHUT-OFF PRESSURE
<b>Smart Sensor™ 4.0 12V</b>	64679 E	12V DC	210x134x127 (8.3x5.3x5)	4.0 GPM - 15,1 l/min	9,0	45 PSI - 3.1 Bar
<b>Smart Sensor™ 4.0 24V</b>	65342 X	24V DC	210x134x127 (8.3x5.3x5)	4.0 GPM - 15,1 l/min	5,0	45 PSI - 3.1 Bar

## EXTREME™ SERIES SMART SENSOR™ 5.7

The Smart Sensor™ 5.7 is a micro processor control based variable speed pump that delivers over 5 GPM (21,6 l/min) and pressure up to 60 PSI (4,1 Bar). SHURflo® Smart Sensor™ 5.7 precisely monitors your system's water pressure and adjust the motor speed, thus eliminating the need for a pressure switch.

- Superior five-chamber design that incorporates large inlet and outlet passages to maximize water flow and efficiency, providing a "Just Like Home" shower
- O-ring sealed end bells along with the protected electronic package make the Smart Sensor™ capable of handling even the harshest marine enviroments
- Current limiting and over/under voltage protection
- Pressure sensor eliminates cycling and the need for an accumulator tank
- Run dry capability
- Self priming up to 9 ft (2,7 m)
- Sealed switch
- Corrosion resistant seamless e-coated motor
- Quick-Connect fittings included
- Thermally Protected. Ignition Protected
- CE marked

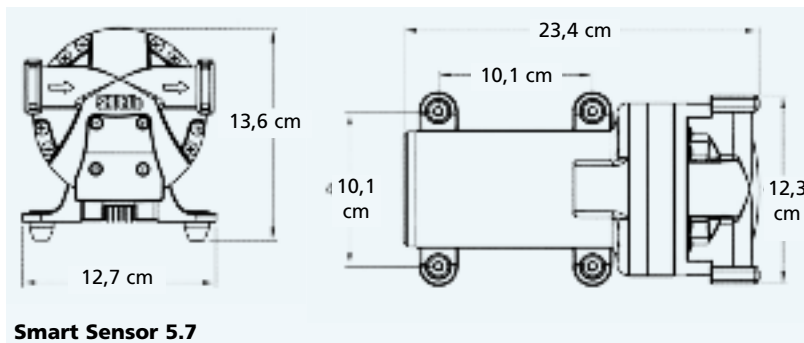
NEXT generation



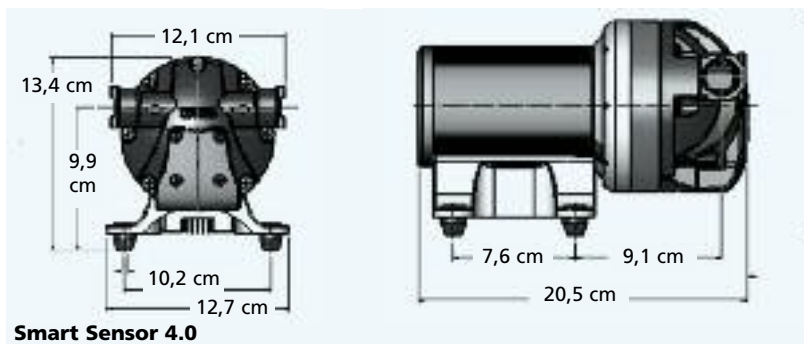
Smart Sensor™ 5.7

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MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	SHUT-OFF PRESSURE
Smart Sensor™ 5.7 12V	63194 Y	12V DC	235x127x121 (9.3x5.0x5.5)	5.0 GPM - 18,9 l/min	12	60 PSI - 4,1 Bar
Smart Sensor™ 5.7 24V	64335 V	24V DC	235x127x121 (9.3x5.0x5.5)	5.0 GPM - 18,9 l/min	5	60 PSI - 4,1 Bar



Smart Sensor 5.7



Smart Sensor 4.0

## EXTREME™ SERIES HIGH FLOW STRAINER

SHURflo® highly recommends the use of the Extreme™ Series High Flow Strainer, engineered to compliment the higher performance of the Smart Sensor™, to keep your Extreme™ Series Pumps flowing strong by protecting it from debris in the water. Easy installation and even easier to clean.

Extreme™ Series High Flow Strainer - 63735 G  
Mounting Bracket - 65368 S - Brushed stainless steel (optional)



High Flow Strainer

## WASHDOWN PUMPS

Perfect for tough washdown applications, such as fish box, scaling and anchor chain cleaning, these rugged self-priming pumps deliver high lift, can run dry without damage, and won't overheat with extended use.

- Run dry capability
- Sealed switch
- Corrosion resistant seamless e-coated motor
- Thermally Protected. Ignition Protected
- CE marked

NEXT generation



**Blaster™**



**ProBlaster Junior™**

MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	SHUT-OFF PRESSURE
<b>Problaster Junior™ 12V</b>	66560 N	12V DC	203x127x118 (7.6x5.0x4.6)	2.0 GPM - 7,6 l/min	4	30 PSI - 2 Bar
<b>Blaster™ 12V</b>	65862 A	12V DC	203x127x118 (7.6x5.0x4.6)	3.5 GPM - 13,2 l/min	6	45 PSI - 3,1 Bar
<b>Blaster™ 24V</b>	65863 C	24V DC	203x127x118 (7.6x5.0x4.6)	3.5 GPM - 13,2 l/min	4,5	45 PSI - 3,1 Bar

## EXTREME™ PROBLASTER™ WASHDOWN PUMPS

The Extreme™ ProBlaster™ delivers over 5 GPM (20 l/min) and pressure up to 45 PSI (3,1 Bar), giving you the ultimate in washdown capabilities. This high volume pump will clean your deck quickly and easily. The corrosion resistant coated seamless motor shell with sealed switch provides excellent protection against the harsh marine environment. The Extreme™ Pro Blaster™ is designed for the toughest washdown applications.

- Superior five-chamber design that incorporates large inlet and outlet passages to maximize water flow and efficiency
- Current limiting and over/under voltage protection
- Run dry capability
- Self Priming
- Sealed switch
- Corrosion resistant seamless e-coated motor with o-ring sealed end bells
- Quick-Connect fittings included
- Thermally Protected. Ignition Protected
- CE marked

NEXT generation



**Problaster™ Extreme™ Series**

MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	SHUT-OFF PRESSURE
<b>Extreme™ Problaster™ 12V</b>	64337 Z	12V DC	235x127x140 (9.3x5.0x5.5)	5.3 GPM - 20,1 l/min	12	45 PSI - 3,1 Bar
<b>Extreme™ Problaster™ 24V</b>	64338 B	24V DC	235x127x140 (9.3x5.0x5.5)	5.3 GPM - 20,1 l/min	6	45 PSI - 3,1 Bar

## WASHDOWN KIT

SHURflo's new washdown kit includes everything you need for tough washdown applications all in one box. The kit includes the Next Generation ProBlaster™ Pump, Fittings, Blaster™ Nozzle, Raw Water Strainer and a 7,6 m (25') coiled hose.

- CE marked

NEXT generation

CE



Pro Washdown kit

MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	SHUT-OFF PRESSURE
Pro Washdown Kit	65303 L	12V DC	210x136x127 (8.3x5.3x5.0)	4.0 GPM - 15,1 l/min	10	45 PSI - 3,1 Bar

## MACERATOR PUMPS

Designed specifically for sanitation waste and fish box evacuations, SHURflo's Macerator pump features a premium impeller design.

- Run dry capability
- Self Priming
- SHURflo's unique dual blade and housing construction ensures problem free pumping
- Thermally Protected. Ignition Protected
- CE marked



Macerator

MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	PORT SIZE
Macerator 12V	62767 R	12V DC	274x97x114 (10.8x3.8x4.5)	13 GPM - 50 l/min	14	inlet: 1.5" barb / 1,5 NPT outlet: 1" barb
Macerator 24V	62768 T	24V DC	274x97x114 (10.8x3.8x4.5)	13 GPM - 50 l/min	8	inlet: 1.5" barb / 1,5 NPT outlet: 1" barb

## OIL CHANGE, WINTERIZING AND LIQUID TRANSFER SYSTEM

Incorporating SHURflo's advanced motor technology that includes thermal overload protection, these pumps are self-priming, easy to install and are extremely versatile.

- 13 litres (3,5 gal) storage container – 2,4 m (8') cable with battery clips and hose kit included
- Reversible switch
- Motor : 12V DC permanent magnet, continuous duty
- Self Priming up to 1,82 m (6')
- Thermal overload protection
- CE marked



64681 R

MODEL	PART No.	DIMENSIONS mm (")	FLOW RATE	AMP MAX	PORT SIZE
Oil Change System	64681 R	406x318 (16.0x12.5)	1.5 GPM - 5,6 l/min	4,5	3/8" F NPT

## PRE-PRESSURIZED ACCUMULATOR TANK

Reduces cycling pulsation and pressure spikes, increases the life of your pump and even saves battery power. SHURflo® accumulator tank is NSF certified.



- Easy handles pressure requirements from 1,4 Bar (20 PSI) to 8,8 Bar (125 PSI)
- 1/2" male threaded Ports - Uses standard SHURflo® fittings
- Can be mounted in-line
- Nylon housing/Butyl Bladder
- CE marked



**Nylon Tank**

MODEL	PART No.	DIMENSIONS mm (")	TOTAL VOLUME	MAXIMUM PSI - BAR	PRECHARGED
<b>Nylon Tank</b>	65861 Y	232x121x97 (9.1x4.8x3.8)	24 oz - 0,7 litres	125 PSI - 8,8 Bar	20 PSI - 1,4 Bar

## PRESSURE REGULATED CITY WATER ENTRIES

An exclusive diaphragm design prevents high-pressure damage often caused by city water systems. Leak-tight, stress and crack-resistant, these high-performance water entries limit water pressure safely to 50 or 65 PSI (3.5 or 4.5 Bar) while meeting or surpassing all check valve code requirements



- 63378 J - Wall mount Pressure regulator - Chrome
- 64717 K - Wall mount Pressure regulator - White
- 65306 T - Hose Adapter fitting 1/2" NPT (F) x 3/4" GSH (M)



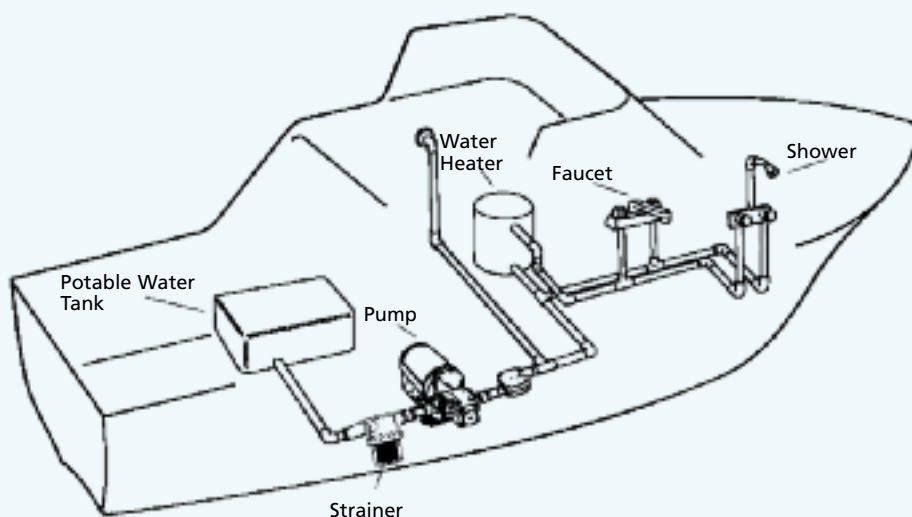
**65306 T**



**64717 K**



**63378 J**



The pump may be mounted up to 6' (1.8 m) vertical above the source. Wiring should be switched above the source. Wiring should be switched as well as fused with the recommended size fuse. Inlet side of all fresh water pumps should include the use of a SHURflo® strainer. Mount the pump in an accessible area for a strainer inspection. Refer to installation instruction included for individual pump recommended wire and fuse size.

**FRESH WATER MULTI-FIXTURE SYSTEMS**



## STRAINERS

MODEL	PART No.	DESCRIPTION	FITTINGS
<b>In-Line Strainer</b>	63185 X	Protects pumps from harmful debris. High capacity, rugged nylon housing, slide out easy to clean screen.	1/2" (13 mm) female
<b>Swivel nut strainer</b>	66526 N	Protects pumps from harmful debris. High capacity, rugged nylon housing, slide out easy to clean screen.	1/2" (13 mm) barb inlet
<b>In-line check valve</b>	61125 F	Allows flow in one direction only to safeguard against back-surge up to 6,8 Bar (1000 PSI)	1/2" (13 mm) barb inlet
<b>High Pressure Blaster Nozzle</b>	61120 A	High impact plastic for long life. Use with SHURflo® pumps or garden hose. Adjust to fine mist or full stream. Lock clip for continuous spray.	3/4" (19 mm) female



63185 X



66526 N



61125 F



61120 A

## FITTINGS

MODEL	PART No.
Straight fitting 1/2" NPT (f) x 3/8"	61129 L
Elbow fitting 1/2" NPT (f) x 3/8"	61130 C
Straight fitting 1/2" NPT (f) x 1/2"	61127 H
Elbow fitting 1/2" NPT (f) x 1/2" barb swivel	61128 K
Straight fitting 1/2" NPT (f) x 3/4" barb swivel	64220 B
Elbow fitting 1/2" NPT (f) x 3/4" barb swivel	64340 M
Straight adaptor 1/2" NPT (m) x 1/2"	61132 E

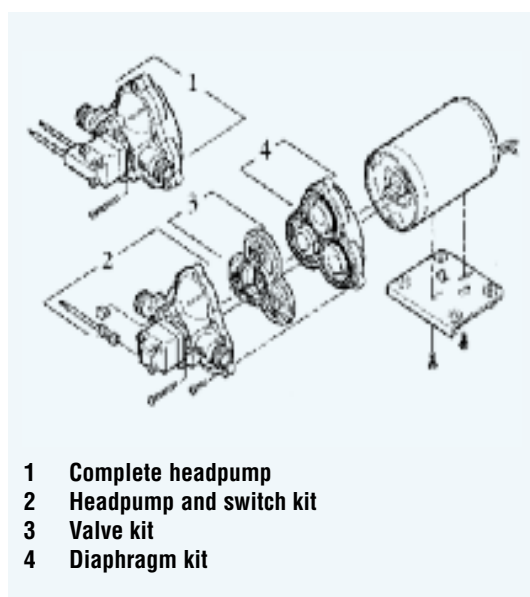


61128 K



61129 L

## SPARE PARTS



- 1 Complete headpump
- 2 Headpump and switch kit
- 3 Valve kit
- 4 Diaphragm kit

DESCRIPTION	PART No.
Valve Kit for Blaster, Junior, Standard, Premium pumps	61214 F
Diaphragm kit for Junior pump	61217 I
Diaphragm kit for Standard, pumps	61216 H
Diaphragm kit for Premium, Blaster pumps	63180 L
Pump head Junior, Standard, Premium, Blaster	63181 N
Pump head and switch kit for Junior 12V, 20 PSI	61413 K
Pump head and switch kit for Standard 12V, 30PSI	62526 S
Pump head and switch kit for Standard, Premium, Blaster 12V/24V, 45PSI	63182 R
Complete head pump for Junior 12V, 20PSI	61721 J
Complete head pump for Junior 12V, 20PSI	61768 M
Complete head pump for Standard, 12V/24V, 45 PSI	63183 T
Complete head pump for Premium, Blaster 12V/24V, 45 PSI	63184 V
Impeller for Macerator pump	63432 M

## SHURFLO® BILGE PUMPS

### 380/500/700/1000 GPH

Quality bilge pumps you can trust. SHURflo® bilge pumps are built for the harsh marine environment to withstand the toughest conditions. Water cooled motors for extended life.

NEXT generation



Shurflo® 380/500/700/1000 GPH

MODEL	PART No.	VOLT	DIMENSIONS mm (")	Ø BASE mm (")	FLOW RATE	AMP MAX	OUTLET
<b>Bilge 380</b>	66527 R	12V DC	114x95 (4.5x3.75)	60 (2 3/8)	380 GPH - 24 l/min	1,7	3/4" - 19 mm
<b>Bilge 500</b>	66528 T	12V DC	114x95 (4.5x3.75)	60 (2 3/8)	500 GPH - 32 l/min	1,8	3/4" - 19 mm
<b>Bilge 700</b>	66529 V	12V DC	114x95 (4.5x3.75)	60 (2 3/8)	700 GPH - 42 l/min	3,2	3/4" - 19 mm
<b>Bilge 1000</b>	66530 D	12V DC	114x95 (4.5x3.75)	60 (2 3/8)	1000 GPH - 63 l/min	3,2	3/4" - 19 mm

## 1500/2000 GPH

Heavy duty and built to last. SHURflo's 1500 and 2000 GPH nylon bilge pumps offer a unique motor cooling system (patent pending) to ensure efficient performance and long life. Installation is a snap with our patented swivel base.

NEXT generation



Shurflo® 1500/2000 GPH

- Continuous duty
- Submersible with 6' (1,8 m) tinned wire assembly
- Anti-air lock
- Run dry without damage
- Quick-snap swivel baseplate
- Commercial duty
- Ignition protected. ISO 8849

MODEL	PART No.	VOLT	DIMENSIONS mm (")	FLOW RATE	AMP MAX	BARB OUTLET
<b>Bilge 1500/12</b>	66531 F	12V DC	183x152 (7.2x6)	1500 GPH - 94,6 l/min	8	1 1/8" - 28,5 mm
<b>Bilge 1500/24</b>	66532 H	24V DC	183x152 (7.2x6)	1500 GPH - 94,6 l/min	-	1 1/8" - 28,5 mm
<b>Bilge 2000/12</b>	66533 K	12V DC	183x152 (7.2x6)	2000 GPH - 126 l/min	10	1 1/8" - 28,5 mm
<b>Bilge 2000/24</b>	66534 M	24V DC	183x152 (7.2x6)	2000 GPH - 126 l/min	-	1 1/8" - 28,5 mm

## FLOAT SWITCHES

The SHURflo® float switches provide the ultimate in reliability for your boat.

Complete line includes a solid state control, standard float switch and protected cage switch.

Manufactured in corrosion resistant and explosion proof material. They can be used for any kind of pump and also for water bilge and other alarm systems.

### Wema® Switch

The switch turns the pump on and off automatically and is typically placed in the bilge.



SWS



SWSC



SW12V



MODEL	PART No.	DESCRIPTION	VOLT	DIMENSIONS mm (")
SWS	66535 P	Standard float switch	12/24V DC	116x53x40 (4.6x2.1x1.6)
SWSC	66536 S	Protected cage switch	12/24V DC	116x53x40 (4.6x2.1x1.6)
SW12V	65840 P	Wema® switch	12V DC	147xØ37 (5.7xØ1.4)

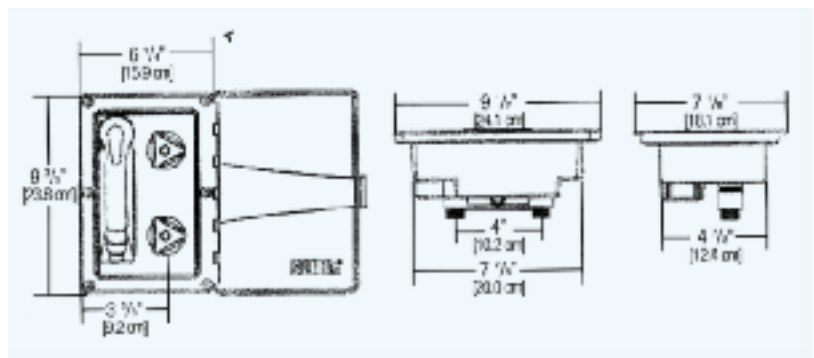
## TRANSOM SHOWER

Functional, practical and durable showers. Combine the convenience and simplicity of the recessed shower, with the added benefit of a shut-off valve to create an all-in-one package for your exterior shower needs.

**65313 P** - Two handle hot/cold transom shower. White ABS plastic box with trigger sprayer, stainless steel installation hardware and 1.8 m (6') heavy duty white hose. Vertical or horizontal mount.



65313 P



## SHURFLO® YELLOW TAIL™ - 3" AND 4" IN-LINE BILGE BLOWERS

Shurflo® in-line blowers provide ventilation for engine compartments, galleys, bilge and heads. Mounting feet allow vertical or horizontal installation in confined spaces.

- Wider base-plate and oval screw hole for ease of installation
- Splash-proof motor with rubber boot
- Heavy duty shaft seal
- High volume air flow - low current draw
- Longer barb for ease of duct connection
- CE, ISO 9097 and Ignition Protected

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IN-LINE BLOWERS



VENTILATORI IN LINEA

PART No.	VOLT	HOSE INT. Ø	DIMENSIONS mm (")	DRAW AMP	AIR FLOW
64703 Y	12V DC	76 mm - 3"	130x140x96 (5.1x5.5x3.8)	3,8	3,3 m <sup>3</sup> /min
64704 A	12V DC	100 mm - 4"	130x162x122 (5.1x6.4x4.8)	5,5	6,0 m <sup>3</sup> /min

# REVERSO

OIL CHANGE SYSTEM AND PUMPS



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OIL CHANGE SYSTEMS

## OIL CHANGE IMPELLER PUMPS OP-SERIES

### OP-6 IMPELLER PUMP

The Reverso® OP-6 is a useful transfer pump suitable for oil, diesel or water. The OP-6 can transfer hot or cold oil quickly and cleanly to and from the engine oil pan. The three position switch has a safety lock that prevents accidental activation.

The switch is directionally oriented (flow is in direction of switch) for easy operation. Meets ISO 8846 standards.



OP-6



### OP-700 MANIFOLD OIL CHANGE SYSTEMS

The OP-700 oil change systems feature a fully reversible OP-6 pump and are available on 2, 3, 4, 5, 6 valve options. They are mounted on a base to obtain a permanent installation: connecting these assemblies on equipments that need regular oil change they simplify the operation and reduce time and chances of oil spills.

### OP-SERIES FEATURES

- Reversible (they draw and fill engines)
- Powerful DC high torque motor
- Self priming
- Nickel plated brass pump body
- Impeller: Nitrile (oil) – Fluoroelastomer (diesel fuel)
- Built in switch, switch guard and fuse
- Easily changed impeller
- CE certified



OP-706

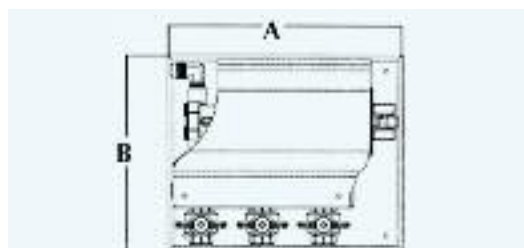


OP-704



TECHINICAL SPECIFICATIONS	OP-6	OP-700
Pump port:	est. M 3/4" - int. F 3/8" NPT	1/2" flare
Manifold ports:	-	1/2" F NPT
Flow rate:	11,4 l/min (3.0 GPM)	7,8 l/min (2.0 GPM)
Self priming:	0,9 m (3 ft)	0,9 m (3 ft)
Lift:	3,0 m (10 ft)	3,0 m (10 ft)
Working pressure:	from 0 to 1 bar (15 PSI)	from 0 to 1 bar (15 PSI)
Motor:	12V DC or 24V DC	12V DC or 24V DC
Amp:	12 Amp (12V) – 6 Amp (24V)	12 Amp (12V) – 6 Amp (24V)
Dimensions W x H:	24,4 x 9,1 cm (9.6" x 3.6")	
Weight:	2,7 kg (6 lbs)	

MODEL	No. VALVES	DIMENSIONS		WEIGHT kg (lbs)
		A cm (")	B cm (")	
OP-702	2 valve	24,4 (9.6)	22,4 cm (8.8)	4,5 (10)
OP-703	3 valve	26,9 (10.6)	22,4 cm (8.8)	5,0 (11)
OP-704	4 valve	29,5 (11.6)	22,4 cm (8.8)	5,5 (12)
OP-705	5 valve	36,2 (14.3)	22,4 cm (8.8)	5,9 (13)
OP-706	6 valve	41,2 (16.3)	22,4 cm (8.8)	6,8 (15)

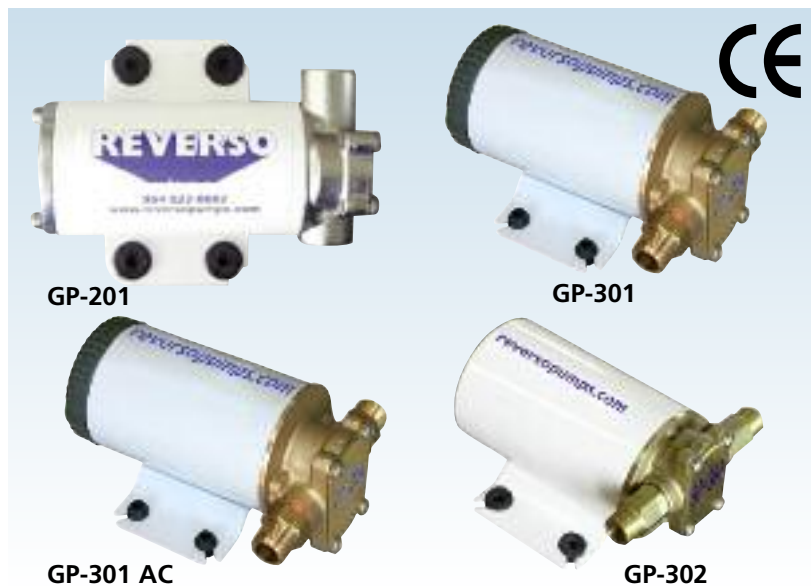


OP-700 Dimensions

## OIL CHANGE OR TRANSFER DIESEL FUEL GEAR PUMPS GP-SERIES

### GP-201, GP-301, GP-302, GP-301 AC PUMPS

Compact, powerful, self-priming DC gear pumps. The bronze gears and stainless steel shaft enable the pumps to move a variety of viscous and non-viscous fluids. They are durable and fit easily in the tightest spaces. They are available in both 12 and 24 Volt DC.



TECHNICAL SPECIFICATIONS	GP-201	GP-301	GP-302	GP-301 AC
Ports:	M 3/8" NPT	M 3/8" NPT	M 3/8" NPT	M 3/8" NPT
Max work press:	1,7 bar (25 PSI)	1,7 bar (25 PSI)	2,8 bar (40 PSI)	
Flow rate:	5,6-11,4 l/min (1.5-3 GPM)	9.5-13,3 l/min (2.5-3.5 GPM)	9.5-13,3 l/min (2.5-3.5 GPM)	13.6 l/min (3.6 GPM)
Self priming (wet gears):	0.5 m (1.5 ft)	1.5 m (5 ft)	1.5 m (5 ft)	1.5 m (5 ft)
Lift:	1,5 m (5 ft)	3 m (10 ft)	9,1 m (30 ft)	30,4 m (100 ft water)
Pump body:	brass	brass	brass	brass
Gears:	bronze	bronze	bronze	bronze
Motor:	12V or 24V DC	12V or 24V DC	12V or 24V DC	AC self ventilated
Fuse/Breaker:	10 Amp (12V)-5 Amp (24V)	10,5 Amp (12V)-6,8 Amp (24V)	15 Amp (12V)-7,5 Amp (24V)	5 Amp (220V)
Dimensions W x H cm ("):	12,8x7,4 (5x2.9)	13,7x7,6 (5.4x3)	14,7x9,6 (5.8x3.8)	26,4x16,3 (10.4x6.4)
Weight:	0,9 kg (2 lbs)	2,7 kg (6 lbs)	3,2 kg (7 lbs)	4,5 kg (10 lbs)

### GP-602, GP-602 AC PUMPS

Gear pumps able to move low viscosity fluids, NOT designed for heavy oil. The durable GP-602 pump combines a small size with a high flow capacity.



TECHNICAL SPECIFICATIONS	GP-602	GP-602 AC
Ports:	M 1/2" NPT	M 1/2" NPT
Flow rate:	22,7 l/min (6 GPM)	32,2 l/min (8,5 GPM)
Self priming (wet gears):	1,5 m (5 ft)	6 m (20 ft)
Lift:	18,2 m (60 ft water)	36,5 m (120 ft water)
Pump body:	brass	brass
Gears:	bronze	bronze
Motor:	12V or 24V DC	AC self ventilated
Fuse/Breaker:	15 Amp (12V) - 10 Amp (24V)	5 Amp (220V)
Dimensions W x H cm ("):	17,8x10,1(7x4)	32x19,3 (12.6x7.6)
Weight:	3,6 kg (8 lbs)	6,4 kg (14 lbs)

# OIL CHANGE OR TRANSFER DIESEL FUEL GEAR PUMPS GP-SERIES



## GP-3010, GP-3020 , GP-700 MANIFOLD OIL CHANGE SYSTEMS

The gear pump manifold oil change systems service multiple engines, transmissions and generators. Compact, reversible (they draw and fill engines) and self-priming, they simplify oil changes and reduce chances of oil spills. Valve options from 3 to 7.

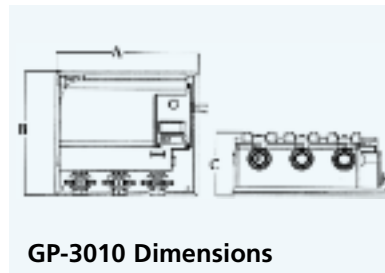


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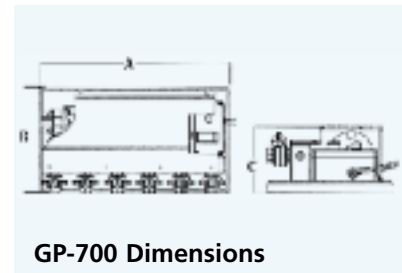
TECHNICAL SPECIFICATIONS	GP-3010	GP-3020	GP-700
Pump port:	1/2" flare	1/2" flare	1/2" flare
Manifold ports:	1/2" F NPT	1/2" F NPT	1/2" F NPT
Flow rate:	9,5 l/min (2.5 GPM)	11,4 l/min (3 GPM)	11,4 l/min (3 GPM)
Self priming (wet gears):	1,5 m (5 ft)	1,5 m (5 ft)	1,5 m (5 ft)
Lift:	3 m (10 ft )	7,6 m (25 ft )	9,1 m (30 ft )
Motor:	12V or 24V DC	12V or 24V DC	12V or 24V DC
Fuse/Breaker:	8,8 A (12V) - 5,3 A (24V)	9,8 A (12V) - 4 A (24V)	15 A (12V) - 7,5A (24V)

## APPLICATIONS

- Single engines up to 450 hp : OP-6, GP-301
- Multiple engines up to 450 hp : GP-3010
- Single engines from 300 to 800 hp : GP-302
- Multiple engines from 300 to 800 hp : GP-3020, GP-700
- Multiple engines from 600 to 2000 hp : GP-700



GP-3010 Dimensions



GP-700 Dimensions

## DIMENSIONS A x B cm (")

No. VALVES	MODEL	A X B cm (")	MODEL	A X B cm (")	MODEL	A X B cm (")
2 valve	GP-3012	26x22 (10.2x8.6)	-	-	-	-
3 valve	GP-3013	26x22 (10.2x8.6)	GP-3023	29x11,5 (11.5x4.5)	GP-703	37x12 (14.5x4.7)
4 valve	GP-3014	30x22 (11.8x8.6)	GP-3024	36x11,5 (14.2x4.5)	GP-704	37x12 (14.5x4.7)
5 valve	GP-3015	37x22 (14.5x8.6)	GP-3025	36x11,5 (14.2x4.5)	GP-705	37x12 (14.5x4.7)
6 valve	GP-3016	42x22 (16.5x8.6)	-	-	GP-706	42x12 (16.5x4.7)
7 valve	-	-	-	-	GP-707	42x12 (16.5x4.7)

## MULTI-VALVE MANIFOLDS

These manifolds allow multiple hoses to be connected to one pump. The assemblies can be mounted in any direction. Mounting holes are pre-drilled for easy installation.

## TECHNICAL SPECIFICATIONS

- Manifold ports: 1/2" F NPT
- Valves: Nickel chromed full flow ball valve
- Max working press: 9 bar (150 PSI)
- Mounting holes: 3/16"

PART. No.	MULTI-VALVE MANIFOLD
61477A	VA-2 2 valve assembly
61572U	VA-3 3 valve assembly
64741G	VA-4 4 valve assembly
62976A	VA-5 5 valve assembly



## PORTABLE PUMP SYSTEMS

### OP-700 PORTABLE OIL CHANGER

The OP-700 oil change system, featuring a full reversible pump, connects directly to the dipstick tube. Portable or permanent, this system includes a poly-mounting board with handy carry handle, stainless steel cover plate, a safety switch lock and 6' of marine grade wire. Ideal for gas applications, the heavy duty motor pumps hot or cold oil.

### GP-301P PORTABLE OIL CHANGER

This system is designed to remove the oil from 4 cycle outboard engines quickly and with no mess.

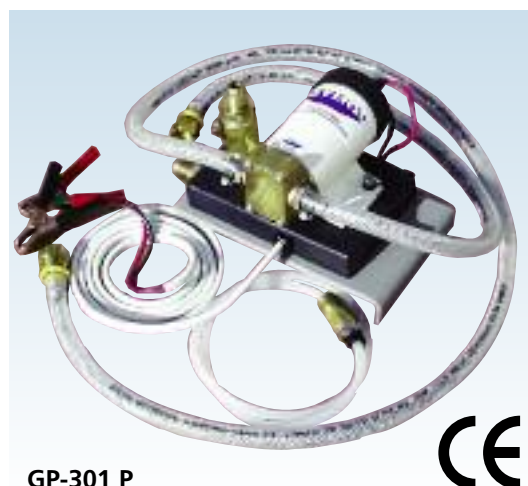
Simply hang the unit on the engine cawling, insert the nylon hose into the dipstick tube and attach the wire to a 12V power source. Oil is drained into a container and can be removed from the boat for proper disposal.

### FEATURES

- Powerful reversible pumps specially designed to be used with oils.
- Self priming
- Compact size
- Exceptional high flow rate
- Built-in switch and circuit breaker
- OP-700 impeller: Nitrile (oil) – Fluoroelastomer (diesel fuel)
- GP-301P: brass pump body, bronze gears and stainless steel shaft
- CE certified



OP-700



GP-301 P



TECHNICAL SPECIFICATIONS	OP-700	GP-301P
Ports:	est. M 3/4" - int. F 3/8" NPT	3/8" M JIC
Flow rate:	11,4 l/min (3.0 GPM)	11,4 l/min (3.0 GPM)
Self priming:	0,9 m (3 ft)	1,5 m (5 ft)
Lift:	3,0 m (10 ft)	4,5 m (15 ft)
Working press:	from 0 to 1 bar (15PSI)	-
Motor:	12V DC or 24V DC	12V DC or 24V DC
Amp:	7Amp (12V) – 3 Amp (24V)	8,8 Amp (12V) – 5,3 Amp (24V)
Weight:	3,6 kg (8 lbs)	2,7 kg (6 lbs)

### SPARE PARTS

PART No.	MODEL	DESCRIPTION
61636 U	360010	Oil transfer impeller (Nitrile)
61637 W	360014	Diesel fuel transfer impeller
61638 Y	360120	OP-6 Seal
61639 A	SRK-360	Kit 1 impeller and seal - oil
61640 J	97360-2	Kit 2 impellers and seals - oil
61641 L	SRK-370	Kit 1 impeller and seal – diesel fuel /oil
61642 N	97370-2	Kit 2 impellers and seals - diesel fuel /oil
61643 R	36003	3 way switch (on-off-on)

## FUEL PRIMING AND POLISHING SYSTEMS

### FP-301 FUEL PRIMING SYSTEM

The Reverso® Fuel Primer pumps fuel into the fuel lines, purging trapped air in the main feeding line and from primary filters, secondary filters and engines. To protect delicate fuel systems, all primers have integral pressure relief valves which are factory set to deliver the proper fuel pressure for each engine.



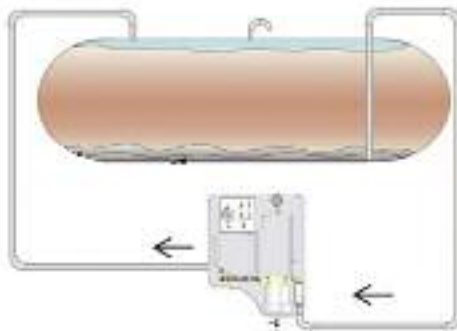
FP-301

### TECHNICAL SPECIFICATIONS

- Ports: 1" NPT
- Valve : 1" NPT full flow
- Amp: 10A (12V) – 5A (24V)
- Size: 25x29x11 cm (10"x11.4"x4.4")

### FPS FUEL POLISHING SYSTEMS

FPS Systems have been designed for fuel polishing directly in the tanks removing 99% of water and particulates. They eliminate the build-up of algae and water in the tanks reducing the costs of filter maintenance. FPS Systems include control panel and service filter alarm.



FPS-150

TECHNICAL SPECIFICATIONS	FPS-80	FPS-150	FPS-210 AC
Inlet and Outlet ports:	1/2" # 8 JIC M	1/2" # 8 JIC M	1/2" # 8 JIC M
Flow rate:	300 l/h (80 GPH)	570 l/h (150 GPH)	795 l/h (210 GPH)
Self priming (system primed):	-	1.5 m (5 ft)	1.5 m (5 ft)
Max lift:	1,2 m vertical (4 ft)	3.0 m (10 ft )	9,1 m (30 ft )
Motor:	12V or 24V DC	12V or 24V DC	AC perm. magnets
Amp:	3 A (12V) – 1,5 A (24V)	10 A (12V) – 5 A (24V)	1,4 (220V)
Dimensions W x H cm ("):	47x39 (18.5x15.5)	47x39 (18.5x15.5)	59x50 (23.2x20)
Weight:	9,5 kg (21 lbs)	11,3 kg (25 lbs)	27,2 kg (60 lbs)

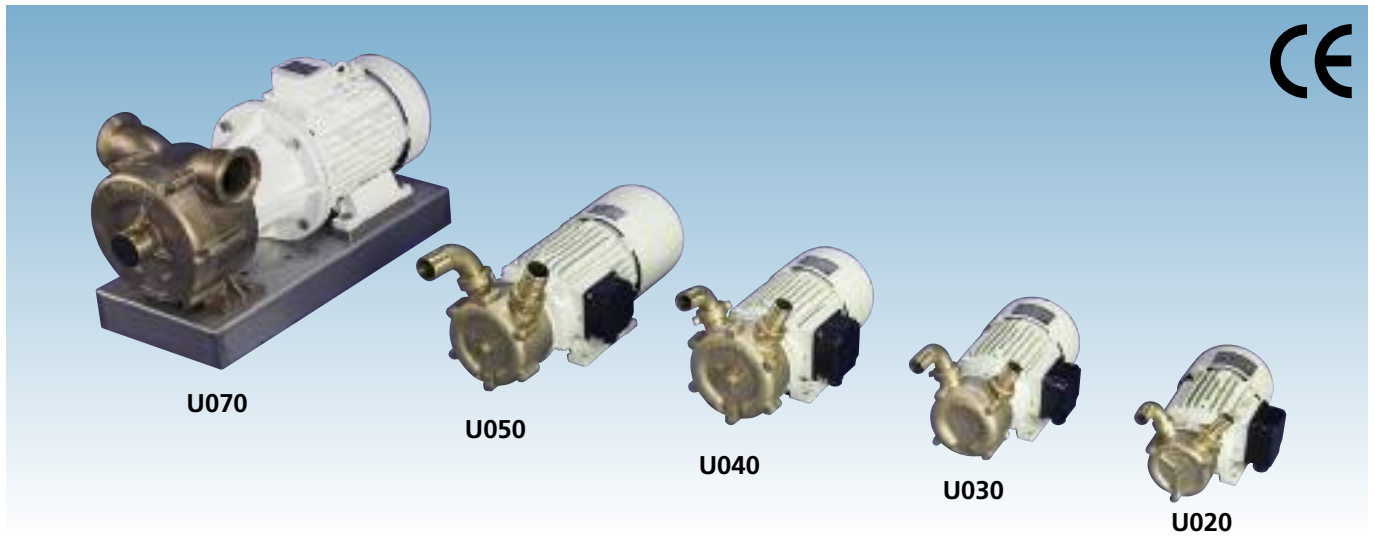
All **REVERSO** products have a 5 year warranty and are CE certified.



## BRONZE SELF-PRIMING - ELECTRIC PUMPS

Self-priming side liquid ring electric pumps used to empty bilges and transfer unflammable liquids such as: fresh water, sea water, fuel diesel and generally all low viscosity and free of solid impurities liquids.

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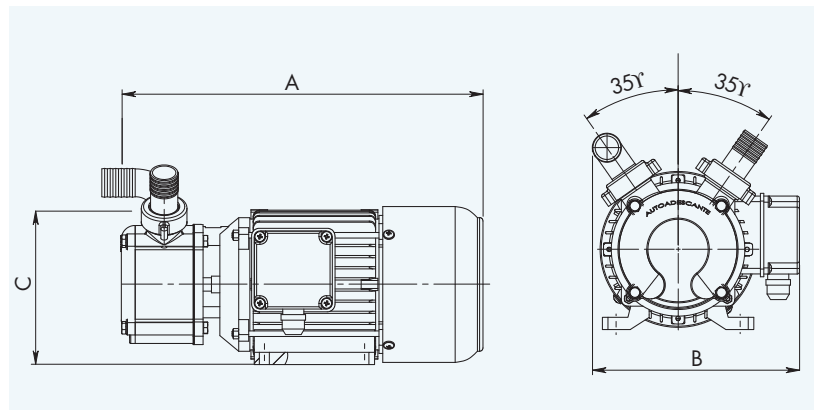
MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
U020	12V DC 24V DC	26 A 14 A	4 m (13.1')	10 m (32.8')	28 l/min
U025	12V DC 24V DC	38 A 22 A	6 m (19.7')	12 m (39.4')	52 l/min
U030	12V DC 24V DC	44 A 28 A	6 m (19.7')	18 m (59.0')	75 l/min
U040	24 V DC	45 A	6 m (19.7')	22 m (72.2')	120 l/min
U050-M	230V AC	-	6 m (19.7')	30 m (98.4')	250 l/min
U050-T	380V AC	-	6 m (19.7')	30 m (98.4')	250 l/min
U070-T	380V AC	-	6 m (19.7')	40 m (131.2')	500 l/min

### Standard features

Bronze pump body, bronze impeller, AISI 316 stainless steel shaft, corrosion-proof clamping rings, continuous duty electric motor with F insulation class, IP55 protection. BSP threads on pumps. Delivery diagram: page 95.

### Application limits

Unflammable liquids free of solid impurities. Liquid temperature range: from 0° C to 70° C. Static pressure internal to the pump body: 6 bar max.



### DIMENSIONS AND WEIGHTS

MODEL	Ø IN mm (")	Ø OUT mm (")	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
U020	20 (0.8)	20 (0.8)	260 (10.2)	195 (7.7)	145 (5.7)	5.5 (12.1)
U025	25 (1)	25 (1)	305 (12)	213 (8.4)	178 (7)	9.2 (20.3)
U030	30 (1.2)	30 (1.2)	330 (13)	232 (9.1)	215 (8.5)	13 (28.6)
U040	40 (1.6)	40 (1.6)	352 (13.8)	232 (9.1)	230 (9)	18 (39.7)
U050	50 (1.9)	50 (1.9)	435 (17.1)	247 (9.7)	245 (9.6)	26.5 (58.4)
U070	70 (2.7)	70 (2.7)	705 (27.7)	280 (11)	360 (14.2)	75 (165.3)

## USBM-midex SELF-PRIMING ELECTRIC PUMP

Rotary self-priming bi-directional volumetric electric pump used on boats to empty waste tanks, toilet sewage and particularly viscous oily fluids or liquids with small debris in suspension.

### Standard features

AISI 316 stainless steel body pump, neoprene impeller, AISI 316 stainless steel shaft, corrosion-proof clamping rings, continuous duty electric motor with F insulation class, IP44 protection.

Delivery diagram: page 95

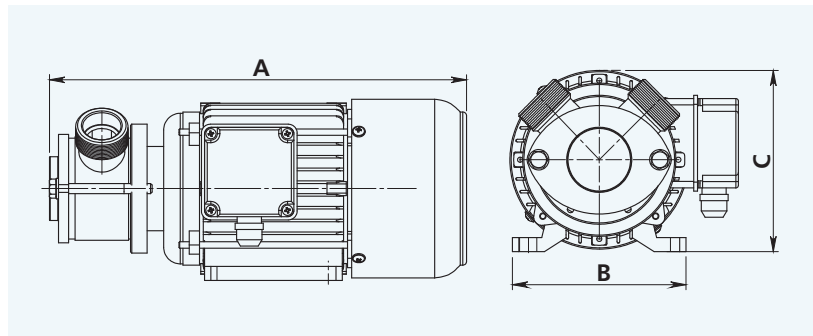
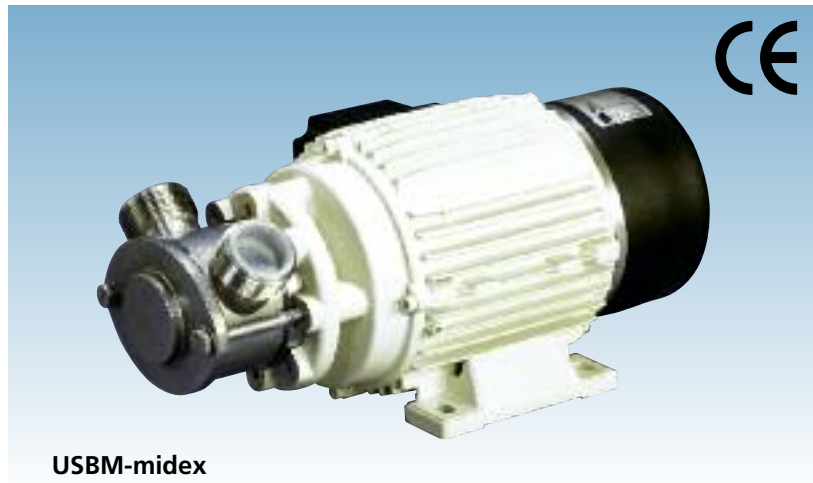
### Application limits

Never let the USBM-Midex pump run when empty.  
Liquid temperature range: from 0° C to 70° C.  
Static pressure internal to the pump body: 6 bar max.

For use as oil and/or fuel transfer pump it is necessary nitrile impeller (available on request).

### Spare impellers:

- Neoprene impeller - 66538 W
- Nitrile impeller (for only transfer) - 66539 Y



MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
USBM - midex	24V DC	28 A	6 m (19.7')	27 m (88.6')	64 l/min

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN	Ø OUT	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
USBM-midex	1" 1/4 BSP-F	1" 1/4 BSP-F	373 (14.7)	160 (6.3)	180 (7.1)	16 (32.3)





## CENTRIFUGAL ELECTRIC PUMPS - UCE SERIES

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Single impeller centrifugal electric pumps used to transfer and/or supply large quantity of liquid. They are used to transfer unflammable liquids such as diesel fuel or to deliver fresh water to those equipments that require a high water flow rate (eg. air conditioning units).

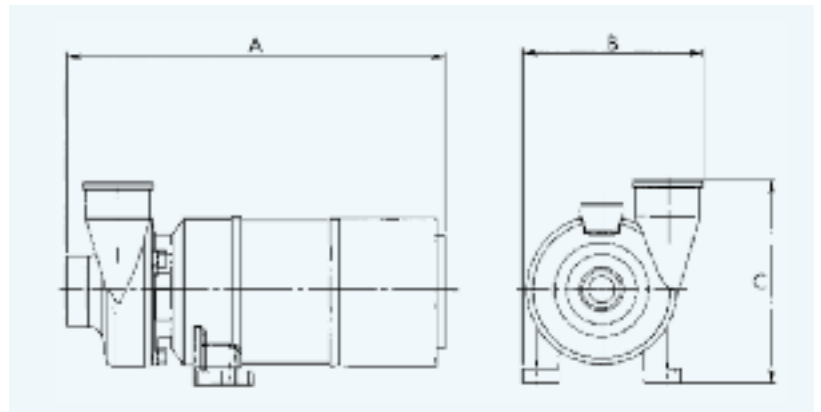
### Standard features

Aluminum pump body, noryl impeller, AISI 420 stainless steel shaft, cast iron support, wound field electric motor. F insulation class. IP 20 protection.

Delivery diagram: page 95

### Application limits

Solid impurities free liquid, liquid temperature range from 0 to + 50 C°, max static internal pressure of the pump body: 6 bar.



MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UCE 03-12	12V DC	38 A	4 m (13.1')	20 m (65.6')	65 l/min
UCE 03-24	24V DC	28 A	4 m (13.1')	28 m (91.8')	70 l/min

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN	Ø OUT	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UCE 03-12/24	1"	1"	260 (10.2)	125 (4.9)	140 (5.5)	6 (13.2)

## CENTRIFUGAL ELCTRIC PUMPS – UB-CE SERIES

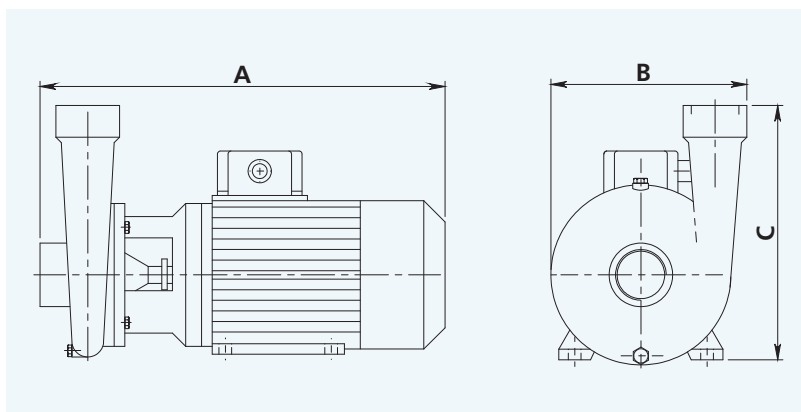
Single impeller centrifugal electric pumps used to transfer and/or supply large quantity of liquid. They are used to transfer unflammable liquids such as diesel fuel or to deliver fresh water and sea water to those equipments that require a high water flow rate (ex. Air conditioning units).

### Standard features

BRONZE pump body, BRONZE impeller, AISI 316 stainless steel shaft, bronze support, wound field electric motor.  
F insulation class. IP 55 protection.

### Application limits

Solid impurities free liquid, liquid temperature range 0 to + 90 °C, max static internal pressure of the body pump: 6 bar.



MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UB-CE 16-12	12V DC	16 A	7 m (22.9')	7 m (22.9')	40 l/min
UB-CE 16-24	24V DC	8 A	7 m (22.9')	7 m (22.9')	40 l/min
UB-CE 16-M	230V AC	1,7 A	7 m (22.9')	7 m (22.9')	40 l/min
UB-CE 16-T	380V AC	1,5 A	7 m (22.9')	7 m (22.9')	40 l/min
UB-CE 20-12	12V DC	38 A	7 m (22.9')	14 m (45.9')	80 l/min
UB-CE 20-24	24 V DC	20 A	7 m (22.9')	14 m (45.9')	80 l/min
UB-CE 20-M	230V AC	2,8 A	7 m (22.9')	14 m (45.9')	80 l/min
UB-CE 20-T	380V AC	2,3 A	7 m (22.9')	14 m (45.9')	80 l/min
UB-CE 22-24	24V DC	30 A	7 m (22.9')	21 m (68.9')	120 l/min
UB-CE 22-M	230V AC	4,5 A	7 m (22.9')	21 m (68.9')	120 l/min
UB-CE 22-T	380V AC	3 A	7 m (22.9')	21 m (68.9')	120 l/min

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN mm (")	Ø OUT mm (")	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UB-CE 16	1/2"	1/2"	285 (11.2)	122 (4.8)	138 (5.4)	5,6 (12.3)
UB-CE 20	1"	1"	325 (12.8)	154 (6.0)	161 (6.3)	9,1 (20.0)
UB-CE 22	1"	1"	325 (12.8)	174 (6.8)	181 (7.1)	10,3 (22.7)



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## BRONZE SELF-PRIMING ELECTRIC PUMPS - UABR SERIES

Multi-stage bronze self-priming electric pump fitted with radial impellers. These pumps are widely used to empty bilges, to attend fire equipments, to wash chains, to transfer fuel diesel etc.

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### Standard features

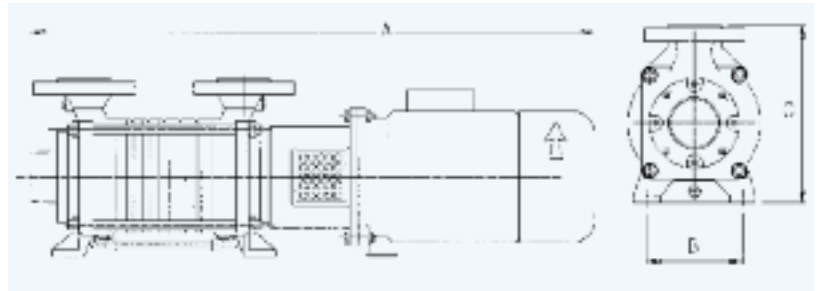
Bronze pump body, bronze impellers, AISI 316 stainless steel shaft, continuous duty electric motor with F insulation class, IP20 protection.

### Application limits

Solid impurities free liquid, liquid temperature range from 0 to + 90 C°, max static internal pressure of the pump body: 20 bar.



UABR



MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UABR 32/1	24V DC	52 A	9 m (29.5')	28 m (91.8')	160 l/min
UABR 32/2	24V DC	90 A	9 m (29.5')	52 m (170.6')	160 l/min
UABR 40/1	24V DC	90 A	9 m (29.5')	40 m (131.2')	250 l/min
UABR 32/1-M	230V AC	9,6 A	9 m (29.5')	28 m (91.8')	150 l/min
UABR 32/1-T	380V AC	4,8 A	9 m (29.5')	28 m (91.8')	150 l/min
UABR 32/2-M	230V AC	-	9 m (29.5')	50 m (164')	150 l/min
UABR 32/2-T	380V AC	-	9 m (29.5')	50 m (164')	150 l/min
UABR 40/1-M	230V AC	14 A	9 m (29.5')	38 m (124.7')	220 l/min
UABR 40/1-T	380V AC	9 A	9 m (29.5')	38 m (124.7')	220 l/min
UABR 40/2-M	230V AC	-	9 m (29.5')	75 m (246')	220 l/min
UABR 40/2-T	380V AC	-	9 m (29.5')	75 m (246')	220 l/min
UABR 50/2-T	380V AC	-	9 m (29.5')	82 m (269')	400 l/min
UABR 65/2-T	380V AC	-	9 m (29.5')	85 m (278.8')	600 l/min

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN mm (")	Ø OUT mm (")	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UABR 32/1	100 (3.9)	140 (5.5)	690 (27.2)	135 (5.3)	247 (9.7)	56 (123.4)
UABR 32/2	100 (3.9)	140 (5.5)	730 (28.7)	135 (5.3)	247 (9.7)	60 (132.3)
UABR 40/1	110 (4.3)	150 (5.9)	785 (30.9)	155 (6.1)	272 (10.7)	70 (154.3)
UABR 32/1-M or T	100 (3.9)	140 (5.5)	680 (26.7)	135 (5.3)	247 (9.7)	40 (88.2)
UABR 32/2-M or T	100 (3.9)	140 (5.5)	720 (28.3)	135 (5.3)	247 (9.7)	44 (97.0)
UABR 40/1-M or T	110 (4.3)	150 (5.9)	780 (30.7)	155 (6.1)	272 (10.7)	58 (127.8)
UABR 40/2-M or T	110 (4.3)	150 (5.9)	840 (33.1)	155 (6.1)	272 (10.7)	75 (165.3)
UABR 50/2-T	125 (4.9)	165 (6.5)	1100 (43.3)	170 (6.7)	325 (12.8)	132 (291.0)
UABR 65/2-T	145 (5.7)	185 (7.3)	1225 (48.2)	195 (7.6)	360 (14.2)	202 (445.3)



## BRONZE/STAINLESS STEEL SELF-PRIMING ELECTRIC PUMPS – USBR SERIES

Bronze self-priming electric pumps fitted with a worm screw rotor. These pumps are widely used to empty waste tanks, toilet sewage and particularly viscous fluids or liquids with small debris in suspension.

### Standard features

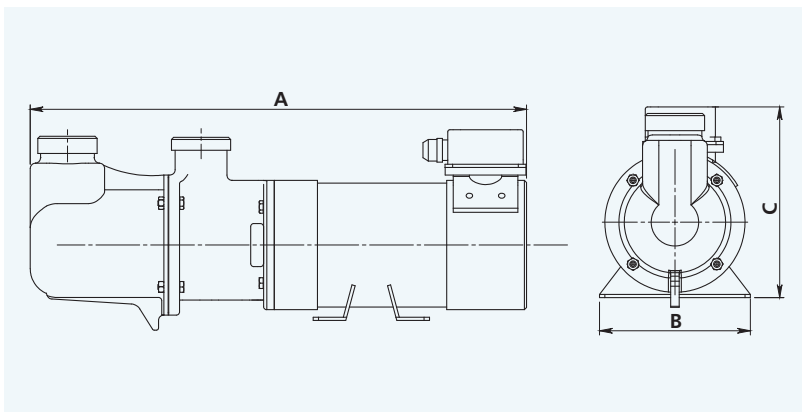
BRONZE pump body, AISI 316 stainless steel rotor, AISI 316 stainless steel shaft, permanent magnet electric motor with F insulation class. IP 44/55 protection.

### Application limits

Liquid temperature range from 0 to +70°C, max static internal pressure of the pump body: 6 bar.



USBR



MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
USBR-12	12V DC	36 A	6 m (19.7')	50 m (164)	50 l/min
USBR-24	24V DC	20 A	6 m (19.7')	50 m (164)	50 l/min
USBR-M	230V AC	4 A	6 m (19.7')	50 m (164)	50 l/min
USBR-T	380V AC	3,6 A	6 m (19.7')	50 m (164)	50 l/min

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN mm (")	Ø OUT mm (")	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
USBR-12/24	1"	1"	500 (19.7)	160 (6.3)	190 (7.5)	15 (33)
USBR-M	1"	1"	465 (18.3)	160 (6.3)	210 (8.3)	16,5 (36.4)
USBR-T	1"	1"	465 (18.3)	160 (6.3)	210 (8.3)	16,5 (36.4)



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## SELF-PRIMING STAINLESS STEEL ELECTRIC PUMPS AND WATER PRESSURE SYSTEMS – UJ SERIES

### UJ SERIES ELECTRIC PUMPS

Self-priming centrifugal electric pumps, Jet type, with high suction capacity. These electric pumps are used to deliver pressurized water to on-board appliances (showers, toilets, washbasins etc.).

#### Standard features

AISI 304 stainless steel pump body, noryl diffuser and venture tube, AISI 316 stainless steel shaft, corrosion-proof clamping rings, continuous duty electric motor with F insulation class. Delivery diagram: page 95.

#### Application limits

Liquid free of solid impurities, liquid temperature range: from 0° C to 50° C, static pressure inside the pump body: 6 bar max.



UJ-INOX

MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UJ-INOX 12	12V DC	40 A	9 m (29.5')	30 m (118.8')	50 l/min
UJ-INOX 24	24V DC	28 A	9 m (29.5')	38 m (124.7')	50 l/min
UJ-INOX M	220V AC	3 A	9 m (29.5')	48 m (188.9')	50 l/min

### WATER PRESSURE SYSTEMS - UJ SERIES

**UJ-INOX water pressure systems** are equipped with **UJ** electric pumps and with a stainless steel cylindrical tank (X) with inside butyl rubber diaphragm suitable for food stuff, widely used for constant water pressure for all on-board appliances such as kitchens, showers, washbasins etc.

#### Standard features

Manual safety pressure switch, pressure gauge, non return valve, 5 ways brass pipe fitting.

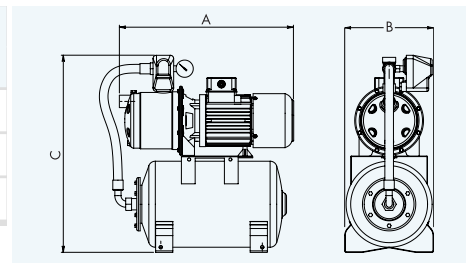


UJ-INOX 20X

MODEL	SWITCH PRE-SET	TANK PRESSURE	MAX DELIVERY	MAX PRESSURE	TANK CAPACITY
UJ-INOX 12/8X	1.4-2.0 bar	1.2 bar	50 l/min	3.0 bar	8 l
UJ-INOX 12/20X	1.4-2.0 bar	1.2 bar	50 l/min	3.0 bar	20 l
UJ-INOX 24/8X	1.4-2.8 bar	1.2 bar	50 l/min	3.8 bar	8 l
UJ-INOX 24/20X	1.4-2.8 bar	1.2 bar	50 l/min	3.8 bar	20 l
UJ-INOX M/20X	1.4-3.5 bar	1.2 bar	50 l/min	4.8 bar	20 l

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN	Ø OUT	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UJ-INOX 12/24-8X	1" BSP-F	1" BSP-F	400 (15.7)	225 (8.8)	430 (16.9)	13 (28.6)
UJ-INOX 12/24-20X	1" BSP-F	1" BSP-F	400 (15.7)	260 (10.2)	575 (22.6)	15 (33.0)
UJ-INOX M-20X	1" BSP-F	1" BSP-F	400 (15.7)	260 (10.2)	575 (22.6)	13.5 (29.7)



# SELF-PRIMING BRONZE ELECTRIC PUMPS AND WATER PRESSURE SYSTEMS - UMG SERIES

## UMG SERIES ELECTRIC PUMPS

Self-priming electric pumps featuring 4 impellers that allow for a higher pressure and flow rate than the UJ-Inox pumps.

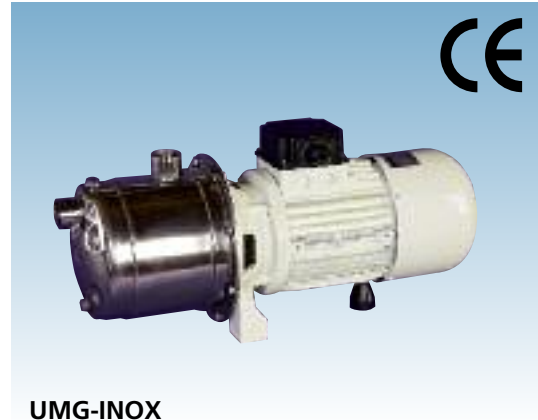
### Standard features

AISI 304 stainless steel pump body, noryl diffuser and Venturi tube, AISI 316 stainless steel shaft, corrosion-proof clamping rings, continuous duty electric motor with F insulation class. Delivery diagram: page 95.

### Application limits

Liquid free of solid impurities. Liquid temperature range: from 0° C to 50° C.

Static pressure inside the pump body: 6 bar max.



UMG-INOX

MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UMG-INOX 24	24V DC	28 A	9 m (29.5')	50 m (164.0')	90 l/min
UMG-INOX M	220V AC	3 A	9 m (29.5')	50 m (164.0')	90 l/min

## UMG SERIES - WATER PRESSURE SYSTEMS

**UMG-INOX water pressure systems** are equipped with a **UMG** series electric pump and with a stainless steel cylindrical tank (X) with inside butyl rubber diaphragm suitable for food stuff, widely used for constant water pressure for all on-board appliances such as kitchens, showers, washbasins etc.

### Standard features

Manual safety pressure switch, pressure gauge, non return valve, 5 ways brass pipe fitting.

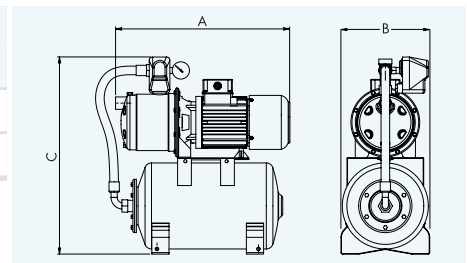


UMG-INOX 20X

MODEL	SWITCH PRE-SET	TANK PRESSURE	MAX DELIVERY	MAX PRESSURE	TANK CAPACITY
UMG-INOX 24/20X	1.4 – 3.5 bar	1.2 bar	90 l/min	5 bar	20 l
UMG-INOX M/20X	1.4 – 3.5 bar	1.2 bar	90 l/min	5 bar	20 l

## DIMENSIONS AND WEIGHTS

MODEL	Ø IN	Ø OUT	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UMG-INOX 24-20X	1" BSP-F	1" BSP-F	570 (22.4)	260 (10.2)	575 (22.6)	20 (44.0)
UMG-INOX M-20X	1" BSP-F	1" BSP-F	570 (22.4)	260 (10.2)	575 (22.6)	16.5 (36.4)



## SELF-PRIMING BRONZE ELECTRIC PUMPS AND WATER PRESSURE SYSTEMS - UJBR SERIES

### UJBR SERIES ELECTRIC PUMPS

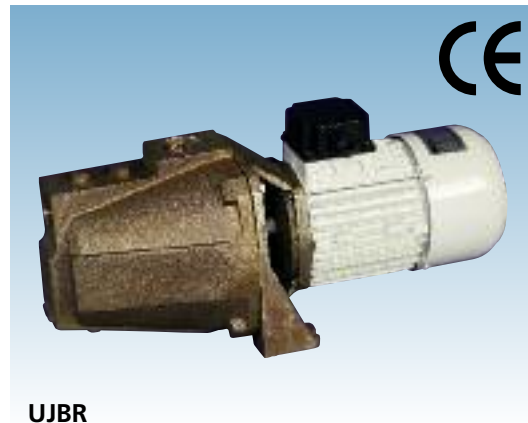
Self-priming electric pumps, Jet type, with closed impeller, featuring a high suction capacity. These electric pumps are used **for rising both fresh and sea water and to deliver pressurized water to on-board appliances** (showers, toilets, washbasins etc), to air-conditioning units, anti-fire equipment. Used for washing of decks and chains.

#### Standard features

Bronze pump body, polycarbonate diffuser and Venturi tube, AISI 316 stainless steel shaft, special brass alloy impeller, corrosion-proof clamping rings, continuous duty electric motor with F insulation class.  
Delivery diagram: page 95.

#### Application limits

Liquid free of solid impurities. Liquid temperature range: from 0° C to 70° C.  
Static pressure inside the pump body: 6 bar max.



UJBR

MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UJBR 12	12V DC	42 A	8 m (26.2')	30 m (98.4')	44 l/min
UJBR 24	24V DC	28 A	9 m (29.5')	36 m (118.1')	55 l/min
UJBR M	220V AC	3 A	9 m (29.5')	52 m (170.6')	55 l/min

### UJBR SERIES - WATER PRESSURE SYSTEMS

**UJBR water pressure systems** are equipped with a **UJBR** electric pump and with a stainless steel cylindrical tank (X) with inside butyl rubber diaphragm suitable for food stuff, widely used for constant water pressure for all on-board appliances such as kitchens, showers, washbasins etc.

#### Standard features

Manual safety pressure switch, pressure gauge, non return valve, 5 ways brass pipe fitting.

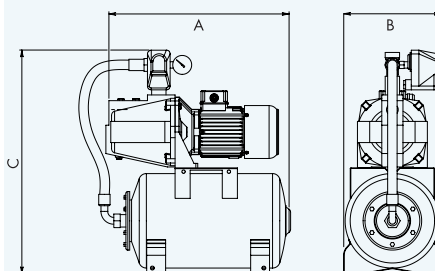


UJBR 20X

MODEL	SWITCH PRE-SET	TANK PRESSURE	MAX DELIVERY	MAX PRESSURE	TANK CAPACITY
UJBR 12/8X	1.4-2.0 bar	1.2 bar	44 l/min	3.0 bar	8 l
UJBR 12/20X	1.4-2.0 bar	1.2 bar	44 l/min	3.0 bar	20 l
UJBR 24/8X	1.4-2.8 bar	1.2 bar	55 l/min	3.6 bar	8 l
UJBR 24/20X	1.4-2.8 bar	1.2 bar	55 l/min	3.6 bar	20 l
UJBR M/20X	1.4-3.5 bar	1.2 bar	55 l/min	5.2 bar	20 l

### DIMENSIONS AND WEIGHTS

MODEL	Ø IN	Ø OUT	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UJBR 12/8X	1" BSP-F	1" BSP-F	455 (17.9)	220 (8.7)	420 (16.5)	26 (57.3)
UJBR 12/20X	1" BSP-F	1" BSP-F	480 (18.9)	260 (10.2)	590 (23.2)	28 (61.7)
UJBR 24/8X	1" BSP-F	1" BSP-F	455 (17.9)	220 (8.7)	420 (16.5)	26 (57.3)
UJBR 24/20X	1" BSP-F	1" BSP-F	480 (18.9)	260 (10.2)	590 (23.2)	28 (61.7)
UJBR M/20X	1" BSP-F	1" BSP-F	480 (18.9)	260 (10.2)	590 (23.2)	26 (57.3)



# PERIPHERAL BRONZE ELECTRIC PUMPS AND WATER PRESSURE SYSTEMS - UPB SERIES

## UPB SERIES ELECTRIC PUMPS

Compact single-impeller peripheral electric pumps apt to develop high pressures compared to limited flow rate. These electric pumps are used for rising both and sea water and to deliver pressurized water to on-board appliances (showers, toilets, washbasins etc.), to air-conditioning units, anti-fire equipment. Used for washing of decks and chains.

### Standard features

Bronze body pump, AISI 316 stainless steel shaft, special BRASS alloy impeller, corrosion-proof clamping rings, continuous duty electric motor with F insulation class. Delivery diagram: page 95.

### Application limits

Liquid free of solid impurities. Liquid temperature range: from 0° C to 70° C. Static pressure inside the pump body: 6 bar max.



UPB

MODEL	VOLT	MAX AMP	MAX INLET	MAX HEAD	MAX DELIVERY
UPB 12	12V DC	36 A	6 m (19.7')	40 m (131.2')	35 l/min
UPB 24	24V DC	22 A	6 m (19.7')	42 m (137.8')	36 l/min

## UPB SERIES - WATER PRESSURE SYSTEMS

UPB are equipped with a UPB electric pump, a stainless steel (X) or white painted steel (L) cylindrical tank with a stainless steel flange and with an internal butyl rubber diaphragm suitable for food stuff, widely used for constant water pressure for all on-board appliances such as kitchens, showers, washbasins etc.

### Standard features

Manual safety pressure switch, pressure gauge, non return valve, 5 ways brass pipe fitting.

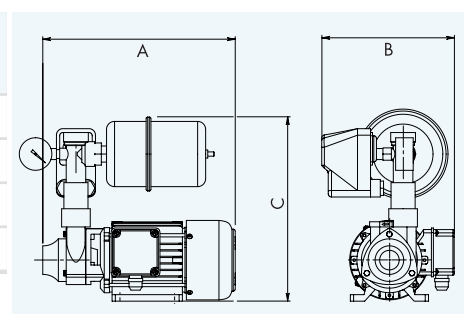


UPB 2X

MODEL	SWITCH PRE-SET	TANK PRESSURE	MAX DELIVERY	MAX PRESSURE	TANK CAPACITY
UPB-12/2X	1.4-2.8 bar	1.2 bar	35 l/min	4 bar	2 l
UPB-12/8X-L	1.4-2.8 bar	1.2 bar	35 l/min	4 bar	8 l
UPB-24/2X	1.4-2.8 bar	1.2 bar	36 l/min	4.2 bar	2 l
UPB-24/8X-L	1.4-2.8 bar	1.2 bar	36 l/min	4.2 bar	8 l

## DIMENSIONS AND WEIGHTS

MODEL	Ø IN	Ø OUT	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UPB-12/2X	1" BSP-F	1" BSP-F	295 (11.6)	205 (8.1)	295 (11.6)	9 (19.8)
UPB-12/8X-L	1" BSP-F	1" BSP-F	420 (16.5)	225 (8.8)	330 (13.0)	10 (22.0)
UPB-24/2X	1" BSP-F	1" BSP-F	295 (11.6)	205 (8.1)	295 (11.6)	9 (19.8)
UPB-24/8X-L	1" BSP-F	1" BSP-F	420 (16.5)	225 (8.8)	330 (13.0)	10 (22.0)





## TWIN WATER PRESSURE SYSTEMS

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### TWIN WATER PRESSURE SYSTEMS

Twin water pressure systems including 2 self-priming electric pumps (UJ-INOX or UMG-INOX stainless steel made), or 2 self priming electric pumps (UJBR bronze made), widely used in the marine field to grant a proper and constant water pressure for all on board utilities such as: showers, kitchen, washbasins, toilets, etc.

With this peculiar application a double flow rate can be obtained and the system can face an emergency stop of one of the pumps during navigation.

The use of twin water pressure systems **UGA-J**, **UGA-MG** and **UGA-JBR** Series allows a water capacity higher than the traditional pressure sets, as the two pumps, whatever DC, AC, or mixed DC and AC, can work either simultaneously or singularly.

For a proper operation of the group, a water tank is recommended.

Vertical twin water pressure systems are available on request.



UGA1/JBR



UGA 1/J - UGA1/MG

MODEL	PUMP 1	PUMP 2	MOTOR	POWER Kw	CURRENT A	MAX DELIVERY	MAX PRESSURE
UGA1/J	UJ-INOX 24	UJ-INOX 24	DC+DC	0,6+0,6	28+28	50+50 l/min.	3.8 bar
UGA2/J	UJ-INOX M	UJ-INOX M	AC+AC	0,6+0,6	/	50+50 l/min.	4 bar
UGA3/J	UJ-INOX 24	UJ-INOX M	DC+AC	0,6+0,6	28+ /	50+50 l/min.	4 bar
UGA1/MG	UMG-INOX 24	UMG-INOX 24	DC+DC	0,75+0,75	40+40	90+90 l/min.	5 bar
UGA2/MG	UMG-INOX M	UMG-INOX M	AC+AC	0,75+0,75	/	90+90 l/min.	5 bar
UGA3/MG	UMG-INOX 24	UMG-INOX M	DC+AC	0,75+0,75	40+ /	90+90 l/min.	5 bar
UGA1/JBR	UJBR 24	UJBR 24	DC+DC	0,6+0,6	28+28	55+55 l/min.	3,6 bar
UGA2/JBR	UJBR M	UJBR M	AC+AC	0,6+0,6	/	55+55 l/min.	5 bar
UGA3/JBR	UJBR 24	UJBR M	DC+AC	0,6+0,6	28+ /	55+55 l/min.	5 bar

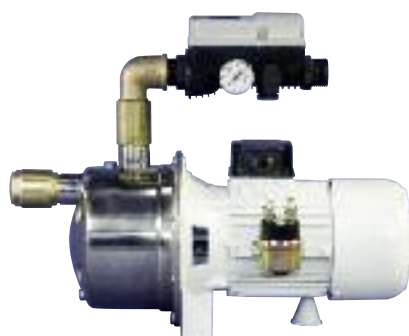
## WATER PRESSURE SYSTEMS WITH ELECTRONIC PRESSURE CONTROL

Water Pressure Systems featuring an **Electronic Control System EPC (Electronic Pressure Control)** that automatically controls the pump start and stop stages when the pressure drops or when the water supply to the system is interrupted. The electronic control system EPC will guarantee the automatic stop of the pump when the water supply has run out (preventing damage to the pump if dry running) and will offer constant monitoring of the operation by means of warning lights.

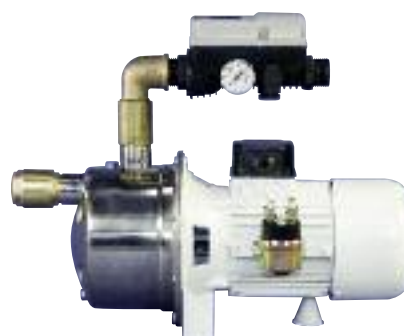
If in lack of water the pump stops, in which case the EPC device will allow the pump to make brief starts at regular breaks to check the availability of water. If the pump is able to take in water during one of these attempts (maximum 4), the pressure booster set will restart its normal operation. After four attempts, the EPC device will stop the pump definitively. The pump can then be restarted only by pressing the "Reset" button.



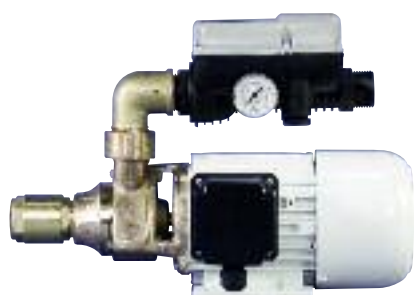
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UJ-INOX/EPC



UMG-INOX/EPC



UPB/EPC



UJBR/EPC

MODEL	VOLT	MAX AMP	MAX DELIVERY	MAX PRESSURE
UJ-INOX/EPC-12	12V DC	40 A	50 l/min	3 bar
UJ-INOX/EPC-24	24V DC	28 A	50 l/min	3,8 bar
UJ-INOX/EPC-M	230V AC	-	50 l/min	4,8 bar
UMG-INOX/EPC-24	24V DC	40 A	90 l/min	5 bar
UMG-INOX/EPC-M	230V AC	-	90 l/min	5 bar
UJBR/EPC-12	12V DC	42 A	44 l/min	3 bar
UJBR/EPC-24	24V DC	28 A	55 l/min	3,6 bar
UJBR/EPC-M	230V AC	-	55 l/min	5,2 bar
UPB/EPC-12	12V DC	36 A	35 l/min	4 bar
UPB/EPC-24	24V DC	22 A	36 l/min	4,2 bar

**Inlet:** 1" BSP - F (Gas)

**Outlet:** 1" BSP - M (Gas)



# BIDIRECTIONAL SELF-PRIMING PUMPS NAUTIC AND SPECIAL SERIES



UN



US



UN F



US FM

Bidirectional side liquid ring self-priming pumps. Thanks to their high delivery capability, these pumps are widely used in marine applications sector to empty bilges or for sea water suction. Upon request these pumps are also available with BSP thread.

### Standard features

Bronze body pump, bronze impeller, bronze pipe fittings, AISI 316 stainless steel shaft, corrosion-proof clamping rings. Delivery diagram: page 95.

### Application limits

Liquid free of solid impurities, liquid temperature range: from 0° C to 70° C, static pressure inside the pump body: 6 bar max.

### NAUTIC SERIES

MODEL	OPERATION	MAX INLET	MAX HEAD	MAX DELIVERY l/min@ rpm
UN 025	Bare shaft	6 m (19.7')	18 m (70.8')	60 @ 2800
UN 030-030 F	Manual clutch	6 m (19.7')	18 m (70.8')	75 @ 1400
UN 040-040 F	Manual clutch	6 m (19.7')	22 m (88.6')	120 @ 1400
UN 050-050 F	Manual clutch	6 m (19.7')	30 m (118.1')	230 @ 1400
UN 070-070 F	Manual clutch	6 m (19.7')	40 m (157.4')	500 @ 1400

### SPECIAL SERIES

MODEL	OPERATION	MAX INLET	MAX HEAD	MAX DELIVERY l/min@ rpm
US 020	Bare shaft	6 m (19.7')	15 m (59.0')	30 @ 2800
US 025	Bare shaft	6 m (19.7')	18 m (70.8')	60 @ 2800
US 030-030 FM*	Magnetic clutch	6 m (19.7')	18 m (70.8')	75 @ 1400
US 040-040 FM*	Magnetic clutch	6 m (19.7')	22 m (88.6')	120 @ 1400
US 050-050 FM*	Magnetic clutch	6 m (19.7')	30 m (118.1')	230 @ 1400

\*FM = Magnetic clutch 12 V DC or 24 V



# UFLEX ELECTRIC PUMP PERFORMANCES (DELIVERY DIAGRAMS)



95

CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



CORRENTE ALTERNATA (C.A.) / ALTERNATE CURRENT (A.C.)



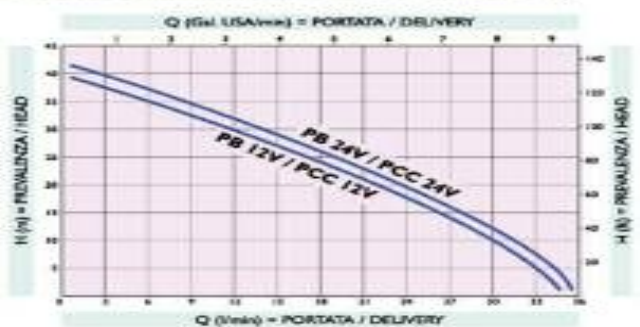
CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



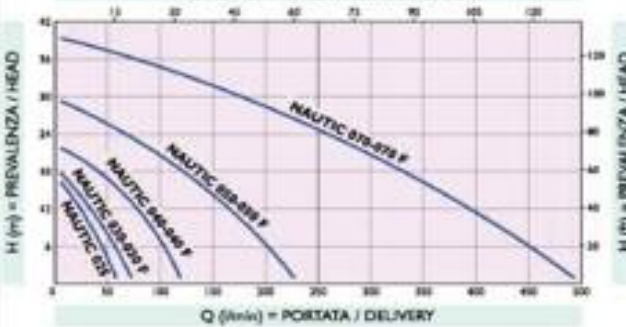
CORRENTE ALTERNATA (C.A.) / ALTERNATE CURRENT (A.C.)



CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



CORRENTE ALTERNATA (C.A.) / ALTERNATE CURRENT (A.C.)



CORRENTE CONTINUA (C.C.) / DIRECT CURRENT (D.C.)



PUMP PERFORMANCES



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## CENTRIFUGAL ELECTRIC BLOWERS - UBLC SERIES

UBLC spiral centrifugal electric blowers are used for suction and ventilation of air in closed compartments such as toilets, kitchen, engine room etc.

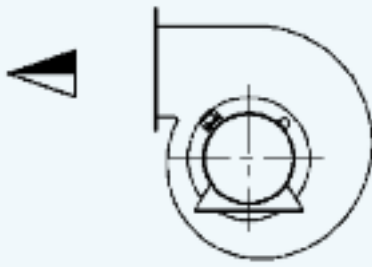
### Standard features

Painted steel casing, fan with forward and balanced steel blades, continuous duty electric motor with F insulation class, IP 44 protection (alternating current), IP 23 (direct current)

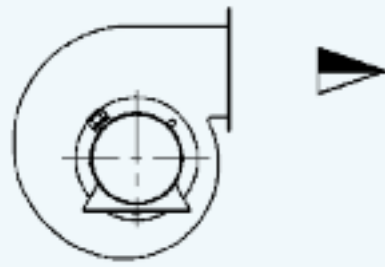
The orientation of the blower must be stated when ordering (see drawing).



UBLC



**LD**  
(LEFT DIRECTION)  
(DIREZIONE SINISTRA)



**RD**  
(RIGHT DIRECTION)  
(DIREZIONE DESTRA)

MODEL	VOLT	MAX AMP	RPM	MAX DELIVERY m <sup>3</sup> /min	MAX HEAD mm H <sub>2</sub> O
UBLC 002-12	12V DC	3,2 A	2800	4,5	22
UBLC 002-24	24V DC	1,6 A	2800	4,5	22
UBLC 002-M or T	230V AC/380V AC	-	2800	4,5	22
UBLC 004-12	12V DC	6 A	2500	12	35
UBLC 004-24	24V DC	3 A	2500	12	35
UBLC 004-M or T	230V AC/380V AC	-	2800	15	45
UBLC 015-12	12V DC	24 A	1400	24	34
UBLC 015-24	24V DC	13 A	1400	24	34
UBLC 015-M or T	230V AC/380V AC	-	1400	24	34
UBLC 028-12	12V DC	26 A	2800	24	64
UBLC 028-24	24V DC	14 A	2800	24	64
UBLC 028-M or T	230V AC/380V AC	-	2800	24	64
UBLC 023-12	12V DC	30 A	2000	37	64
UBLC 023-24	24V DC	22 A	2000	37	64
UBLC 023-M or T	230V AC/380V AC	-	2800	58	130
UBLC 025-24	24V DC	30 A	1400	50	55
UBLC 025-M or T	230V AC/380V AC	-	1400	50	55
UBLC 030-M or T	230V AC/380V AC	-	1400	95	75

**DIMENSIONS AND WEIGHTS: SEE PAGE 98**

## HELICOIDAL ELECTRIC BLOWERS - UVE SERIES

UVE helicoidal electric blowers are used for suction and ventilation of air in closed compartments such as toilets, kitchen and engine rooms.

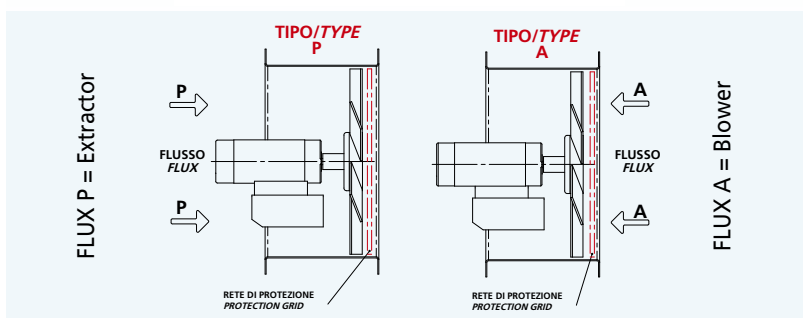
### Standard features

Painted sheet steel drum, polypropylene balanced fan (temperature range: from -5° C to 70° C), continuous duty electric motor with F insulation class, IP 44 protection.

The orientation of the blower must be specified when ordering (see drawing below).



UVE



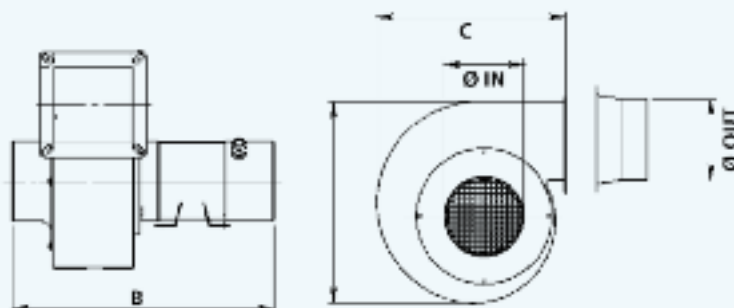
MODEL	VOLT	MAX AMP	RPM	MAX DELIVERY m <sup>3</sup> /min	MAX HEAD mm H <sub>2</sub> O
UVE 21-12	12V DC	12 A	2800	22	14
UVE 21-24	24V DC	6 A	2800	22	14
UVE 25-12	12V DC	22 A	2500	30	13
UVE 25-24	24V DC	11A	2500	30	13
UVE 25-M or T	230V AC/380V AC	-	2800	35	14
UVE 30-12	12V DC	10 A	1400	42	8
UVE 30-24	24V DC	5 A	1400	42	8
UVE 30-M or T	230V AC/380V AC	-	1400	42	8
UVE 30/2-24	24V DC	14 A	2000	75	22
UVE 30/2-M or T	230V AC/380V AC	-	2800	78	35
UVE 35-12	12V DC	12 A	1400	56	13
UVE 35-24	24V DC	6 A	1400	56	13
UVE 35-M or T	230V AC/380V AC	-	1400	56	13
UVE 35/2-24	24V DC	16 A	2000	96	18
UVE 35/2-M or T	230V AC/380V AC	-	2800	100	46
UVE 40-12	12V DC	14 A	1400	70	14
UVE 40-24	24V DC	7 A	1400	70	14
UVE 40-M or T	230V AC/380V AC	-	1400	70	14
UVE 40/2-24	24V DC	18 A	2000	130	24
UVE 40/2-M or T	230V AC/380V AC	-	2800	130	40
UVE 45-24	24V DC	9 A	1400	107	17
UVE 45-M or T	230V AC/380V AC	-	1400	107	17
UVE 45/2-24	24V DC	22 A	2000	144	28
UVE 45/2-M or T	230V AC/380V AC	-	2800	175	51
UVE 50-24	24V DC	38 A	1400	160	20
UVE 50-M or T	230V AC/380V AC	-	1400	160	20
UVE 56-24	24V DC	40 A	1400	225	23
UVE 56-M or T	230V AC/380V AC	-	1400	225	23
UVE 63-M or T	230V AC/380V AC	-	1400	312	32
UVE 71-T	380V AC	-	1400	330	30
UVE 71/B or T	380V AC	-	1400	400	40

DIMENSIONS AND WEIGHTS: SEE PAGE 98



# CENTRIFUGAL AND HELICOIDAL ELECTRIC BLOWERS

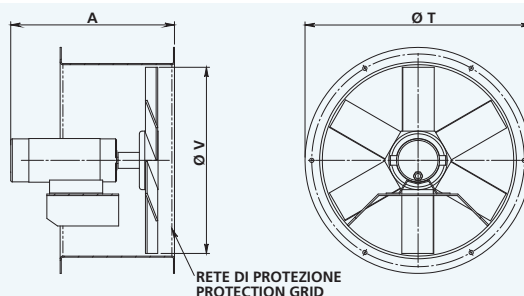
## UBLC - DIMENSIONS AND WEIGHTS



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MODEL	Ø IN mm (")	Ø OUT mm (")	A mm (")	B mm (")	C mm (")	WEIGHT kg (lbs)
UBLC 002	58 (2.3)	58 (2.3)	190 (7.5)	295 (11.6)	168 (6.6)	3,5 (7.7)
UBLC 004	98 (3.8)	98 (3.8)	270 (10.6)	370 (14.6)	225 (8.8)	6 (13.2)
UBLC 015	148 (5.8)	148 (5.8)	405 (16.0)	415 (16.3)	338 (13.3)	14 (30.9)
UBLC 028	118 (4.6)	118 (4.6)	322 (12.7)	390 (15.3)	273 (12.6)	10 (22)
UBLC 023	200 (7.8)	160 (6.3)	420 (16.5)	530 (20.8)	340 (13.4)	18 (39.7)
UBLC 025	250 (9.8)	200 (7.8)	510 (20)	570 (22.4)	420 (16.5)	23 (50.7)
UBLC 030	300 (11.8)	250 (9.8)	610 (24)	580 (22.8)	500 (19.7)	38 (83.8)

## UVE - DIMENSIONS AND WEIGHTS



MODEL	A mm (")	Ø V mm (")	Ø T mm (")	WEIGHT Kg (lbs)
UVE 21	255 (10)	205 (8.1)	275 (10.8)	6 (13.2)
UVE 25	325 (12.8)	250 (9.8)	315 (12.2)	7 (15.4)
UVE 30	300 (11.8)	305 (12.0)	378 (14.9)	8 (17.6)
UVE 30/2	330 (13.0)	305 (12.0)	378 (14.9)	10 (22)
UVE 35	300 (11.8)	350 (13.8)	425 (16.7)	9 (19.8)
UVE 35/2	330 (13.0)	350 (13.8)	425 (16.7)	11 (14.3)
UVE 40	330 (13.0)	410 (16.1)	473 (18.6)	12 (26.4)
UVE 40/2	370 (14.5)	410 (16.1)	473 (18.6)	14 (30.8)
UVE 45	330 (13.0)	450 (17.7)	523 (20.6)	13 (28.6)
UVE 45/2	380 (14.9)	450 (17.7)	523 (20.6)	18 (39.7)
UVE 50	400 (15.7)	500 (19.7)	573 (22.5)	21 (46.3)
UVE 56	400 (15.7)	560 (22.0)	633 (24.9)	24 (52.9)
UVE 63	420 (16.5)	630 (24.8)	704 (27.7)	27 (59.5)
UVE 71	450 (17.7)	700 (27.5)	774 (30.5)	48 (105.8)
UVE 71/B	510 (20.1)	700 (27.5)	774 (30.5)	58 (127.9)



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**MARINCO**<sup>®</sup>  
QUALITY MARINE ELECTRICAL PRODUCTS

**Actuant**  
ELECTRICAL

**MARINE ELECTRICAL EQUIPMENTS**

## SHORE POWER FEATURES

### EASY LOCK™ SYSTEM

Marinco's exclusive Easy Lock System has been designed to make hook-up quick and easy. Just connect the cordset (with an Easy Lock locking ring installed) to the inlet and turn the locking ring less than a quarter turn.

The tabs on the locking ring lock into the inlet for a positive watertight hook-up while eliminating any chance of cross threading. The locking ring features lock locators positioned at 180° to improve finger grip during attachment.

Easy Lock inlets have a threaded boss that will accept threaded cordsets as well.

### SOFT TOUCH™ CAP DESIGN

MARINCO inlets feature the Soft Touch cap design. The Soft Touch hinge is designed with a special cam feature that allows it to stay "locked" open in the upright position during hook-up. A "soft touch" unlocks it for closing.

### PowerCord PLUS® CORDSET

The PowerCord PLUS® has features you will not find on other cordsets.

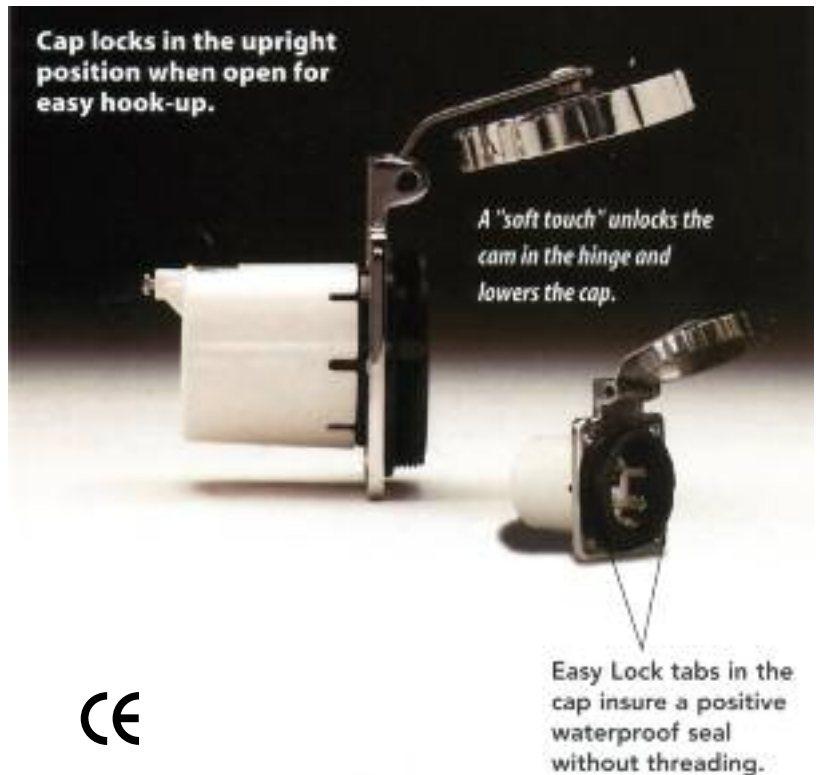
#### Power Indicator light

LED Power indicator light – lets you know if you have power

#### Comfort Grip with Thumbprint Locator

Moulded to fit the contour of your hand. Thumbprint Locator lines up the locking blades for quick and easy connections.

- LED Power Indicator Light
- Contour Grip Ends
- Thumbprint Locator
- Super Flexible 10/3 Cable
- Easy Lock™ System
- High Quality Marine Grade Construction
- Watertight Molded Plug & Connectors
- Includes threaded ring and Easy Lock ring
- All PowerCord PLUS cords assembled complete with Watertight Connector Cap to ensure CE compliance
- CE marked



## 16 Amp/220V & 32 Amp/220V SHORE POWER PRODUCTS

### 16 Amp/220V & 32 Amp/220V 50 Hz - POWER INLETS



- 316 Stainless Steel
  - Easy Lock System
  - Soft Touch cap design
  - Rear safety enclosure with strain relief
- 303SSEL-BX - 66753A - 16A**  
**6371EL-BX - 66766K - 32A**



- Glass-filled polyester
  - Easy Lock System
  - Watertight
  - Rear safety enclosure with strain relief
- 301EL-BX - 66754C - 16A**  
**6351EL-BX - 66767M - 32A**



- Glass-filled polyester
  - Easy Lock System
  - Watertight
  - Rear safety enclosure w/ strain relief
- 304EL-BX - 66755E - 16A**  
**6343EL-BX - 66768P - 32A**



- Glass-filled polyester
  - Chrome plated cover
  - Easy Lock System
  - Watertight
  - Rear safety enclosure
- 6343EL-BXCR - 66769S - 32A**

### 16 Amp/220V & 32 Amp/220V - FEMALE CONNECTORS



- Female Connector
  - Corrosion resistant contacts and terminals
- 305CRCXN - 66757J - 16A**  
**6360CRNX - 66770A - 32A**



- Weatherproof Cover with threaded ring
  - Use with female connectors
- 103RNX - 66758L - for 16A**  
**7715CRNX - 66771C - for 32A**



- Watertight Connector Sealing Cap
  - Use with cover and connector to ensure CE compliance
- 199109 - 66759N - for 16A**  
**199110 - 66772E - for 32A**

### 16 Amp/220V 50 Hz - SHORE POWER CORDSETS



- PowerCord™ Cordset
  - 3,3 mm<sup>2</sup> (12/3)
  - With Female connector
  - Blunt cut male end
- 50PCMX - 66760X - 15,24 m (50 ft)**  
**25PCMX - 66761Z - 7,62 m (25 ft)**



- PowerCord™ PLUS Cordset
  - 3,3 mm<sup>2</sup> (12/3)
  - With moulded connector with LED power indicator light
  - Blunt cut male end
- 50SPPX - 66762B - 15,24 m (50 ft)**



- PowerCord™ PLUS Cordset
- 2,5 mm<sup>2</sup> (10/3)
- With moulded connector with LED power indicator light and IEC 60309 male plug (IP44)
- Watertight connector sealing cap for CE compliance

- **20MSPPXP - 66763D - 20 m (65.6 ft)**
- **15MSPPXP - 66764F - 15 m (49.2 ft)**
- **10MSPPXP - 66765H - 10 m (32.8 ft)**



### 32 Amp/220V 50 Hz - SHORE POWER CORDSET



- PowerCord™ PLUS Cordset
  - 3,3 mm (12/3)
  - With moulded connector with LED power indicator light and IEC 60309 male plug (IP44)
  - Watertight connector sealing cap for CE compliance
- 15M32AXP - 66773G - 15 m (49.2 ft)**

### CABLE CLIP



- Includes 6 Cable Clips with stainless steel mounting screws
  - Keeps shore power cable out of the water
  - Holds 10 gauge 30A cable
  - Easy to install
  - Use on deck or edge of dock
  - Organize shore power cable
- CLIP - 66825 Z**

## 50 Amp 125V/250V; 3 POLE, 4-WIRE SHORE POWER PRODUCTS

### 50 AMP 125V/250V; 3 POLE, 4-WIRE - POWER INLETS



- Solid cast 316 stainless steel
  - Easy Lock System
  - Soft Touch cap stays open in the upright position
  - Rear safety enclosure with strain relief
  - Locking waterproof cap
- 6373EL-B – 66774J - 50A**



- Same as 6373EL-B power inlet, without rear safety enclosure
- 6373EL - 66776N - 50A**



- Glass-filled polyester
  - Easy Lock System
  - Watertight cap
  - Rear safety enclosure w/strain relief
  - Marine stainless steel trim
- 6353EL-B – 66775L - 50A**



- Glass-filled polyester
  - Easy Lock System
  - Soft Touch cap stays open in the upright position
  - Chrome finish cover
  - Rear safety enclosure
  - Stainless steel trim
- 6344EL-BCR – 66777R - 50A**

### 50 Amp 125V/250V; 3 POLE, 4-WIRE - MALE PLUG AND FEMALE CONNECTOR



- Male Plug ribbed, thick wall nylon housing for secure gripping
  - Use with weatherproof 7717N cover for superior seal
- 6365CRN – 66778T - 50A**



- Weatherproof cover for male plug 6365CRN
- 7717N – 66822T**



- Female connector ribbed, nylon housing for secure gripping
  - Use with weatherproof 7715CRN cover for superior seal
- 6364CRN – 66779V - 50A**



- Weatherproof cover for female connector 6364CRN
- 7715CRN – 66771C**

### 50 Amp 125/250V; 3 POLE, 4-WIRE SHORE POWER CORDSET



- PowerCord™ PLUS Cordset
  - LED power indicator light – lets you know if you have power
  - Watertight molded plug and connector for safety and durability
  - Contoured grip ends with Thumbprint Locator for fast and easy connection
  - Includes Easy Lock Ring and a standard threaded ring for hook-up to ordinary threaded inlets
- 6152SPP – 66783K – 15,24 m (50 ft)**  
**6152SPP-25 – 66784M – 7,62 m (25 ft)**

### “Y” ADAPTER



- Locking with Sealing Collar System 510R
- 165AY – 66781F – 50A**

### SEALING COLLAR WITH THREADED RING



- Provides maximum moisture protection between cordset and adapter.
- 510R – 66782H**



**110R – 67056G**



## 63 Amp/220V 50 Hz SHORE POWER PRODUCTS - SINGLE PHASE 3-WIRE, THREE PHASE 4-WIRE



- Power Inlet
- 316 stainless steel
- Easy Lock System
- Soft Touch cap design
- Rear safety enclosure with strain relief

**6401EL-BX - 66785M - 63A**

Single Phase, 3-wire

**6402EL-BX - 66788W - 63A**

Three Phase, 4-wire



- Female Connector
- Corrosion resistant contacts and terminals
- Best when used with weatherproof cover 7715CRNX

**6401CRCX - 66786S - 63A**

Single Phase, 3-wire

**6402CRCX - 66789Y - 63A**

Three Phase, 4-wire



- Male Plug
- Corrosion resistant materials
- Best when used with weatherproof cover 7715CRNX

**6401CRPX - 66787U - 63A**

Single Phase, 3-wire

**6402CRPX - 66790G - 63A**

Three Phase, 4-wire



- Weatherproof cover for 63 Amp male plugs and female connectors both single and three phase

**7715CRN - 66771C**

## 100 Amp 125V/250V; 3 POLE, 4-WIRE CONNECTOR AND SHORE POWER INLET



- Yellow AMAPLAST watertight connector
- Body has gasketed locking ring to mate with the M4100B12R inlet

**M4100C12R - 66792L - 100A**



- Gray AMAPLAST shore power inlet
- Gasketed spring loaded cover provides an IP67 watertight rating when tightened

**M4100B12R - 66793N - 100A**

## 100 Amp/380V; 4 POLE, 5-WIRE CONNECTOR AND SHORE POWER INLET



- Yellow AMAPLAST watertight connector
- Body has gasketed locking ring to mate with the M5100B9R inlet

**M5100C9R - 66794R - 100A**



- Gray AMAPLAST shore power inlet
- Gasketed spring loaded cover provides an IP67 watertight rating when tightened

**M5100B9R - 66795T - 100A**



## 30 Amp/125V SHORE POWER PRODUCTS



- Male Plug ribbed for secure gripping
  - Compact design
- 305CRPN** – 66817A - 30A



- Weatherproof cover for male plug 305CRPN
- 102N** - 66818C



- Female Connector ribbed for secure gripping
  - Compact design
- 305CRCN** – 66819E – 30A



- Weatherproof cover with threaded ring for female connector 305CRCN
- 103RN** – 66758L

## 50 Amp/125V; 2 POLE, 3-WIRE SHORE POWER PRODUCTS



- Male Plug ribbed, thick wall nylon housing for secure gripping
  - Use with weatherproof 7717N cover for superior seal
- 6361CRN** – 66821R - 50A



- Weatherproof cover for male plug 6361CRN
- 7717N** – 66822T



- Female connector ribbed, nylon housing for secure gripping
  - Use with weatherproof 7715CRN cover for superior seal
- 6360CRN** – 66823V - 50A



- Weatherproof cover for female connector 6360CRN
- 7715CRN** – 66771C

## PHONE AND CABLE TV INLETS



- 316 stainless steel inlet
  - Locking waterproof cap
  - Soft Touch cap design
  - Watertight rear boot (PH/TV inlet only)
- PH6592TV-SS** - 66796V  
Phone and Cable TV Inlet  
**TV6592** - 66797X  
Cable TV Inlet



- Contoured glass-filled polyester inlet
  - Watertight cap
  - Soft Touch cap design
  - Stainless steel trim on cap
- PH6444TV** – 66800G  
Phone and Cable TV Inlet  
**TV6444** - 66801J  
Cable TV Inlet



- Standard glass-filled polyester inlet
  - Watertight cap
  - Stainless steel trim on cap
- PH6574TV** – 66798Z  
Phone and Cable TV Inlet  
**TV6574** - 66799B  
Cable TV Inlet



- Female Phone Connector With cover
- PH6629** – 66848M

## PHONE AND CABLE TV CORDSETS



- Telephone Cordset**
- 3 conductor vinyl cord provides portable connection for RVs and pleasure boats
- PH6599** – 66802L - 15,24 m (50 ft)



- TV Cable Cordset**
- Standard 75 Ohm, with quick, slip-on connections and heavy duty boots included on both ends
- TV99-25** - 66805T - 7,62 m (25 ft)

## PERMANENT IMMERSION SHORE POWER CORDS

### FEATURES:

- Conductor: Red Copper Class 5 in conformity with HD 383 / IEC 228 rules
- Insulation: special compound
- Protective covering: yellow special compound, for marine applications. Flame retardant: NFC.32-070 C2 – IEC 60332-1
- Rated voltage: 0,6/1kW – 50/60 Hz
- Operating temperature in air: -40°C to +70°C. In motion: -25°C to +70°C
- Operating temperature in immersion: 50°C
- Immersion depth: 250 m (820') – 25 bar
- Permanent immersion in conformity with BS 6920 – AD8 NF C 15-100 rule
- Flame retardant in conformity with NF C 32-070 C2 – IEC 60332-1 rules
- Excellent resistance to weathering and low water absorption: 1% / 2%
- Excellent resistance to UV according to SEPAP test 1000 hours at 60°C
- Resistance to radiations: 80 Mrad (8.100 cJ/kg)
- Excellent resistance to ozone in conformity with VDE 0472 § 805 rule
- Resistance to salt fogs: in conformity with ASTM B - 117 test 500 hours



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PART No.	DESCRIPTION	APPLICABLE PLUG + SOCKET KIT
67024T	Shore power cord 3x2,5 mm <sup>2</sup> – 1 metre	16
67025V	Shore power cord 3x4 mm <sup>2</sup> – 1 metre	32
67026X	Shore power cord 3x6 mm <sup>2</sup> – 1 metre	32
67027Z	Shore power cord 3x10 mm <sup>2</sup> – 1 metre	50
67028B	Shore power cord 3x16 mm <sup>2</sup> – 1 metre	63
67029D	Shore power cord 3x25 mm <sup>2</sup> – 1 metre	100
67030M	Shore power cord 4x25 mm <sup>2</sup> – 1 metre	100
67310U	Shore power cord 3x2,5 mm <sup>2</sup> – 30 m spool	-
67031P	Shore power cord 3x2,5 mm <sup>2</sup> – 50 m spool	-
67311W	Shore power cord 3x4 mm <sup>2</sup> – 30 m spool	-
67032S	Shore power cord 3x4 mm <sup>2</sup> – 50 m spool	-
67837M	Shore power cord 3x6 mm <sup>2</sup> – 30 m spool	-
67033U	Shore power cord 3x6 mm <sup>2</sup> – 50 m spool	-
67755K	Shore power cord 3x10 mm <sup>2</sup> – 20 m spool	-
67863N	Shore power cord 3x16 mm <sup>2</sup> – 50 m spool	-



## SeaLink® 12 VOLT RECEPTACLE AND PLUG



### 12V DC Receptacle

- Watertight sealing cap
  - Easy to install with supplied mounting plate for front panel installation, or locking ring for rear access installation
  - Compatible with standard 12V plugs
- 12VRC – 66414B**



### 12V DC Receptacle white

- Weather resistant plug cover
  - Easy to install, with supplied mounting plate for front panel installation, or locking ring for rear access installation
  - Compatible with standard 12V plugs
- 12VRCW – 66862F**



### 12V BR Receptacle and 12V BP Plug

- Weather resistant plug cover
  - Ergonomic contoured grip for easy hook-up and ground blade alignment
  - Easy to install, with supplied mounting plate for front panel installation, or locking ring for rear access installation
- 12VBR – 67220T**  
**12VBP – 67219J**



### 2V DC Plug

- Moisture proof sealing ring
  - LED power indicator light
  - Interchangeable 10A fuse
  - Internal strain relief and cord seal
  - Compatible with standard 12V receptacles
- 12VPG – 66415D**

## SeaLink® ACCESSORIES



### 12V DC Extension Cord

- Heavy duty 18 gauge wire, extends to over 1,8 m (6 ft)
  - Watertight cap
  - Plug features a LED indicator light, moisture proof sealing ring, strain relief and built-in 10A fuse
  - Works with any standard 12V plug and receptacle
- 12VXT – 66810K**



### 12V DC Dual Outlet Cord

- Heavy duty 18 gauge wire, extends to over 0,3 m (1 ft)
  - Watertight cap
  - Plug features a LED indicator light, moisture proof sealing ring, strain relief and built-in 10A fuse
  - Works with any standard 12V plug and receptacle
- 12VAD – 66811M**

## MONOFILAMENT POLYESTER BRAIDED SLEEVINGS FOR CABLES

### TECHNICAL FEATURES

- Temperature class: F
- Continuous working temperature rating: -50°C +155°C with peaks at +180°C
- Halogen free
- Flammability: self extinguishing
- Good mechanical resistance
- Excellent resistance to abrasion
- Good resistance to solvent
- Non watertight
- Very flexible
- Expansion ratio: from 1 to 2
- Use: hot cutting to avoid fraying
- Colour: black



### APPLICATIONS



### STANDARDS

- Compliant with RoHS 2002/95/CE specifications
- NF EN 60684-1 (10-2003)
- NF EN 60684-2 (01-1998) modified by NF EN 60684-2/A1 (12-2003) NF EN 60684-2/A2 (05/2006)
- NF EN 60684-3 sheets 340 to 342 (4-2003)



NOMINAL INTERNAL DIAMETER	PART No. 1 m length	BULK PART No. ROLLS	ROLL LENGTH metres	ROLL WEIGHT Kg
10 mm (0.39")	68146 N	68180 N	100 m	8,0
15 mm (0.59")	68147 R	68181 R	50 m	6,3
20 mm (0.78")	68148 T	68182 T	50 m	8,9
25 mm (0.98")	68149 V	68183 V	50 m	10,1
30 mm (1.18")	68150 D	68184 X	50 m	13,5

**new**



SPL-12W

## TECHNICAL FEATURES;

- Bright 100W halogen bulb
- Uniform 132sq. ft (25 m) coverage with 370° rotation and 120° tilt
- Durable, weatherproof housing
- Universal 12V or 24V operation
- Wireless, hand held control SPRL-2 supplied with spotlight. Range 65 m (200 ft)
- Current draw: 7 Amp in use. 0,03 Amp standby
- Peak beam intensity: 210.000 CP. Peak beam distance: 280 m
- Operation temperature: -15°C a 45°C
- Dimensions: 7,5"x7,5"x9,25" (cm 19x19x23,5)
- Weight: 3,3 lbs (1.5 kg)
- IP rating: IP56
- Housing material: UV resistant PC/ASA
- Lens material: UV resistant Lexan®

SPL-12W – 68115 B 12/24 V, white

SPL-12B – 68116 D 12/24 V, black

SPL-12C – 68117 F 12/24 V, chrome

SPRL-2 – 68120 U

Wireless control supplied with spotlight  
Dim. 88x57x19mm (3.5"X2.5"X0.75")



Supplied with spotlight

**new**



SPL-12B

**new**



SPL-12C

## REPLACEMENT BULBS:

MODEL	PART No.	DESCRIPTION
202319	68118 H	12 Volt, halogen H3
202320	68119 K	24 Volt, halogen H3

# BEAMER™ - HALOGEN SPOTLIGHTS

## REMOTE CONTROL HALOGEN SPOTLIGHT

- Illuminates objects up to a mile away
- Marine grade construction
- Light can be directed manually without damaging motors
- Beamer lights are motorized for smooth trouble free remote operation
  - Spot Power: 300.000 CP
  - Amp Draw: 8 Amp, up to 10 on start
  - Operation: 12V Halogen
  - Bulb: replaceable 100 Watt Halogen bulb
  - Overall Dimensions: H 263mm (10.37") x W 187mm (7.37") x D 235mm (9.25")
  - Base Dimensions: W 146mm (5.75") x D 159mm (6.25")
  - Weight: 1,7 kg (3.75 lbs)



## SPOTLIGHT WITH PUSH BUTTON CONTROL

502A - 66943F - 12V Spotlight controlled by a push button

## SPOTLIGHT WITH JOYSTICK CONTROL

- 15 ft wiring harness included
- Smaller diameter wiring harness is easy to install
- Secondary station may be added, 502-1 only (see parts and accessories)
- Joystick control cutout: H 41,3mm (1.63") x L 69,8mm (2.75")

502-1 66897 B – 12V Spotlight with Joystick Control

502-2 66898 D – 24V Spotlight with Joystick Control

## SPOTLIGHT WITH WIRELESS REMOTE CONTROL

- Wireless transmitter controls spotlight functions
- Remote control works up to 150 ft away
- Easy to install
- Security code on remote unit prevents unauthorized use
- Wireless secondary station may be added (see parts and accessories)

501A 66899 F – Spotlight with Wireless Remote Control

## HALOGEN SPOT/FLOOD WITH REMOTE JOYSTICK CONTROL

- Illuminates objects up to a mile away
- Marine grade construction
- Light can be directed manually without damaging motors
- 100 Watt spotlight with 55 Watt floodlight
- Includes 15 ft wiring harness
  - Amp Draw: 8 Amp, up to 10 on start
  - Operation: 12V Halogen
  - Bulb: replaceable Halogen bulb
  - Overall Dimensions: H 263mm (10.37") x W 187mm (7.37") x D. 235mm (9.25")
  - Base Dimensions: W 146mm (5.75") x D 159mm (6.25")
  - Weight: 1,7 kg (3.75 lbs)
  - Joystick control cutout: H 41,3mm (1.63") x L 69,8mm (2.75")

503-1 66900 L – 12V Spot/Flood with Joystick Control

503-2 66861 D – 24V Spot/Flood with Joystick Control



**12V XENON SPOTLIGHT WITH WIRELESS REMOTE CONTROL**

- Twice as bright as Halogen spotlights
- Wireless remote control – works from 100 feet away
- Built-in RF receiver – no extra pieces to maintain or install
- Waterproof bullet connectors for ease of installation
- Fortified “neck” bracing to resist damage due to side impact
- Spot Power: 500.000 CP

505 – 66901 N - 12V Xenon Spotlight with Wireless Remote Control



505

**STAINLESS STEEL HALOGEN SPOT/FLOOD WITH REMOTE JOYSTICK CONTROL**

- 316 stainless steel base, 304 stainless steel head
- Includes joystick control and 15' wiring cable with easy to install plug ends
- Secondary station may be added (see parts and accessories)
- Light can be directed manually without damaging motors
- Spot Power: 72.000 CP
- Flood Power: 30.000 CP
- Amp Draw: 7 Amp
- Operation: 12V Incandescent
- Bulb: Replaceable Incandescent
- Lamp Dimensions: H 241mm (9.5") x W 114mm (4.5") x L 190mm (7.5")
- Base Dimensions: L 140mm (5.5") x W 89mm (3.5")
- Weight: 2,7 kg (6 lbs)
- Joystick requires 70mm (2.75") installation hole

22040A - 66860 B - Stainless Steel Halogen Spot/Flood with Joystick Control



22040 A

**HALOGEN SPOTLIGHT WITH REMOTE JOYSTICK CONTROL**

- Corrosion-proof, impact resistant, UV stabilized ABS
- Includes joystick control and 15' wiring cable with easy to install plug ends
- Secondary station may be added (see parts and accessories)
- Light can be directed manually without damaging motors
- Spot Power: 100.000 CP
- Amp Draw: 4 Amp
- Operation: 12V Haloge
- Bulb: Replaceable Sealed Beam
- Lamp Dimensions: H 233mm (9.18") x W 219mm (8.63") x L 220mm (8.68")
- Base Dimensions: 127mm (5") Diameter
- Weigh: 1,9 kg (4.25 lbs)
- Joystick control cutout: H 41,3mm (1.63") x L 69,8mm (2.75")

22200 - 66859 T Halogen Spotlight with Joystick Control



22200

**BEAMER SPOTLIGHTH PARTS & ACCESSORIES**

SPOTLIGHT MODEL	CONTROL PANEL	DUAL STATION CONTROL KIT	REPLACEMENT BULB KIT	EXTENSION CABLE KIT
501-A	729825	729825	729493	N.A.
502-A	N.A.	N.A.	729493	729528
502-1	N.A.	729488	729493	729528
502-2	N.A.	N.A.	729493	729528
503-1	N.A.	N.A.	729494	729528
503-2	22208-24	N.A.	729494	729528
22040A	22240	22218A	22014-P	22011A-P
22200	22209	22219A	22230-P	22011MA-P





## MARINE HORNS

AFI is the leading supplier of horns to the marine industry, with over a fifty years of experience in designing and manufacturing sound devices specifically for use in harsh marine environments. Stainless steel is used for all critical components such as trumpets, motor cover, diaphragms and mounting hardware.

AFI offers a complete line of marine horn products designed to meet almost any need, including electric and air trumpet horns, compact horns, below deck and deck horns.

### DROP-IN BELOW DECK HORNS - ELECTRIC COMPACT HORNS

#### "H" HORN PHASE II - DROP-IN HIDDEN HORN

- Easy installation: 69,8mm (2.75") diameter hole x 25,4mm (1") deep
- 12 Volt, maximum Amp draw: 4 Amp
- dB(A) rating: 111 at one meter
- Fundamental frequency: 370±20Hz
- Grills have water resistant fabric liners. Ordered separately.
- Easy retrofit

**11080** - 66904 V - Drop-in Hidden Horn without Grill

**11187** - 66905 X - Screw-in White ASA Grill for 11080

**11188** - 66906 Z - Screw-in Black ABS Grill for 11080

**11096** - 66907 B - Screw-in Stainless Steel Grill Kit for 11080: includes stainless steel grill cover and plastic white (11187) screw-in grill



**11080**



**Profondità solo 1"**



#### DROP-IN "H" HORN WITH GRILLS

- Comes with both black ABS and white ASA snap-in grills
- dB(A) rating: 107 at one meter
- Fundamental frequency: 370±20Hz
- Internal space requirements: H 50,8mm (2") x W 85,6mm (3.37") x D 82,5mm (3.25")
- Distinctive marine horn sound
- Enclosed sound unit
- Easy installation or retrofit, mounts from the outside
- 12 Volt, maximum Amp draw: 4 Amp

**10079** - 66908 D - Drop-in "H" Horn with Grills



**10079**

#### DROP-IN HIDDEN HORN WITHOUT GRILL

- Internal space requirements: H 57,2mm (2.25") x W 92,2mm (3.63") x D 88,9mm (3.5")
- Maximum Amp draw: 3 Amp
- dB(A) rating: 105 at one meter
- Fundamental frequency: 440±20Hz
- Mounts from the outside, horn grill snap on for easy installation
- Easy retrofit
- Grill must be ordered separately

**11095** - 66909 F - Drop-in Hidden Horn without Grill

**11090** - 66910 P - Snap-in White ASA Grill for 11095

**11091** - 66911 S - Snap-in Black ABS Grill for 11095

**11225** - 66912 U - Snap-in Chrome Plated ABS Grill for 11095 horn



**11095**





## ELECTRIC DECK COMPACT HORNS

### MINIBLAST™ - COMPACT ELECTRIC HORNS

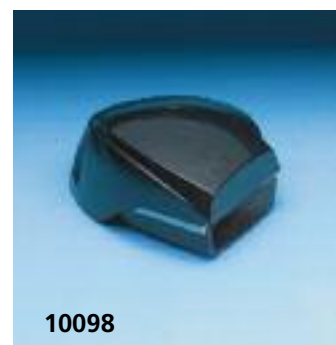
- Long lasting, non-corrosive ASA plastic cover
- Sealed sound unit with stainless steel diaphragm
- Dimensions: L 109,2mm (4.37") x W 85,6mm (3.37") x H 50,8mm (2.0")
- Maximum Amp draw: 3 Amp, 12Volt
- dB(A) rating: 106 at one meter (3ft)
- Fundamental frequency: 440±20Hz

10099 – 66920 T – White MiniBlast Compact Electric Horn

10098 – 66921 V – Black MiniBlast Compact Electric Horn



10099



10098



111

## DECK HORNS - FullBlast™ AIR HORNS

AFI® FullBlast compressor driven air horns are the loudest and most complete line of 12V air horns available. They produce sound levels ranging between 120 and 127 dB, which means they meet the ABYC and NMMA regulations for boats up to 20 meters (66 ft). Both 12V and 24V compressors are CE listed.

### SINGLE TRUMPET MINI AIR HORNS

- Solid brass construction
- Non-corrosive Lexan® diaphragm
- Include compressor, air tubing, fittings and hardware
- Dimensions: L 241,3mm (9.5") x W 88,9mm (3.5") x H 88,9mm (3.5")
- Maximum Amp draw: 12 Volt: 20 Amp, 24 Volt: 10 Amp
- dB rating: 126 at one meter, 1/3 octave band
- Fundamental frequency: 630±15Hz

10107 – 66913 W – 12 Volt Chrome Single Trumpet Mini Air Horn - chrome plated solid brass

10104 – 66914 Y – 12 Volt White Single Trumpet Mini Air Horn - white epoxy powder-coated finish over solid brass



10107



10104

### DUAL TRUMPET MINI AIR HORNS

- Solid brass construction
- Non-corrosive Lexan® diaphragm
- Include compressor, air tubing, fittings and hardware
- Dimensions: L 241,3mm (9.5") x W 127,0mm (5.0") x H 95,3mm (3.75")
- Maximum Amp draw: 12 Volt: 20 Amp, 24 Volt: 10 Amp
- dB rating: 127 at one meter, 1/3 octave band
- Fundamental frequency: 630±15Hz/525±15Hz

10108 – 66915 A – 12 Volt Chrome Dual Trumpet Mini Air Horn - chrome plated solid brass

10121 – 66916 C – 12 Volt White Dual Trumpet Mini Air Horn - white epoxy powder-coated finish over solid brass



10108



10121

### AIR COMPRESSORS

- Replacement compressors fit all AFI 12 Volt Air Horns
- Dimensions: L 127,0mm (5.0") x D 66,8mm (2.63")
- Include mounting bracket
- Maximum Amp draw: 12 Volt: 20 Amp, 24 Volt: 10 Amp. Produce 9-11 PSI
- CE marked

10102 – 66917 E – 12 Volt Air Compressor

10224 – 66918 G – 24 Volt Air Compressor



10102

## WIPER SYSTEMS

AFI® wiper systems are designed for windshield sizes up to 45" and are available for 12Volt or 24Volt systems. AFI offers a full assortment of marine wiper arms and blades manufactured of durable stainless steel and marine grade silicone to last in the harsh marine environment.

### 3.0 HEAVY DUTY PLUS WIPER MOTOR

The Heavy Duty Plus 3.0 Motor is AFI's only external linkage motor. This new design easily powers a 30" Premier Plus arm and 30" Premier Plus blade combination to provide coverage up to 45" of windshield area.

- Available in two shaft lengths: 2" and 3" (arm fitting adds 2" to overall length)
- 18mm dia. tapered knurled drive shaft
- Factory pre-set sweep angle of 80° or 110°, can be easily adjusted to 45° or 60°
- For interior installations
- Measures approx.: L 212,8mm (8.37"), W 117,0mm (4.60"), D 109,9mm (4.32")
- Available in 12V and 24V models
- Coast to park with adjustable right or left self parking
- Two speed motor
- CE marked

MODEL	Part No.	SWEEP	SHAFT	VOLT
73112	66923 Z	110°	2"	12V
73113	66924 B	110°	3"	12V
73313	66925 D	110°	3"	24V

### PREMIER PLUS - STAINLESS STEEL ADJUSTABLE SINGLE AND PANTOGRAPHIC WIPER ARMS

- Heavy duty component design for use with the AFI 3.0 wiper motor
- Available in standard and pantographic styles

MODEL	Part No.	DESCRIPTION
33088	66926 F	Single Arm, Adjusts 25" to 30"
33096	66927 H	Pantographic Arm, Adjusts 26" to 30"

Note: pantographic wiper arms will ONLY function properly with wiper motor sweep angles 80° or less

### PREMIER PLUS - STAINLESS STEEL WIPER BLADES

- All stainless steel construction for use with Premier Plus arms
- Available in stainless steel or black finish

MODEL	Part No.	DESCRIPTION
33026 S	66930 W	26" Stainless steel Blade
33026 B	66931 Y	26" Stainless steel Black Blade
33028 S	66932 A	28" Stainless steel Blade
33030 B	66942 D	30" Stainless steel Black Blade



## INTELLIGENT SWITCH FOR HEAVY DUTY PLUS WIPER SYSTEMS

AFI's microcontroller based "intelligent" switch provides all necessary wiper motor functions in one small component

- Settings for two continuous speed functions and three intermittent speed functions (2 sec delay, 4 sec delay, 8 sec delay)
- Washer system operation function
- Blinking LED lights in switch indicate operating function
- Works with 12V or 24V DC motors
- Fits standard switch size openings, requires 67,5mm (2.65") depth
- Includes one ten pole connector with female pins and two female quick-connects



MODEL	Part No.	DESCRIPTION
76030	66935 G	Single Motor Intelligent Switch

## 2.5 - HEAVY DUTY WATERPROOF WIPER MOTOR

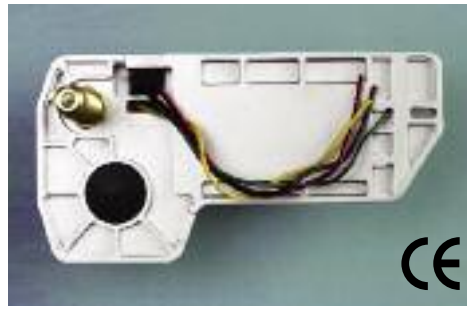
- The most powerful waterproof wiper motor available
- Fully sealed powder coated aluminum waterproof base and housing
- Powers a 26" Deluxe arm and blade combination or a 24" Premier arm and blade combination
- Available in two shaft lengths: 1" and 2" (knurled arm fitting adds 1/2" to overall length)
- Factory pre-set sweep angle of 80° or 110°, can be easily adjusted to 45° or 60°
- Chrome plated solid brass knurled drive nut with 16 mm (5/8") dia. brass and stainless steel drive shaft
- Measures approx.: L 201,0mm (7.91"), W 108,0mm (4.25"), D 76,8mm (3.02")
- Available in 12V and 24V models
- Coast to park with adjustable right or left self parking
- Two speed motor
- CE marked



MODEL	Part No.	SWEEP	SHAFT	VOLT
82081	66937 L	80°	1"	12V
82082	66938 N	80°	2"	12V
82011	66939 R	110°	1"	12V
82012	66940 Z	110°	2"	12V
82312	66941 B	110°	2"	24V

## 1.5 - HEAVY DUTY WATERPROOF WIPER MOTOR

- Fully sealed powder coated aluminum waterproof base and housing
- Powers a 22" Deluxe arm and blade combination or a 20" Premier arm and blade combination
- Available in two shaft lengths: 1" and 2" (knurled arm fitting adds 1/2" to overall length)
- Factory pre-set sweep angle of 80° or 110°, can be easily adjusted to 45° or 60°
- Chrome plated solid brass knurled drive nut with 16 mm (5/8") dia. brass and stainless steel drive shaft
- Measures approx.: L 197,0mm (7.76"), W 101,0mm (3.98"), D 70,3mm (2.77")
- Available in 12V and 24V models
- Coast to park with adjustable right or left self parking
- Two speed motor
- CE marked



MODEL	Part No.	SWEEP	SHAFT	VOLT
71081	66952 G	80°	1"	12V
71082	66953 J	80°	2"	12V
71011	66954 L	110°	1"	12V
71012	66955 W	110°	2"	12V
71212	66956 R	110°	2"	24V

## PREMIER - STAINLESS STEEL ADJUSTABLE SINGLE AND PANTOGRAPHIC WIPER ARMS

- Available in standard and pantographic styles with both versions offered in normal and wet arm configurations

MODEL	Part No.	DESCRIPTION
33086	66957 T	Single Arm, Adjusts 20" to 25"
33092	66958 V	Pantographic Arm, Adjusts 17" to 22"
33094	66959 X	Pantographic Arm, Adjusts 22" to 26"
33086W	66960 F	Single Wet Arm, Adjusts 20" to 25"
33092W	66961 H	Pantographic Wet Arm, Adjusts 17" to 22"



Note: pantographic wiper arms will ONLY function properly with wiper motor sweep angles 80° or less

## PREMIER - STAINLESS STEEL WIPER BLADES

- Available in stainless steel or black finish

MODEL	Part No.	DESCRIPTION
33021 S	66963 M	20" Blade
33021 B	66964 P	20" Black Blade
33024 S	66965 S	24" Blade
33024 B	66966 U	24" Black Blade



## DELUXE - STAINLESS STEEL ADJUSTABLE SINGLE AND PANTOGRAPHIC WIPER ARMS

- Available in stainless steel or black finish

MODEL	Part No.	DESCRIPTION
33010 A	66967 W	Single Arm, Adjusts 14" to 20"
33070 A	66968 Y	Single Black Arm, Adjusts 18" to 24"
33037 A	66969 A	Pantographic Black Arm, Adjusts 17" to 22"



Note: pantographic wiper arms will ONLY function properly with wiper motor sweep angles 80° or less

## DELUXE - STAINLESS STEEL CURVED WIPER BLADE

MODEL	Part No.	DESCRIPTION
33024	66971 L	26" Blade





## CIRCUIT BREAKER PANELS

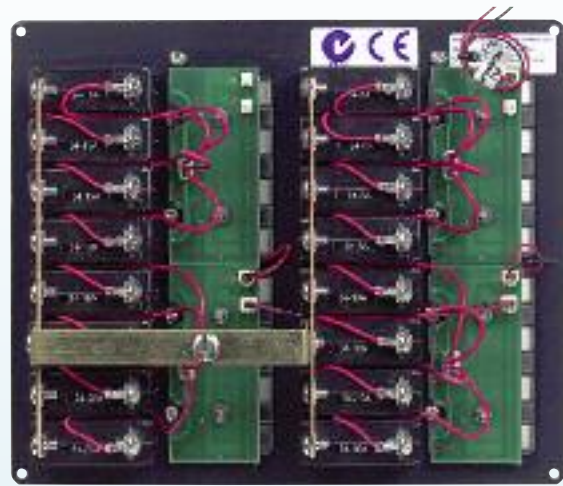
**BEP Marine** manufactures a wide range of control panels for any type and dimension of boats utilizing high quality products and components as, for instance, the certified AIRPAX® circuit breakers fitted in modern and elegant designed panels.

Panels are supplied standard with preassembled cables for an easy installation and equipped with back lit label sets and indication LED's.

Configurations available: 12V DC, 24V DC (please specify voltage requested on ordering to receive the correct back lit labels), 220V AC or voltage combination.

All panels are available with Analog or Digital meters.

BEP AC Panels back covers are designed to insulate the exposed terminals at the rear of the AC panels. The back covers are made from flame retardant PVC.



904NM



NC32YD



NC36LD



M32D

MODEL	Part No.	SIZE mm (") H x W x D	CIRCUIT BREAKERS - SINGLE POLE						NEG BUS	VOLT	METER	LABEL SHEET page 119
			5	10	15	20	25	30				
NC32YA-C	66413 Z	380x351x65 (15x13.9x2.5)	7	11	11	1	1	1	24 way	12V DC	ANALOG	Set 1,2,3,4,6 N
NC32YD	63145 J	380x351x65 (15x13.9x2.5)	7	11	11	1	1	1	24 way	12V DC	DIGITAL	Set 1,2,3,4,6 N
NC36LA	66412 X	380x351x65 (15x13.9x2.5)	8	12	12	2	1	1	24 way	12V DC	ANALOG	Set 1,2,3,4,6 N
NC36LD	63144 G	380x351x65 (15x13.9x2.5)	8	12	12	2	1	1	24 way	12V DC	DIGITAL	Set 1,2,3,4,6 N
M32D	63826 K	285x351x65 (11,25x13.9x2.5)	7	11	11	1	1	1	24 way	12V DC	DIGITAL	Set 1,2,3,4,6 N



## DC CIRCUIT BREAKER PANELS

New Zealand has a world wide recognized success both in pleasure and sport boats field as developer of innovative quality boats and electrical products for the marine market. The success of BEP Marine has been brought about through world class campaigns by New Zealand boats and crews in events such as the One Ton Cup, Admirals Cup Sydney to Hobart race, Volvo round the World Race and more recently the America's Cup.

BEP Marine Ltd is actively involved in the research and development of new products as circuit panels, circuit breakers panels and accessories that will be installed in the most important boats all around the world.

BEP Marine is today the most innovative manufacturer of electrical products for the sport and commercial boats. Its product are today available in Italy through UFLEX.



900



901H



901V



900A

### FEATURES:

- Stylish Contour Design
- Red LED's for systems "ON"
- Green LED backlit labels
- All panels available in 12V or 24V configuration
- Cutout size: 10 mm (3/8") inside all external edges



904NM



902A



901DV

- **NOTE:** All panels are supplied with label set 1 (page 119)

MODEL	PART No.	SIZE mm (") H x W x D	CIRCUIT BREAKERS - SINGLE POLE						NEG BUS	VOLT	METER	LABEL SHEET page 119
			5	10	15	20	25	30				
900-DC	63125 C	115x127x65 (4.5x5.0x2.5)	1	2	1				6 way	12V DC	N/A	Set 1 N
900AM	64363 A	200x127x65 (7.8x5.0x2.5)	1	2	1				6 way	12V DC	ANALOGIC	Set 1 N
901V-AC	63126 E	200x127x65 (7.9x5.0x2.5)	2	2	3	1			6 way	12V DC	N/A	Set 1 N
901V-DSCM	64364 C	295x127x65 (11.6x5.0x2.5)	2	2	3	1			6 way	12V DC	DIGITAL	Set 1 N
901H	63127 G	115x127x65 (4.5x9.4x2.5)	2	2	3	1			6 way	12V DC	N/A	Set 1 N
904NM	63129 L	200x239x65 (7.8x9.4x2.5)	4	5	5	1	1		12 way	12V DC	N/A	Set 1 N
902-AM	63128 J	200x239x65 (7.8x9.4x2.5)	3	4	4		1		6 way	12V DC	ANALOGIC	Set 1 N
902-DCSM	64365 E	200x239x65 (7.8x9.4x2.5)	3	4	4		1		6 way	12V DC	DIGITAL	Set 1 N



# AC CIRCUIT BREAKER PANELS



900-AC1



900-ACM6W



900-AC2AH

## FEATURES:

- All AC panels available in 110V or 230V options
  - Double pole circuit breakers
  - The panels are available with analog and digital meter.
- Models with digital meters show Volt, Amp and Frequency

■ **NOTE:** All panels are supplied with label set 5.

MODEL	PART No.	SIZE mm (") H x W x D	SINGLE POLE						DOUBLE POLE				NEG BUS	VOLT	INDICATORE	LABEL SHEET	
			5	10	15	20	25	30	20	25	30	50					
900-AC1	63130 V	115x239x65 (4.5x9.4x2.5)		2	2					2				IS-6 mm-2	230 V	N/D	Set 5
900-ACM6W	63131 X	200x127x65 (7.8x5.0x2.5)		3	3	1				1				IS-6 mm-2	230 V	N/D	Set 5
900-AC2AM	63132 Z	200x239x65 (7.8x9.4x2.5)	1	3	3	1				1				2x6 way	230 V	ANALOGIC	Set 5

## CIRCUIT BREAKERS PANELS LABEL SETS

ACCESSORIES	BAIT TANK PUMP	AFT DECK LIGHT	BILGE ALARM	AC MAINS	ACCESSORIES
<b>Set 1N</b> 63254 P	<b>Set 2N</b> 63255 S	<b>Set 3N</b> 63256 U	<b>Set 4N</b> 63257 W	<b>Set 5N</b> 63258 Y	<b>Set 6N</b> 63259 A
Accessories Auto Pilot Bilge Pumps Cabin Lights Cabin Lights Cockpit Lights Compass Lights DC Outlets Depth Sounder Freezer Freshwater Pump GPS Instruments LPG Control Mast Light Navigation Light Riding Light Saltwater Pump Shower Drain Pump Spare Spreader Light Spotlight Stereo Trim Tabs VHF Winch Wiper	Bait Tank Pump Bilge Pump Aft Bilge Pump Forward Bilge Pump Mid Bilge Pump Port Bilge Pump STBD Blower Boarding Light Cabin Lights Aft Cabin Lights Mid Cabin Lights Port Cabin Lights STBD Deck Wash Pump Electric Toilet Engine room Lights Fridge Horn Nav Lts Port Nav Lts STBD Panel Lights Radar Saloon Lights SSB Start Stern Lights Stop Sum Log Tri Light	AFT Deck Light Bilge Auto Man Bow Lights Docking Lights Emergency Parallel Engine Alarm Engine Blowers Extraction Fan Floodlights Fore Deck Light Holding Tank Pump House Batteries Lazarette Light Port Radio Battery Toilet LT Search Light Spare Galley LT Starboard Start Batteries Step Light Strobe Light Weather Fax Windex Light 12v Outlets 24v Outlets	1,2,3,4,5 6,7,8,9,10, Bilge Alarm Davit Winch Engine ALT Fire System Fish Finder Fishing Light House ALT Intercom Load Locker Light Tank Room Lights Mid Wiper Mlzen Spar Light Plotter Port Wiper Preheat Sole Light Heater Fan Spare Spare Starboard Wiper Start Stop Sub Main Sump Pump Towing Light	AC Mains AC Outlets AC Outlets AC Outlets Air Conditioning Battery Changer Cook Top Dive Comp Dryer Frequency Genset Hotwater Cylinder Ice Maker Inverter Refrigeration Microwave Oven Reverse Polarity Ships Power Shore Power Trash Compactor TV Video Washing Machine Wastemaster Water Maker 230v AC 110v AC	Accessories AC Mains Anchor Wash Automatic Autopilot Auxiliary Bilge Auto-Manual Bilge Lights Book Furl Bridge Lights Burglar Alarm CB Radio Cell Phone Computer DC Mains Fuel Transfer Cabin Fan Hatch Controls Hydraulics Loud Hailer Macerator Manual Night Lights Pelmet Lights Solar Panel Galley Fan Spare TV Antenna

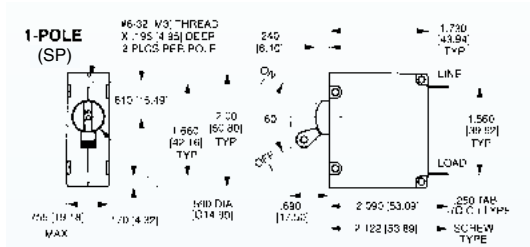
# CIRCUIT BREAKERS

## AIRPAX® IEG

B Series circuit breakers Carlingswitch magnetic circuit breakers are current sensing devices employing a time proven hydraulic magnetic design. These precision mechanisms are temperature stable and are not adversely affected by temperature changes in their operating environment. As such, derating consideration due to temperature variations are not normally required and heat induced nuisance tripping is avoided.

### FEATURES:

- Trip free mechanism, a safety feature which makes it possible to manually hold the contacts closed during overcurrent or fault conditions
- Worldwide safety agency approval are available
- Common trip linkage between all poles. Another safety feature ensures that an overload in one pole will trip all adjacent poles.



## BUSSMANN HEAVY DUTY

Single pole thermal type breakers

### FEATURES:

- Ratings: 50Amp to 150Amp; 30V DC; 3000Amp Interrupt Capacity
- Operating temperature: -32°C to 82°C
- Storage temperature: -32°C to 150°C
- Applications: Typically used in auxiliary and accessory circuits - trucks, buses, RV's and marine applications. Others might include battery charges and DC audio systems. Series 184 and 185 are sealed for engine compartment and bilge area applications.
- Mounting: Panel or surface
- Indicator: series 184 and 185 have a unique reset mechanism which provides visible indication of tripped condition.
- Approvals: complies with SAE J 1625

### MANUAL RESET:

MODEL	PART No.	RATING	SURFACE	PANEL
184 050P-01-1	65382 K	50	-	X
184 060P-01-1	65383 M	60	-	X
184 100F-01-1	63160 E	100	X	-
184 100P-01-1	63162 J	100	-	X
184 150F-01-1	63161 G	150	X	-
184 150P-01-1	63163 L	150	-	X



SINGLE POLE	PART No.	DOUBLE POLE	PART No.	TRIPLE POLE	PART No.
CBS 2.5 A - SP	63260 J	CBS 2,5 A - DP	64385 L	-	
CBS 5 A - SP	63261 L	CBS 5 A - DP	63264 T	-	
CBS 10 A - SP	63262 N	CBS 10 A - DP	63265 V	-	
CBS 15 A - SP	63146 L	CBS 15 A - DP	63151 D	-	
CBS 20 A - SP	63147 N	CBS 20 A - DP	63152 F	-	
CBS 25 A - SP	63148 R	CBS 25 A - DP	63153 H	-	
CBS 30 A - SP	63149 T	CBS 30 A - DP	63154 K	CBS 30 A - TP	63266 X
CBS 40 A - SP	63150 B	CBS 40 A - DP	63155 M	-	
CBS 50 A - SP-IGP	63263 R	CBS 50 A - DP	63156 P	CBS 50 A - TP	63267 Z



### SWITCHABLE RESET:

MODEL	PART No.	RATING	SURFACE	PANEL
185 050F-01-1	65384 P	50	X	-
185 050P-01-1	63927 S	50	-	X
185 070P-01-1	65385 S	70	-	X
185 080F-01-1	65386 U	80	X	-
185 080P-01-1	63928 U	80	-	X
185 100F-01-1	63164 N	100	X	-
185 100P-01-1	63166 T	100	-	X
185 135P-01-1	64386 N	135	-	X
185 150F-01-1	63165 R	150	X	-
185 150P-01-1	63167 V	150	-	X

# MICRO MODULAR SWITCH PANELS

The MICRO range offers the unique ability to select the size and orientation of switch of panels by adding the compact modules together horizontally or vertically.

- Labels backlit with green LED changing to red when is on.
- Full range of text or graphical labels available
- Available in charcoal or white. When ordering white, add "W" on the end of the charcoal colour model.
- Dimensions HxWxD: 86x58x28 mm (3.38"x 2.28"x1.10") or: 58x86x28mm (2.28"x3.38"x1.10")
- Labels to be ordered separately



**900-2WP - 63133 B**  
2x2 way switches



**900-2WPMOM - 63134 D**  
1x2 way switch  
1x3 way momentary switch



**900-2WPOFO - 63135 F**  
1x2 way switch  
1x3 way double pole switch

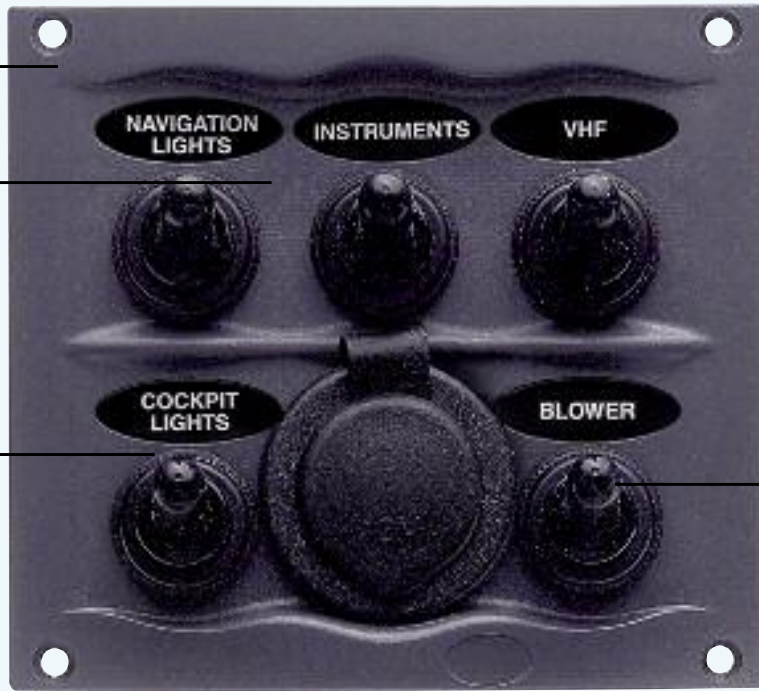
## LABELS FOR MICRO MODULAR SWITCH PANELS

Part No. 63136 H LBL-MIC1					Part No. 63137 K LBL-MIC2					Part No. 63138 M LBL-MICSYM				

# SPRAY PROOF SWITCH PANELS – 900 SERIES

The next generation of BEP Marine's very popular Spray Proof panel range. Many new features have been incorporated into the series (eg. easy access to fuses from the front of the panel) as well as fresh new look. These new panels replace the part numbers 900-3WPS, 900-4WP, 900-5WPS, 900-6WP and having the same dimensions can easily be retrofitted.

Molded gasket incorporates fastening covers



Mini fuses accessible from front of panel with removable cartridge



900-3WPS - Black  
900-3WPSW - White

Switches clip easily into rear of panel and can be removed to replace with different function switches eg. on/on, on/off/on, off/on and (on)off(on)

Custom designed toggle cover with unique sealing feature



900-4WP



900-6WP



900-5WPS

SPRAY PROOF SWITCH PANELS

SPECIFICATIONS					
MODEL	PART No.	COLOUR	SIZE mm (") H x W x D	LABEL SHEET	SWITCHES
900-3WPS	64401 F	BLACK	95x107x75 (3.75x4.25x2.9)	LBL-WP	3 + DC Socket
900-3WPSW	64405 P	WHITE	95x107x75 (3.75x4.25x2.9)	LBL-WP	3 + DC Socket
900-4WP	63139 P	BLACK	95x107x75 (3.75x4.25x2.9)	LBL-WP	4
900-5WPS	64402 H	BLACK	95x107x75 (3.75x4.25x2.9)	LBL-WP	5 + DC Socket
900-6WP	63140 Y	BLACK	95x107x75 (3.75x4.25x2.9)	LBL-WP	6

LABEL SHEET	
LBL - WP - 66537U	
Accessories	Horn
Aerator	Inst. Lights
Anchor Lights	Instruments
Autopilot	Navigation Lights
Bait Tank Pump	Radar
Bilge Pump	Spare
Blower	Spotlights
Cabin Lights	Stereo
Cockpit Lights	Stern Light
DC Outlets	Trim Tabs
Deck Wash	VHF
Depth Sounder	Log
Freshwater Pump	Wiper
Fridge	
GPS	

ATM FUSES ARE SUPPLIED IN PACKS OF 2		
MODEL	PART No.	RATING
603905	66520 A	5 A
603910	66521 C	10 A
603915	66522 E	15 A
603920	66523 G	20 A
603930	66524 J	30 A

## CSP6 SWITCH PANELS

The **CSP6** panel range comes in 3 models. All models are back lit.

**CSP6** Includes six switches unfused for installation where separate fused supply is available.

**CSP6-F** Includes six switches and 3 **WAFH14** fuse holders with fuses behind panel.

**CSP6-PTC** This panel utilises the latest technology in overload protection – Positive Temperature Coefficient (PTC). PTC fuses are solid state resettable fuses which will change to a high resistance device on over-current. To reset: Switch circuit off for 10 seconds. If fault remains the PTC will trip back to a resistive state. The panel is supplied with 6 x 9A PTC fuses mounted internally.

**No more changing fuses!**

### FEATURES:

- Switches protected by high quality neoprene rubber boots
- Green LED backlit labels
- Red LED's for system "ON"
- Waterproof to IP56 rating
- Removable cover plate over switches conceals screws and water drain
- Switch current ratings 20 Amp DC, 10 Amp AC
- Charcoal colour

All **CSP6** models are supplied with label back lit sheet set



**CSP6**

MODEL	PART No.	SIZE mm (") H x W x D	SET LABEL SHEET	FUSES	PTC
<b>CSP6</b>	64375 H	158x112x65 (6.2x4.4x2.5)	SET-1SP	NO	NO
<b>CSP6-F</b>	64376 K	158x112x75 (6.2x4.4x2.9)	SET-1SP	3	NO
<b>CSP6-PTC</b>	63141 A	158x112x75 (6.2x4.4x2.9)	SET-1SP	NO	6

### Set - 1SP 63253 M

<Anc.Light Nav.Lts>  
 Accessories  
 Aerator  
 Anchor Lights  
 Autopilot  
 Bait Tank Pump  
 Bilge Pump  
 Bilge Pump Auto/Man  
 Blower  
 Cabin Lights  
 Cockpit Lights  
 DC Outlets  
 Deck Wash  
 Depth Sounder  
 Flood Lights  
 Freshwater Pump  
 Fridge  
 Horn  
 Inst. Lights  
 Instruments  
 Navigation Lights  
 Trim Tabs  
 Radio  
 Saltwater Pump  
 Spot Lights  
 Winch  
 Wiper



### SPARE PARTS FOR SPRAY PROOF PANELS

- **WAFH-14** Waterproof fuse holder
- **SW-M331** Splash proof cover

## G2 SPRAY PROOF PANELS

The Generation 2 spray proof range offers unique styling utilising the latest techniques in injection moulding. The switch tray is moulded plastic with a rubber gasket and seal moulded into the plastic.

The cover is moulded in a clear plastic with a rubber over-mould allowing the flexibility to operate the switches through the front of the panel while providing a clear window for label backlighting. Panels available in black or white colour with charcoal or blue strips. When ordering white add "W" on the end of black colour model. G2 can be mounted vertically or horizontally and is available in 2, 4 and 6 way configurations. A joiner is available for multiple panel installations. Supplied complete with on/off switches.



CG2-2W



CG2-4W



CG2-4W-W



CG2-2W-W



CG2-6W



CG2-6W-W

Joiner available for linking multiple panels



CG2-JB  
64403 K

MODEL	PART No.	SWITCHES	FUSE	LABEL SHEET (page 125)
CG2-2W	64366 G	2	No	Set - G2 - 1
CG2-2W-W	64591 P	2	No	Set - G2 - 1
CG2-2WF	64367 J	2	1	Set - G2 - 1
CG2-4W	64368 L	4	No	Set - G2 - 1
CG2-4W-W	64542 A	4	No	Set - G2 - 1
CG2-4WF	64369 N	4	2	Set - G2 - 1
CG2-6W	64370 X	6	No	Set - G2 - 1
CG2-6W-W	64543 C	6	No	Set - G2 - 1
CG2-6WF	64371 Z	6	3	Set - G2 - 1

## G2 SPRAY PROOF PANELS

### LABEL SET FOR G2 SPRAY PROOF PANELS

#### LABEL SET SET - G2 - 1 64373 D

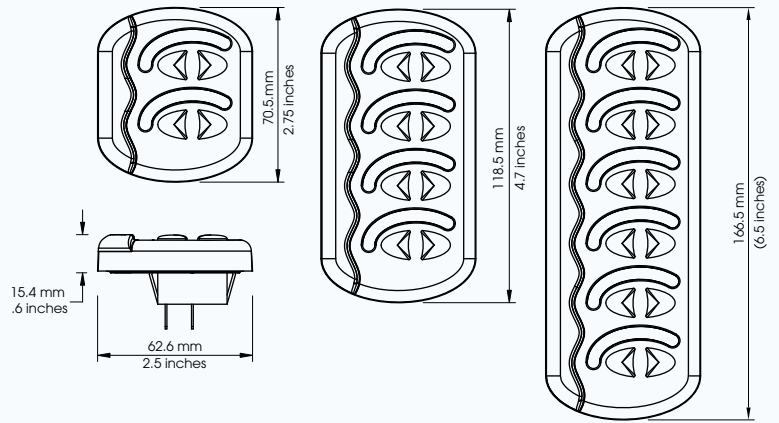
Accessories  
Aerator  
Anchor Lt  
Bait Tank  
Bilge Pump  
Auto B/P Man  
Blower  
Cabin Lights  
Cockpit Lts  
Dc Outlets  
Deck Wash  
Dn Winch Up  
Electronics  
Engroom Lts  
Flood Lights  
Fw Water  
Fridge  
Gps  
Horn  
Inst. Lights  
Instruments  
Nav Lights  
Radio  
Sw Water  
Spot Lights  
Up Port Dn  
Up Stbd Dn  
Wiper

#### LABEL SET SET - G2 - 2 64374 F

B/Pump Port  
B/Pump Stbd  
B/Pump Fwd  
B/Pump Mid  
B/Pump Aft  
B/Pump Eng Rm  
Compass Lt  
Deck Lts  
Steaming Lt  
Nav Lts Pt  
Nav Lts Stbd  
Step Lts  
Stern Lt  
Wiper Pt  
Wiper Mid  
Wiper Stbd  
Washers  
Freezer  
H/Tank Pump  
Sump Pump  
Locker Lts  
Panel Lts  
Tri Lt  
Bow Lts  
Shower Lt  
Shower Pump  
Spare  
Spare



CG2-4W



**NOTE:** Panels supplied standard with label set G2-1. Label set G2-2 can be ordered separately.

Switch rated for 16 Amp



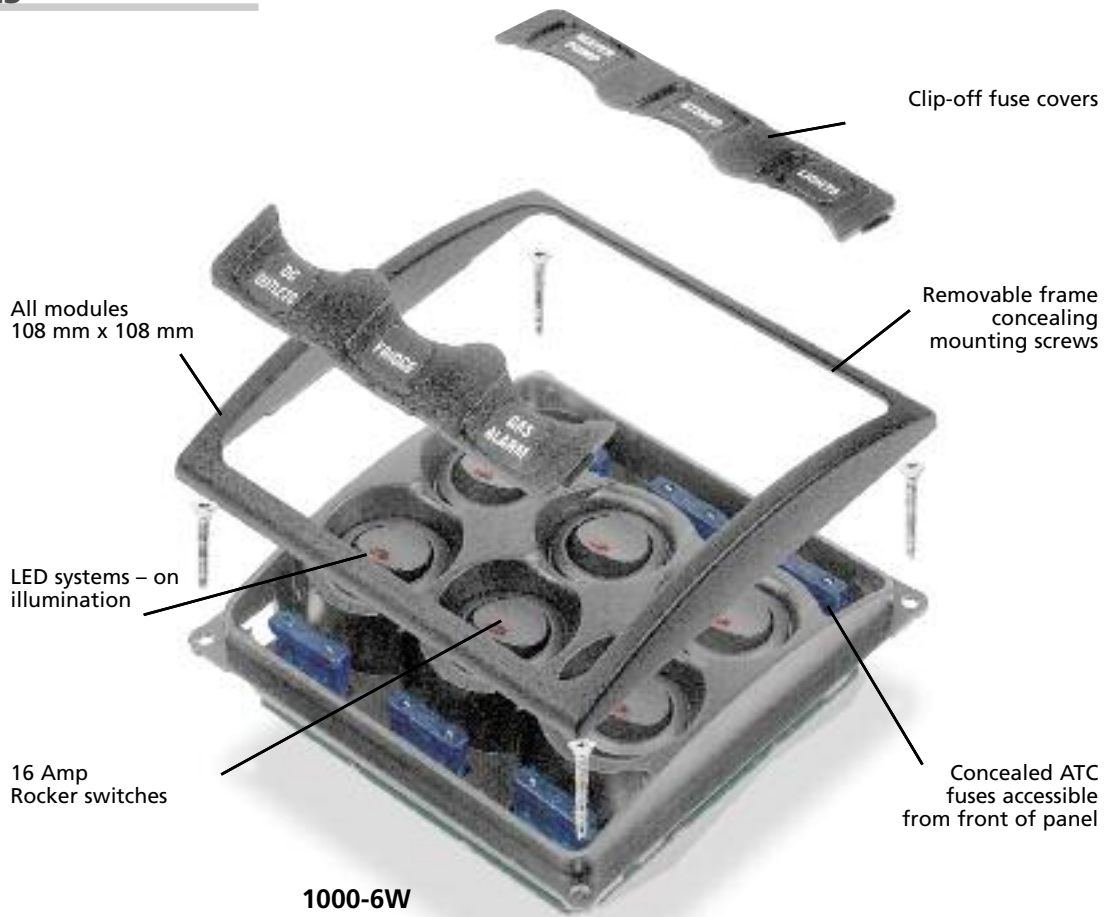
SW-CG1

MODEL	PART No.	SPARE SWITCH FOR G2 PANELS
SW-CG1	64372 B	ON/OFF
SW-CG2	64750 H	MOMENTARY ON/OFF
SW-CG3	64751 K	ON/OFF/ON
SW-CG4	64752 M	MOMENTARY ON/OFF/MOMENTARY ON

# 1000 SERIES CONTROL PANELS

126

The Contour 1000 Series control panels are offered as an economical option for interior use on smaller sail boats or cruises. The ATC fuses are easily accessible from the front of the unit and the range is fully modular allowing it to be mounted in a vertical or horizontal configuration.



### FEATURES:

Panels are modular for vertical or horizontal stacking. Spacer supplied for accurate mounting spacing.



**1000-6W-12 - 64379 S**  
Switch Panel



**1000-VM-12 - 64380 A**  
Analogic Meter Panel



**1000-AM-50 - 64381 C**  
Ammeter Panel

### 1000-DFR FRAME:

The 1000-DFR frame is designed to take any 600 – series digital meter (page 141-142). Frame and digital meter ordered separately.



**1000-DFR - 64382 E**

### SPARE SWITCHES

**SW-RVS1 - 65380 F**  
ON/OFF spare switch



**SW-RVS1**

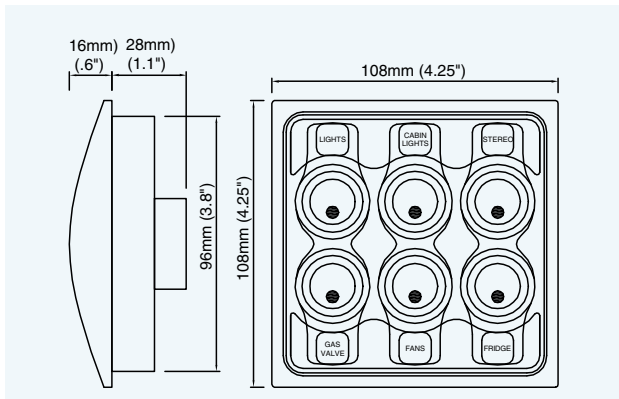


# 1000 SERIES CONTROL PANELS

## FEATURES:

- Supplied with ATC fuses accessible from front cover
- Square dimensions allow for modular mounting
- Supplied with label sheet part no. SET-1000
- Systems – on LED on each switch
- Matching trim conceals mounting screws
- 4 way and 6 way options available
- An On/Off/Momentary switch is available for horn operation. Ordered separately Part No. SW-RVS2 - 65380 F

MODEL	PART No.	SWITCHES	FUSES	VOLT
<b>1000-6W-12V</b>	64379 S	6	6	12V DC



Mod. 1000-6W dimensions

## LABEL SHEETS FOR 1000 SERIES CONTROL PANELS



SET-1000 - 64383 G



1000-6W



SW-RVS2  
ON/OFF  
65380 F



SET-1002 - 64384 J

# BATTERY DISTRIBUTION SWITCHES

## BEP MARINE BATTERY SWITCH TEST PROCEDURES (UL 1107)

Continuous (1 hour) intermittent (5 minutes) and cranking (engine starting – 10 seconds). The test is to determine the maximum current the switch can handle for the stated time, without the rear terminals exceeding 100°C above the ambient temperature. The continuous and intermittent ratings are tested at 110% of specified ratings. All BEP switches are tested independently to this specification by a 3rd party laboratory.

## 701 BATTERY MASTER SWITCH - 63142 C

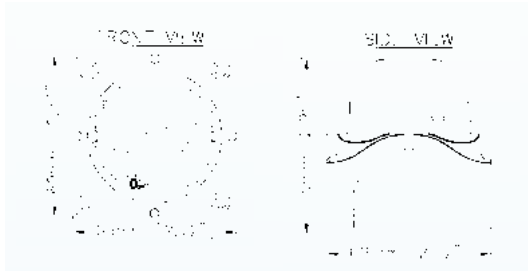
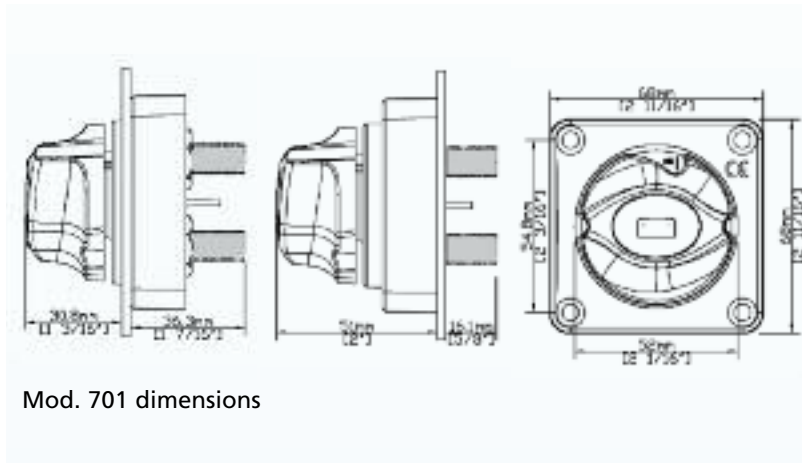
The 701 Contour Battery Master Switch offers a number of unique features. The highlights being the patented contour lock system, allowing it to be a stand alone unit, or locked together with other switches. The 701 also features a control knob which cannot be removed whilst in the On or OFF position, however can be removed by switching to an anti-clockwise 45° position. The control knob also features an interchangeable labelling system allowing a full range of applications Set-713 or Set-715 (page 132). The 701 also features removable side plates on 4 sides for access of up to 1/0 cables. Plus a rear cover insulating the rear terminals against any short circuits ensuring the switch meets ABYC requirements. The 701 can be either surface or recess mounted by cutting a 52 mm (2 1/16") hole.

### FEATURES:

- Continuous rating: 275 Amp DC
- Intermittent rating: 455 Amp DC
- Cranking rating: 1250 Amp DC
- Voltage rating: 48V DC
- Operation: ON/OFF
- Mounting: recessed or surface
- Termination stud size: 2 x 10 mm (3/8")
- Dimensions: 69 x 69 x 75h mm (2.75 x 2.75 x 3h inches)
- Tin plated copper studs and nuts
- Ignition protected

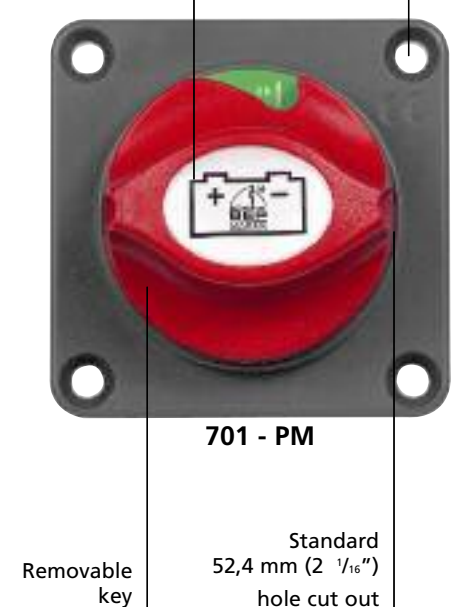
## 701-PM PANEL MOUNT BATTERY SWITCHES - 65494 X

Same specifications as 701 switch



Standard BEP interchangeable label system (page 132)

Countersunk recess for surface mount application



## 720 HEAVY DUTY BATTERY SWITCH - 63174 S

The 720 Heavy Duty Battery Switch fits into the same contour lock system as used on the battery distribution system. Rated at 600 Amp continuous and 2500 Amp cranking. It is well suited to larger vessels. As with the 701 and 720 can be recessed or surface mounted. The 720 uses the same style of self cleaning sliding contact as used in the 701. Also utilises the same label sheet as 701. Part Number 713 or 715 (page 132).

### FEATURES:

- Continuous rating: 600 Amp DC
- Intermittent rating: 800 Amp DC
- Cranking rating: 2500 Amp DC
- Voltage rating: 48V DC
- Operation: ON/OFF
- Mounting: recessed or surface
- Termination stud size: 2 x 12 mm (1/2")
- Dimensions: 102 x 102 x 90h mm (4 x 4 x 3.5h inches)
- Tin plated copper studs and nuts
- Ignition protected
- Available in bulk only



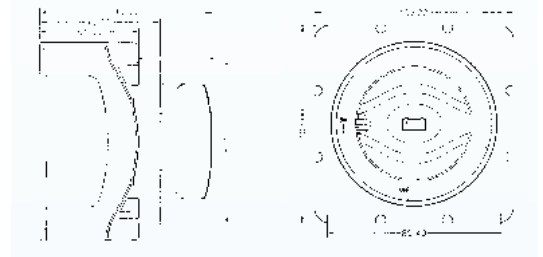
720

## 720-DP/B DOUBLE POLE BATTERY SWITCH - 67806 A

This model has the same dimensions and features as the 720 battery switch. The 720-DP also meets the needs of vessels being built to survey requirements where positive and negative supplies must be isolated at the same time.

### FEATURES:

- Continuous rating: 400 Amp DC
- Intermittent rating: 525 Amp DC
- Cranking rating: 1500 Amp DC
- Voltage rating: 45V DC
- Operation: ON/OFF 2 poles
- Mounting: recessed or surface
- Termination stud size: 4 x 10 mm (3/8")
- Dimensions: 102 x 102 x 90h mm (4 x 4 x 3.5h inches)
- Tin plated copper studs and nuts
- Ignition protected
- Available in bulk only



720-DP/B dimensions



720-DP/B

## 700 EASYFIT BATTERY SWITCH - 63672 J

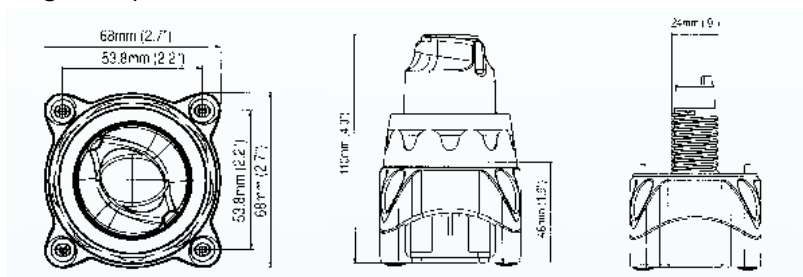
The 700 Easyfit is ideal on those installations where switches need to be recessed through varying thickness of panels. 700 Easyfit features an easily removable threaded ring allowing for panel thickness up to 19 mm (3/4"). It uses the same features as the 701 with the removable key 45° past the off position, labelled handle and a removable back cover covering exposed terminals to meet ABYC specifications. The switch can also be surface mounted offering a unique style compared to other switches available on the market. The 700 Easyfit can easily be retrofitted in place of most European post and lever type switches.

### FEATURES:

- Continuous rating: 275 Amp DC
- Intermittent rating: 455 Amp DC
- Cranking rating: 1250 Amp DC
- Voltage rating: 48V DC
- Operation: ON/OFF
- Mounting: recessed or surface
- Termination stud size: 2 x 10 mm (3/8")
- Tin plated copper studs and nuts
- 700-KEY spare Part Removable knob
- Ignition protected



700 EASYFIT



700 EASYFIT Dimensions

## BATTERY DISTRIBUTION SWITCHES

### 701-S MINI BATTERY SELECTOR SWITCH - 64387 R

The 701-S is the most compact selector switch available on the market. Housed in the same dimensions as the 701 and includes the same removable side plates and back cover.

While BEP Marine foremost recommends isolated battery systems as outlined with our distribution clusters, the 721 offers a simple economical way of separating two batteries.

**Please note this system will not separate electronics from harmful engine starting spikes.**

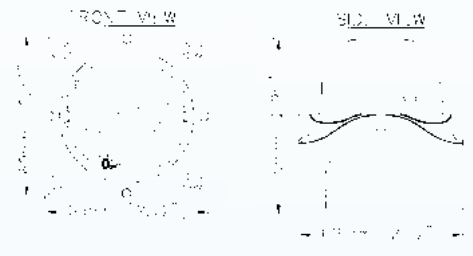
#### FEATURES:

- Continuous rating: 200 Amp DC
- Intermittent rating: 300 Amp DC
- Cranking rating: 1000 Amp DC
- Voltage rating: 48V DC
- Operation: Selector 1-2-both-off
- Mounting: recessed or surface
- Termination stud size: 3 x 8 mm (5/16")
- Dimensions: 69 x 69 x 75h mm (2.75 x 2.75 x 3h inches)
- Tin plated copper studs and nuts



Recessed hole cut out 52 mm (2.1")

701-S



701-S dimensions

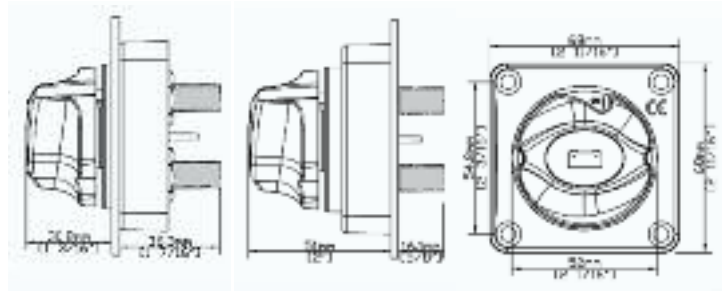
### 701S-PM PANEL MOUNT BATTERY SWITCHES - 66163 C

Same specifications as 701S switch



Countersunk recess for surface mount application

Standard 52,4 mm (2 1/16") hole cut out



701S-PM dimensions

### 721 BATTERY SELECTOR SWITCH - 63143 E

The 721 is our heavy duty selector switch, housed in the same module as the 720 and includes the same removable plates and back cover.

While BEP Marine foremost recommends isolated battery systems as outlined with our distribution clusters, the 721 offers a simple economical way of separating two batteries. **Please note this system will not separate electronics from harmful engine starting spikes.**

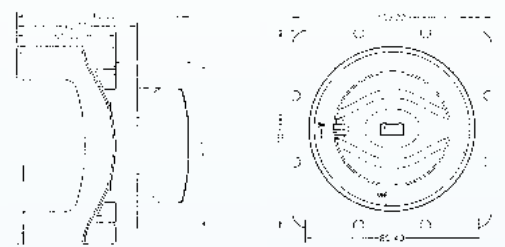
#### FEATURES:

- Continuous rating: 350 Amp DC (between common and B1 or B2)
- Continuous rating: 500 Amp Dc (between common and B1 or B2)
- Intermittent rating: 500 Amp DC
- Cranking rating: 1500 Amp DC
- Voltage rating: 48V DC
- Operation: Selector – Battery 1-2-both off
- Mounting: recessed or surface
- Termination stud size: 3 x 10 mm (3/8")
- Dimensions: 102 x 102 x 90h mm (4 x 4 x 3.5h inches)
- Tin plated copper studs and nuts
- Ignition protected



Recessed hole cut out 85 mm (3.3")

721



721 dimensions

## REMOTE OPERATED BATTERY SWITCHES

Due to the increased loading requirements on modern boats and large increases in the cost of copper battery cable, the MD range of battery switches allows you to mount the battery switch very close to the battery, reducing cable lengths to starter motor. They are also ideal for remote isolation of bow thrusters.

### THE MD RANGE OFFERS THE FOLLOWING FEATURES:

- Remote operation (easier access for battery control).
- Battery switch can be mounted alongside battery, reducing cable lengths and cable sizes to starter motor (large cost saving in copper cable).
- Reduced labour for fitting, due to shorter battery cabling.
- Manual override option to meet CE requirements.
- LED status identification for remote control switch.
- Same capacity/specification and mounting options as standard BEP battery switches.
- Utilize same interchangeable labelling system as BEP battery switches.

For the remote operation of the 701-MD and 720-MD battery switches, use the key switches 722-KS or 722-KS2 (page 132) or any standard on/off switch.

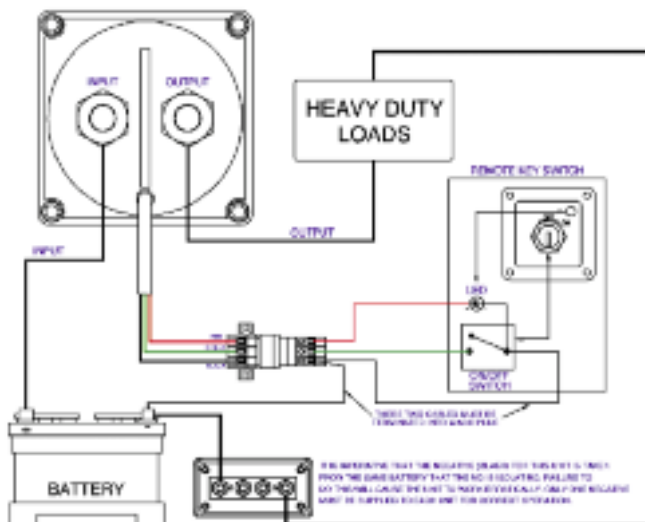
### 701-MD SPECIFICATIONS - 66026 S

- Continuous rating: 275 Amp DC
- Intermittent rating: 455 Amp DC
- Cranking rating: 1250 Amp DC
- Voltage rating: 9,5 – 32 Volt
- Operation: On / Off
- Mounting: recessed or surface
- Ignition protected
- Stud size: 2 x 10 mm (3/8")
- Tin plated copper studs and nuts

### 720-MDO SPECIFICATIONS - 66027 U

- Continuous rating: 500 Amp DC
- Intermittent rating: 700 Amp DC
- Cranking rating: 2500 Amp DC
- Voltage rating: 9,5 – 32 Volt
- Operation: On / Off
- Mounting: recessed or surface
- Ignition protected
- Stud size: 2 x 12 mm (1/2")
- Tin plated copper studs and nuts

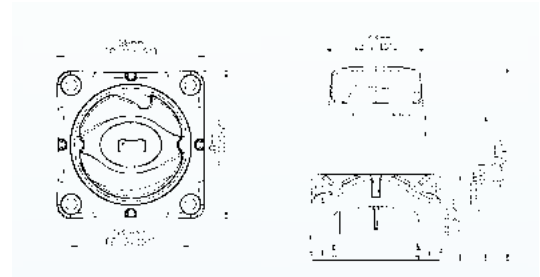
### WIRING DIAGRAM



720 - MDO



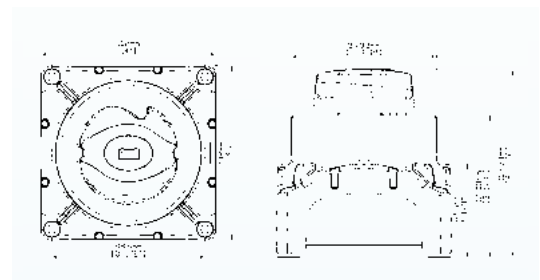
701-MD



701-MD dimensions



720-MDO



720-MDO dimensions

## WIRELESS REMOTE CONTROL AND RECEIVER TO OPERATE BATTERY SWITCHES

You can now wire your Battery to the BEP receiver and operate the On/Off switch by remote control, from a distance of up to 50 metres away

- You can control up to 4 separate 5 Amp circuits, eg. 701/720-MD battery switches, anchor light, navigation lights and courtesy lights
- No more lifting hatches to turn on battery switches – it is now all controlled from your remote keyfob
- Control battery switches easily (On/Off) from the dock or carpark
- The remote has a rolling code, for your security

80-911-0045-00 - 66951E - Wireless remote control



## KEY SWITCHES FOR BATTERY DISTRIBUTION SWITCHES

For remote operation of the 701-MD and 720-MD battery switches. Compatible for remote operation of 701-MDVS and 720-MDVS Voltage Sensitive Relays too.



722-KS2 - 63215 D

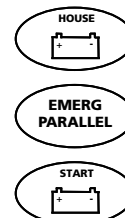


722-KS  
65350 W

## LABEL SET FOR BATTERY DISTRIBUTION SWITCHES

Set - 715  
64389 V

Set 715 contains the three most commonly requested labels

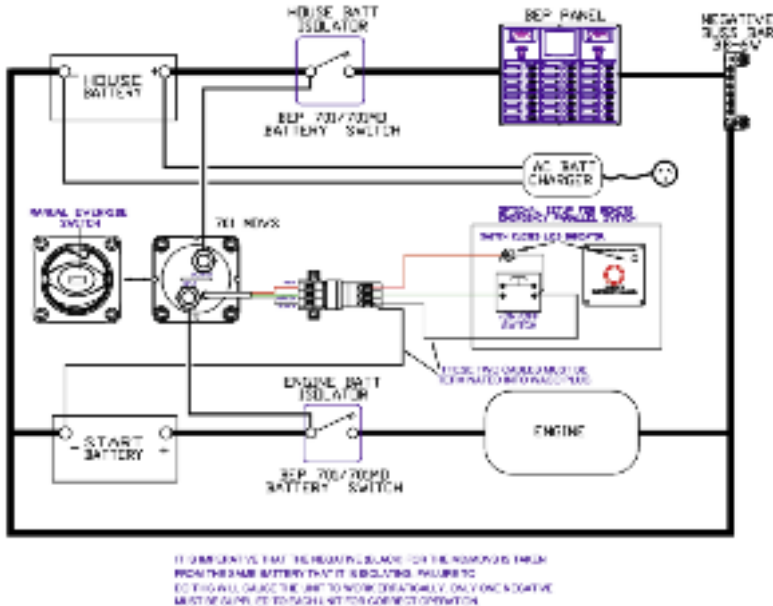


# REMOTE OPERATED DUAL BATTERY CHARGING VOLTAGE SENSITIVE RELAYS(VSR) WITH EMERGENCY PARALLEL

The VSR switch utilizes the same operation as the MD battery switches and is packed with features which complement the MD range.



**701-MDVS**  
Same specifications  
as 701-MD



**720-MDVS**  
Same specifications  
as 720-MD

## FEATURES

- Dual battery sensing
- Remote emergency parallel function 701-MDVS and 720-MDVS can be operated through a momentary button on the dash which will parallel the batteries for a present time of 10 minutes. Once this 10 minutes has passed, if the voltage is up high enough for the voltage sensitive switch to operate, it will stay engaged. If not, it will discharge.
- Engine run sensing VSR will engage when the voltage on either start or house battery reaches 13,7 Volt. If the combined battery voltage drops below 13,0 Volt and the engine is not running, after 5 seconds the contacts will open and stay open until the start or house battery voltage exceeds 13,7 Volt. If the combined battery voltage drops below 12,2 Volt and the engine is running, after 5 minutes the contacts will open and stay open until the start or house battery voltage exceeds 13,7 Volt. If voltage drops below 13,0 Volt and stays above 12,2 Volt on either start or house battery while engine is running, the VSR will stay engaged.
- Manual override option
- The VSR will cover your dual battery charging requirements and emergency parallel operation in one unit

MODEL	PART No.	VOLT	RATING	ENGAGES	DISENGAGES
<b>701-MDVS</b>	66416 F	12V DC	275A	13.7V DC	12.2-13.00V DC
<b>720-MDVS</b>	66417 H	12V DC	500A	13.7V DC	12.2-13.00V DC
<b>701-MDVS-24V</b>	66418 K	24V DC	275A	27.4V DC	24.4-26.00V DC
<b>720-MDVS-24V</b>	66419 M	24V DC	500A	27.4V DC	24.4-26.00V DC

## DUAL BATTERY CHARGING VOLTAGE SENSITIVE RELAYS

**new**



**710-140A**

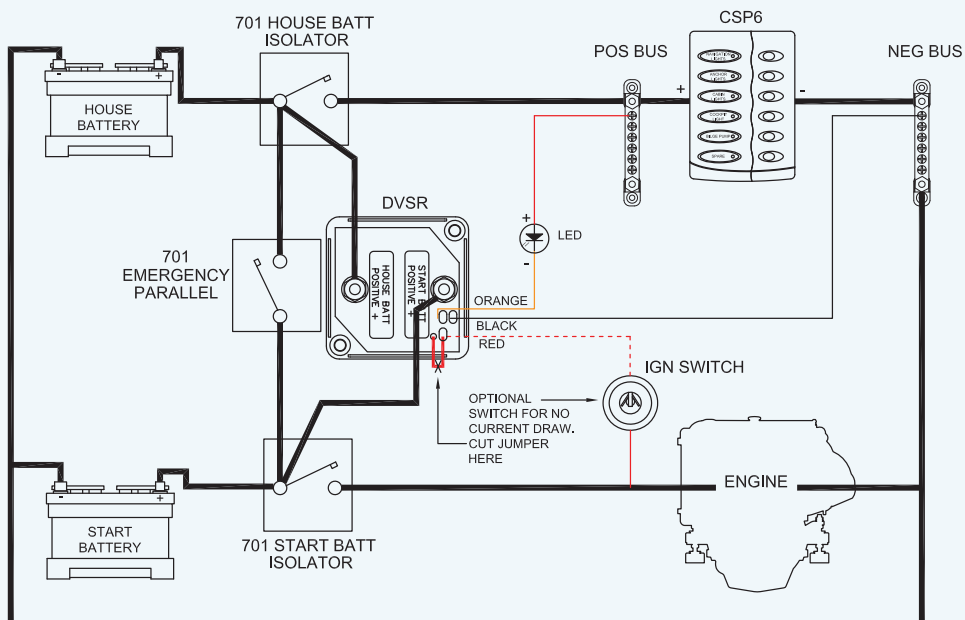
### 710 -140A - DIGITAL VOLTAGE SENSING RELAY (DVSR)

The Voltage Sensing Relay (VSR) allows the charging of a second battery from a single charging source. When the voltage on the start battery rises to a level indicating a 60% charge, the VSR engages allowing the 2nd battery to charge. When charging stops and voltage falls, the VSR will disengage isolating the two battery banks from each other. Dual sensing functionality enables the sensing of two battery banks allowing two way charging.

- Safely charge two or more independent battery banks from one charge source (alternator, battery charger....)
- Protects start batteries from becoming flattened by domestic loads
- Simple to install 3-wire connection, leaves alternator wiring intact
- No Volt drop vs. diode isolators
- Zero stand by current draw
- Multi voltage, auto selects between 12 and 24V DC operation
- Ignition protected
- Surface or panel mountable

Replace previous models 710-125A and 710-125A-DS

MODEL	PART No.	VOLT	APPLICATION	SIZE mm (") H x W x D
<b>710-140A</b>	68101 P	12V DC/24V DC	For use on charging systems up to: 140 Amp	69 x 69 x 50 (2.75 x 2.75 x 2)





# BATTERY DISTRIBUTION CLUSTERS

## 716-SQ-140A-DVSR DUAL BATTERY CHARGING CLUSTERS

For use on charging systems up to 150A. To be used on following systems:

- Single outboard dual battery bank
- Single alternator inboard engine dual battery bank



716-SQ-140A-DVSR

## 715-S DUAL BATTERY CHARGING CLUSTERS

The 715-S is designed for systems with twin engines and 2 batteries. The house loads can be switched between port and starboard battery. The selector switch can also be used to parallel the batteries when in both position.



715-S

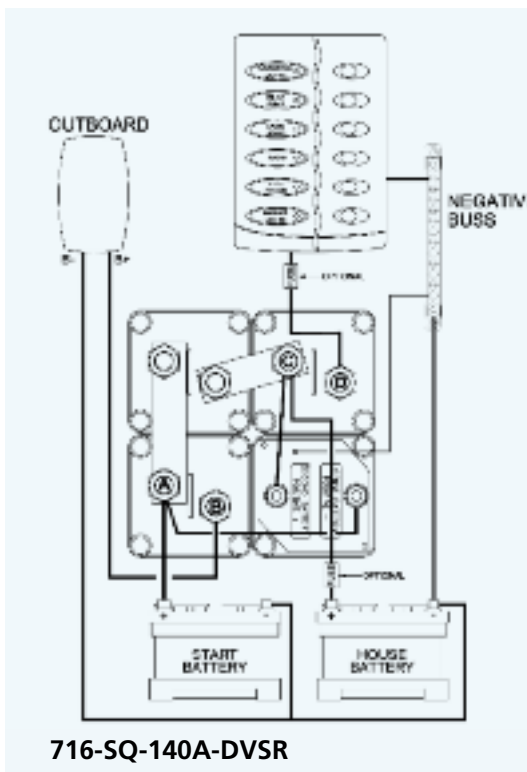
## 717-140A-DVSR THREE BATTERY CHARGING CLUSTERS

This system is designed for twin outboard installations using outboards without AUX outputs. It will allow the port engine to charge the port start battery and the house battery when the VSR is engaged. It will also allow the starboard engine to charge the starboard start battery and the house battery when the starboard VSR is engaged, giving a combined charge from two outboards into the house battery until the voltage regulators on both engines control the charge. It will also allow the house battery to be charged if steaming on one engine.

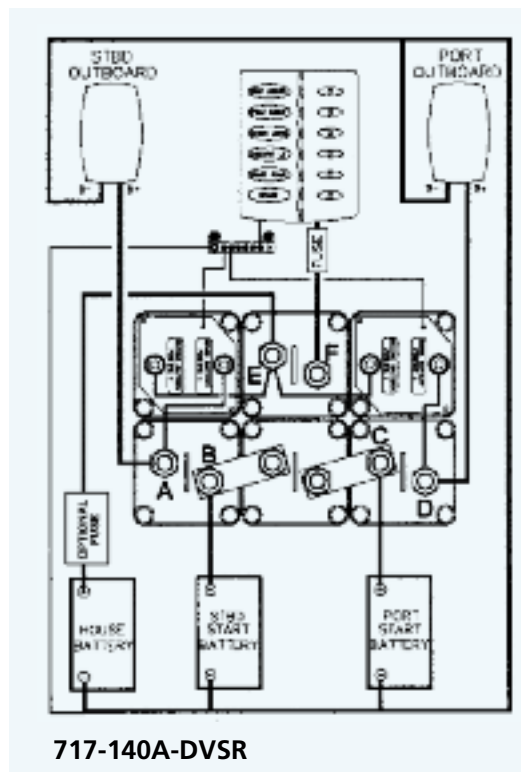


717-140A-DVSR

MODEL	PART No.	ENGINE/BATTERIES	ORIENTATION	SIZE mm (") H x W x D
716-SQ-140A-DVSR	68102 S	Single inboard or outboard engine/2 banks	SQUARE	138 x 138 (5.4 x 5.4)
715-S	65352 A	Twin inboard or outboard engine/2 banks	RECTANGULAR	138 x 69 (5.4 x 2.75)
717-140A-DVSR	68103 U	Twin outboard engine/3 banks	RECTANGULAR	207 x 138 (8.1 x 5.4)



716-SQ-140A-DVSR



717-140A-DVSR

## REMOTE BATTERY MANAGEMENT SYSTEM

136

### SYSTEM FOR DUAL ENGINE AND THREE BATTERIES 80-716-0015-00 - 67404 D

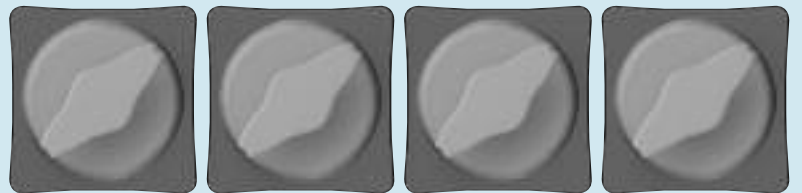
It offers the same features as the system 717-100A, but totally motorized. VSR and battery switch are in one kit.



80-716-0015-00

#### Dimension guide

Clusters are made from uniformly square switches. Each side 69 mm (2.7")



### BATTERY SWITCH CONTROL CENTER (BCC) - 67405 F

Sophisticated electrical systems need reliable automation.

It is possible to centralize power handling with BEP Battery Control Center (BCC) that can control all battery switches from one convenient position.

#### FEATURES

- The BCC is equipped with locks that ensures group operation at the turn of the key. Any switch can be isolated by disengaging its lock and toggling the switch off
- Isolate each battery via key switch or designated battery banks via breaker.
- LED Status indicators for battery switch status.



80-700-0051-00

# BATTERY DISTRIBUTION COMPONENTS

## GALVANIC ISOLATORS

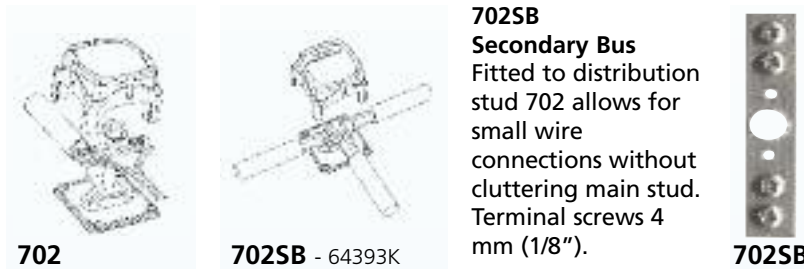
- Prevent galvanic corrosion due to dissimilar metals between boats
- Gold plated terminals provide superior corrosion resistance to marine environment
- Block DC current from flowing through shore power cable
- Ignition protected

MODEL	PART No.	AMP	VOLTAGE
<b>4531001</b>	67078 T	30A	115/230V
<b>4531011</b>	67079 V	50/60A	115/230V



## 702 DISTRIBUTION STUD

The 702 Contour Distribution Stud allows terminating of heavy duty cables for 1 or more connections. Contour lock housing has removable side plates which allow for connections from all sides, utilising link bars 702SB.



**702SB**  
**Secondary Bus**  
 Fitted to distribution stud 702 allows for small wire connections without cluttering main stud. Terminal screws 4 mm (1/8").



MODEL	PART No.	STUD SIZE	AMP	SIZE mm (") H x W x D
<b>702</b>	63687 Y	10 mm (3/8")	200A	69 x 69 x 50 (2.71 x 2.71 x 2)
<b>703-300A</b>	68058 S	10 mm (3/8")	300A	138 x 69 x 50 (5.4 x 2.71 x 2)
<b>703-500A</b>	63688 A	10 mm (3/8")	500A	69 x 69 x 50 (2.71 x 2.71 x 2)

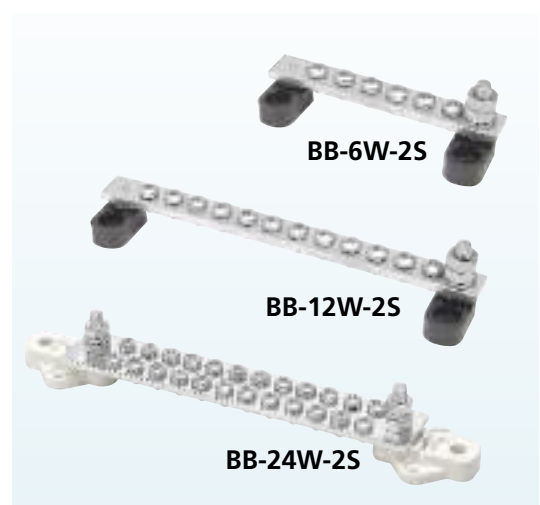
## BUS BARS

Marine grade negative or positive Bus Bars are supplied as standard with all BEP AC/DC control panels

### FEATURES:

- 4 mm (5/32") stainless steel screws with shakeproof washers
- 2x6 mm (1/4") input stud
- Tin plated brass
- Insulated mounting base

MODEL	PART No.	OUTPUT SCREWS 4 mm (5/32")	INPUT STUDS 6 mm (1/4")	CURRENT RATING
<b>BB-6W-2S</b>	63690 L	6	1	100A
<b>BB-12W-2S</b>	63691 N	12	1	100A
<b>BB-24W-2S</b>	63692 R	24	2	150A



## INSULATED STUDS

### FEATURES:

- Tinned copper 10 mm (3/8") or brass studs 6 mm (1/4") with spring washers
- High temperature plastic insulated mounting base

### DIMENSIONS W x H x D mm ("):

- IS-10MM-1: 44x35x18 mm (1.73x1.37x0.7)
- IS-6MM-2: 42x32x36 mm (1.65x1.25x1.42)



## BATTERY DISTRIBUTION COMPONENTS

### 702-MFH AND 702-HDBFH SINGLE FUSE HOLDER

BEP Marine's new heavy duty fuse holders are an economical way of fusing heavy loads 30-80 amp. Ideal for battery charger outputs or mains feeds. 6 mm (1/4") studs receive ring terminals and cables up to 25 mm<sup>2</sup> (4 gauge). Fuse is clamped between tinned brass clamp for positive connection. Covers enclose exposed terminals to meet ABYC standards.



702-MFH

MODEL	PART No.	STUD SIZE	SIZE mm (") H x W x D
702-MFH	67406 H	6 mm (1/4")	71 x 53 x 36 (2,8 x 2 x 1.42)

### SPECIFICATIONS:

- Fuses available 30-80 Amp
- Interrupt capacity: 1000 Amp DC
- Maximum voltage: 32 Volt DC

### HEAVY DUTY FUSES

MODEL	PART No.	RATING	MODEL	PART No.	RATING
BFHD-30A	66132 R	30 Amp	BFHD-60A	66135 X	60 Amp
BFHD-40A	66133 T	40 Amp	BFHD-70A	66136 Z	70 Amp
BFHD-50A	66134 V	50 Amp	BFHD-80A	66137 B	80 Amp

### 704-ANL FUSE HOLDER HEAVY DUTY - 63235K

The 704-ANL allows fusing of heavy duty accessories between 80 Amp - 500 Amp. Mounted in contour lock mouldings with removable sides. Meets ABYC standards for exposed terminals.



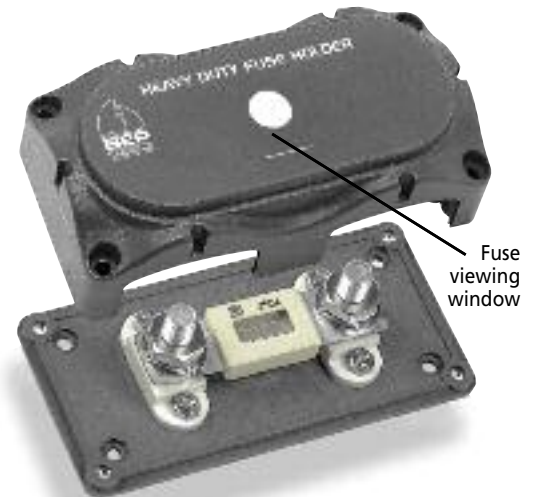
704-ANL



ANL-FUSE

MODEL	PART No.	ANL FUSE LINKS	SIZE mm (") H x W x D
IP100A	64395 P	100 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)
IP150A	63806 D	150 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)
IP200A	63807 F	200 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)
IP250A	63808 H	250 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)
IP300A	63809 K	300 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)
IP425A	63810 U	425 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)
IP500A	64407 U	500 Amp	138 x 69 x 50 (5.4 x 2.75 x 2)

IGNITION PROTECTED



704-ANL

Fuse viewing window

# ATC FUSE HOLDERS

The BEP ATC fuse holder includes the patented contour lock system (as used in all BEP battery management products). This allows you to module as many fuse holders as you like together.

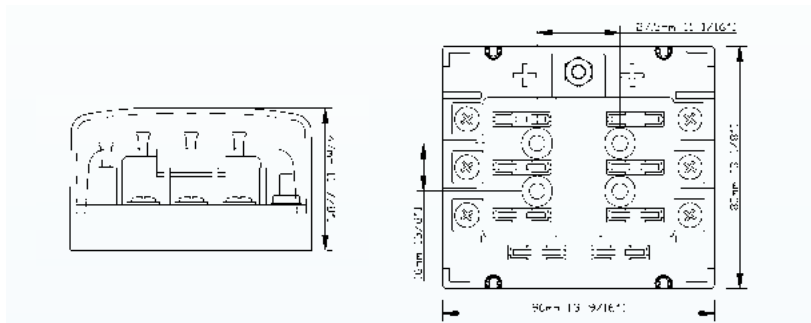
The advantage of this is that it allows you to link the inputs together, or split them apart to allow multiple power groups within one fuse holder: eg. switched supply or 24 hour supply. For the aftermarket the modular system allows you to carry one part number instead of 3 or 4. The 6W-ATC also includes a clip on cover and label positions. The label positions receive the same label as the 1000 series panels: refer page 127 (ordered separately).



**ATC-6W**

## SPECIFICATIONS

- Maximum amperage per circuit: 30 Amp
- Maximum amperage per block: 100 Amp
- Maximum voltage: 32V DC
- Base material: polycarbonate
- Cover material: clear polycarbonate



ATC-6W Dimensions

ATC FUSE HOLDERS		
MODEL	PART No.	DESCRIPTION
<b>ATC-6W</b>	65569 C	6 way fuseholder, screw terminals, with cover
<b>ATC-6WQC</b>	66017 R	6 way fuseholder, quick connect, with cover

ATC FUSES		
MODEL	PART No.	RATING
<b>J03A</b>	66018 T	3 Amp
<b>J05A</b>	66019 V	5 Amp
<b>J7.5A</b>	66020 D	7.5 Amp
<b>J10A</b>	66021 F	10 Amp
<b>J15A</b>	66022 H	15 Amp
<b>J20A</b>	66023 K	20 Amp
<b>J25A</b>	66024 M	25 Amp
<b>J30A</b>	66025 P	30 Amp



**J05A**

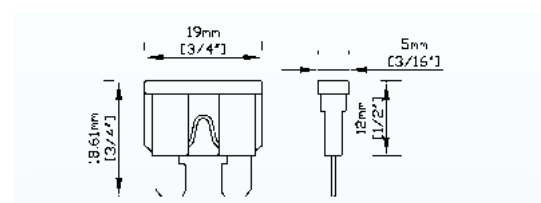


Fuse holder link  
Part No. - 65570 L  
**BB-LINK-26 mm**  
Ordered separately

**BB-LINK - 26 mm**

## SPECIFICATIONS

- Fuses available: 3-30 Amp
- Interrupt capacity: 1000 amp DC
- Maximum voltage: 32 Volt DC



J05A dimensions

## DC SYSTEM MONITOR (DCSM)

DCSM SYSTEM INCLUDES 1 X SHUNT AND CABLE 80-600-0021-00 - 67407 K

### MONITORS:

- Charge/discharge (Amps) for two banks
- Capacity remaining in A/h and %
- Battery condition
- Tank fluid level
- Circuit status

### FEATURES:

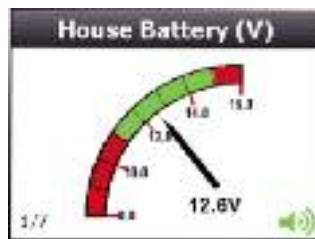
- 8 generic, user configurable inputs
- Programmable high/low audio/visual alarms for volts, amps and tank levels
- Backlit keypad and dimmable screen
- Can be panel or surface mounted

### SPECIFICATIONS:

- 2.8" colour QVGA LCD
- Input voltage: 8-32VDC
- Dimensions: W 38mm (1.50") x H 40mm (1.57")
- Backlit keypad



80-600-0021-00



### DC POWER METER:

- Displays voltages of multiple battery banks (0-32VDC)
- Displays charge and discharge (Amps) of 2 battery banks
- Displays battery capacity in A/h
- High/Low level alarms

### DISPLAY TYPE:

- Configure the DCSM to show the data in analogue, digital and graphic form

### CIRCUIT STATUS:

- View the status of important circuit (on/off) in graphic and numeric form

### TANK LEVEL:

- View tank level information for multiple tanks in numeric and graphic forms. Resetable when leaving boat.

## AC SYSTEM MONITOR (ACMS)

ACSM SYSTEM INCLUDES 1 X AC-VSEN-4 AND 2 X CT-10-3 80-600-0023-00 - 67408 M

### MONITORS:

- AC volts, amps and frequency

### FEATURES:

- 3 generic user configurable inputs
- Displays data in analogue, digital and graphic forms
- Programmable high/low audio/visual alarms for each input

### SPECIFICATIONS:

- 2.8" colour QVGA LCD
- Input voltage: 8-32VDC
- Dimensions: W 38mm (1.50") x H 40mm (1.57")
- Backlit keypad



80-600-0023-00



### AC POWER METER:

- Displays AC volts, amps frequency and power for two supplies with a third position for monitoring AC volts and frequency of a third supply
- Displays AC power in kW

### AC VOLTS/FREQUENCY:

- Displays AC voltage and frequency, 80-264 Vac 50 & 60 Hz

### AC AMPS:

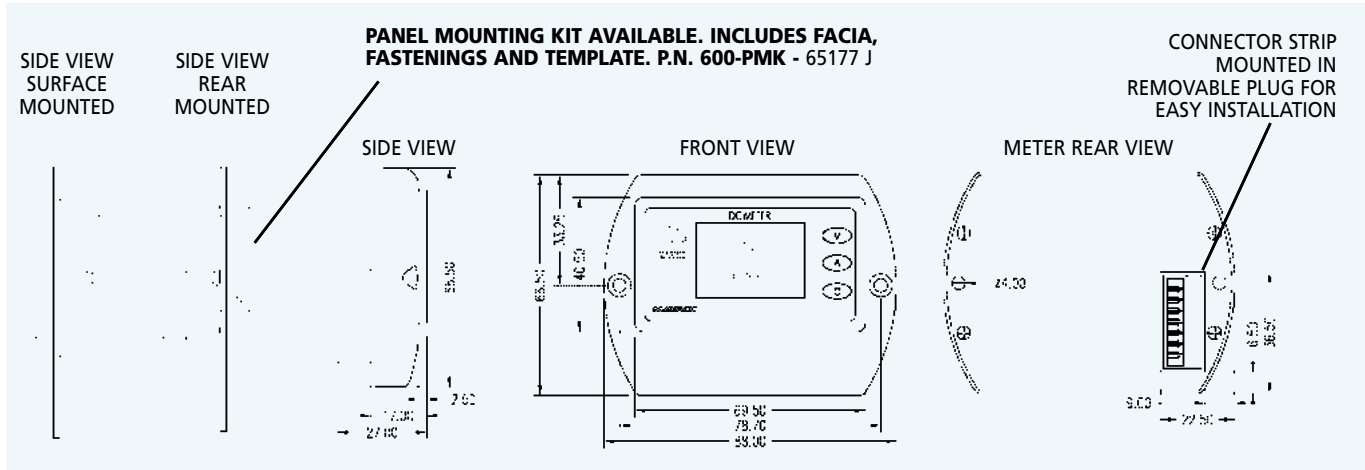
- Displays current for 2 x AC supplies (0-75A)

### ALARMS:

- High and low alarms for each input
- User selectable alarm levels
- Mutable

# CONTOUR MATRIX DIGITAL MONITORING SYSTEMS

The 600 series Digital Monitoring System, designed and manufactured by BEP Marine, is made to meet the requirements of modern boating and recreational vehicles. Electrical installations on-board the modern boat now incorporate complex AC and DC systems along with extensive tankage for items such as fuel, fresh water, sewage and grey water. Accurate monitoring of such systems is essential, as a mal-function in any one of the above areas could cause major damage to expensive equipment and ultimately endanger the vessel or peoples lives. The dot matrix display incorporated in the 600 series allows for more detailed on-screen information and clarity of viewing. They have a backlighting display for easy night time viewing, audible alarm with mute function, power supply 10-35V DC. The Contour Matrix series is designed to be surface mounted or recessed into a panel utilising the 600-PMK Kit.



## 600-DCM MONITOR - 63168X

The 600-DCM monitor offers a comprehensive range of functions to allow full monitoring of your batteries and charging system. There is also a function allowing for 24h monitoring of your bilge. This meter is an important addition to modern battery management systems.



### VOLTAGE MONITOR:

- Voltage monitor for up to 3 battery banks
- 12 costum selectable legends eg: Start battery, House battery etc.
- Hi / Low voltage alarms on all 3 banks



### AMP CHARGE & DISCHARGE:

- On house bank only
- Meter supplied with a 450-50 mV shunt



### PERCENT REMAINING IN AMP HOURS:

- Software utilizes Peukerts exponent
- Suitable for use on battery banks from 60 to 3000 Amp hours
- Low Amp hour alarm



### BILGE MONITOR

- The bilge monitor function monitors bilge pump functions 24 hours, 7 days a week. Stores bilge pump operations and accumulated time. Resettable when leaving boat.
- Function only available when third voltmeter position is not used

## LB-450-50 SHUNT - 64396 S

450A - Shunt supplied with 600-DCM and 80-600-0021-00 monitors

### DIMENSIONS WxDxH mm ("):

- 83 x 45 x 44 (3.26 x 1.77 x 1.73)



## DIGITAL MONITORING SYSTEMS

### 600-ACM - 63169 Z

The 600-ACM AC monitor includes one extra voltage input allowing monitoring of twin line inputs. Selectable legends allow labelling e.g. AC volt Line 1, AC volt Line 2. It has also an extra input for current enabling monitoring of Amp on twin line systems.



#### AC VOLT FUNCTIONS:

- 3 inputs with selectable legends: AC volt Line 1, AC volt Line 2, AC volt L1 + L2,
- High / low volt alarm

#### AMP FUNCTIONS:

- 2 AC Amp inputs Selectable legends: AC Amp, AC Amp Line 1 & AC Amp Line 2
- High Amp alarm

#### FREQUENCY FUNCTIONS:

- 0 – 100 Hz
- Frequency alarm selectable for 50 or 60 Hz



600-ACM

### CT-10-3 - 64398W

One Ct-10-3 current transformer is supplied with 600-ACM. If a twin line system is in use a second CT must be ordered.

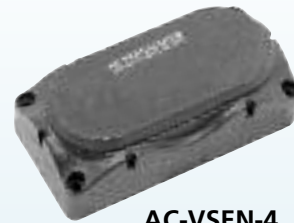


### AC-VSEN - 64397U

The AC-VSEN includes 2 voltage transformers for 2 voltage inputs. Supplied with 600-ACM.

### AC-VSEN-4 - 67314 C

AC transducer supplied with ACSM system



AC-VSEN-4

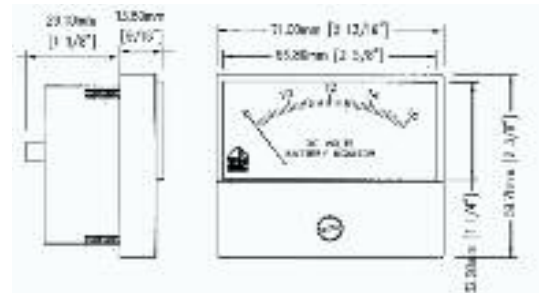


AC-VSEN

## ANALOG STAND-ALONE METERS

### ANALOG VOLTMETERS

MODEL	PART No.	VOLT	SCALE
<b>N816DCV</b>	63682 M	12V DC	8-16 Volt DC
<b>N1632DCV</b>	63683 P	24V DC	16-32 Volt DC



### ANALOG AMMETERS

MODEL	PART No.	SCALE	CURRENT TRANSFORMER	SHUNT MODEL
<b>N050A</b>	64399 A	0-50 Amp DC	N/D	50A-50MV
<b>N100A</b>	64400 D	0-100 Amp DC	N/D	100A-50MV
<b>N150A</b>	64183 Y	0-150 Amp DC	N/D	150A-50MV



N816DCV

### AMMETER SHUNT

MODEL	PART No.	SCALE
<b>50A - 50MV</b>	64515 X	0-50 A
<b>100A - 50MV</b>	64178 F	0-100 A
<b>150A - 50MV</b>	64516 Z	0-150



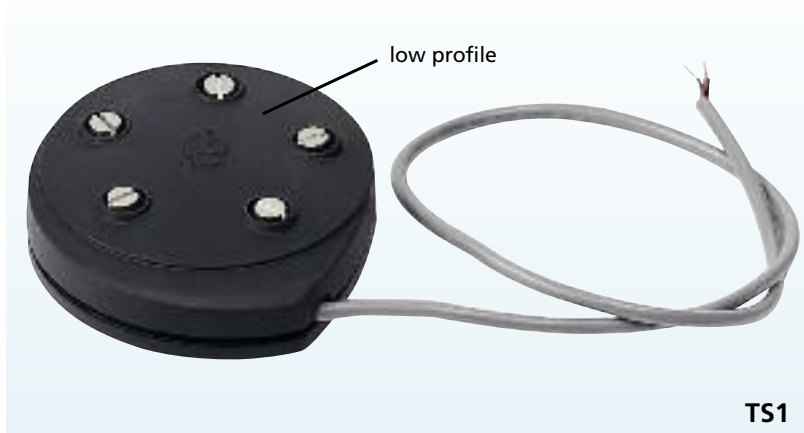
AMMETER SHUNT



# ULTRASONIC TANK SENDER

## TS1 - 66322 W

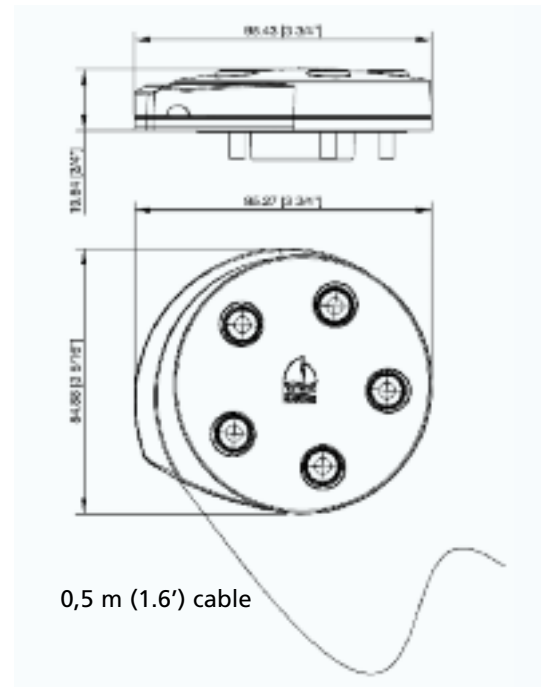
The TS1 Ultrasonic Tank Sender can be used on fuel (petrol or diesel), fresh water, grey or black water tanks. One part number suits all tanks!



TS1

### SPECIFICATIONS:

- The TS1 is programmable for the following outputs: 240-33 Ohm, 10-180 Ohm and 0-5 Volt
- The TS1 offers low profile and standard SAE 5 hole mounting pattern, allowing it to be retrofitted to practically all other sender brands
- The TS1 can be programmed for tank dimensions via a computer utilizing BEP Marine's proprietary TS1 software and TS1-PK kit software avoiding experimental tank filling on site
- The TS1 configured to a 0-5V output will connect straight into the BEP 600-TLMN and 600-DCTLM digital tank monitors
- When configured to a 240-33 Ohm or 10-180 Ohm output the TS1 can be connected to Uflex®, Wema®, Faria®, VDO®, Teleflex® and many other popular instrument brands. When connecting to non-adjustable gauges the TS1 must be pre-calibrated
- Standard off the shelf TSI sender is set for 0-2000 mm (6.5')



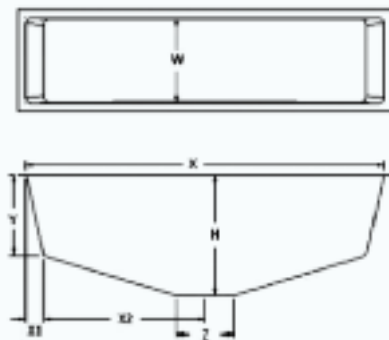
0,5 m (1.6') cable



TS1-PK - 66323Y

SPECIFICATIONS	
<b>Current draw</b>	10-32VDC
<b>Current draw</b>	25mA with 5 volt gauge output
<b>Measurement method</b>	acoustic sonic measurement
<b>Tank depth</b>	0 to 2000mm (6.5 ft)
<b>Accuracy</b>	distance 0-2000mm (6.5') at 2 mm accuracy
<b>Mounting</b>	SAE 5 stud mounting pattern with gasket, seal and screws. Top mount only
<b>Environmental</b>	temperature 4 to 65 degrees C
<b>Chemical resistance</b>	Petrol, diesel, water, toilet chemicals
<b>Tank type</b>	Metal and plastic with non linear capacity, grey and black water, petrol and diesel

### Non linear Tank Parameter Calculation



BEP Marine's proprietary software allows distributors or volume users to pre-programme tank dimensions giving accurate measurement avoiding experimental tank filling.



## NETWORK CONTROL AND MONITORING SYSTEM

CZone™ is what you want in a digital control system designed for manufacturers and installers.

It simplifies installation of electrical systems through the replacement of complicated, cumbersome wiring to switch and fuse panels, with state of art, robust interface and light NMEA 2000 network cable.

### **INSTALLATION:**

Builders recognize an immediate benefit with reductions in cable usage, harness weights and installation times. CZone™ decentralizes the DC power distribution system, locates circuit control and protection modules closer to loads to shorten cable runs and reduce the size of conductors, significantly decreasing the cost and weight of the electrical wiring harness. The system replaces complex wiring with a single data wire. Integrated diagnostics ensures fault finding is simple and modules can easily be added into the system.

### **INTEGRATION:**

CZone™ is NMEA 2000 compliant and uses standard Micro cables and connectors. This allows a single network backbone to be installed for multiple systems (CZone™ and other NMEA 2000 devices). Additionally, CZone™ can share certain monitoring functions with other NMEA 2000 compliant screens.

### **SECURITY AND VERSATILITY:**

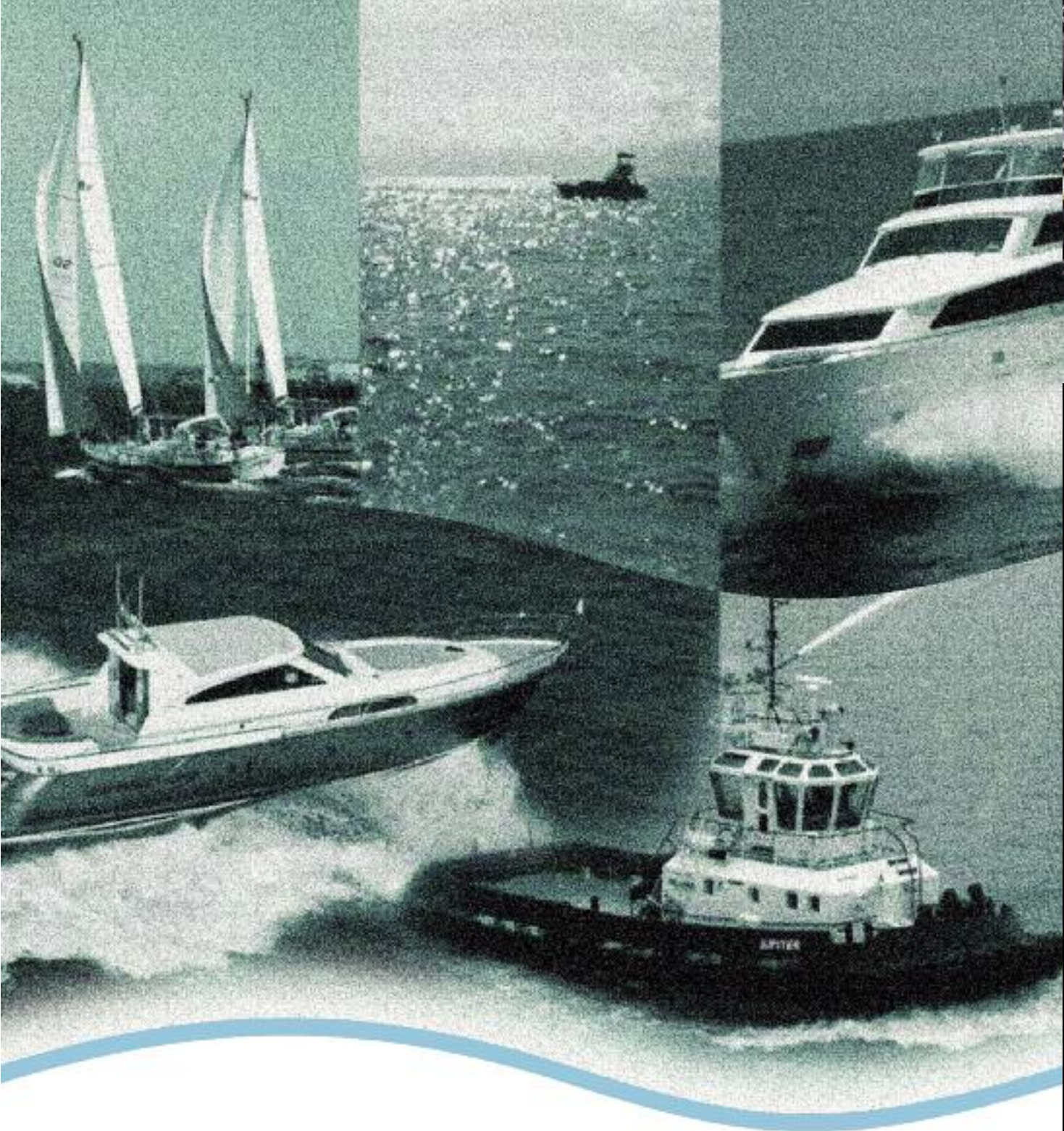
CZone™, designed for 9-32V systems, features built-in timers, dimmers (including support for halogen lighting), alarms, voltage reducers and load shedding.

The No-Single-Failure-Point technology ensures a plug-n-play system that is designed to handle mishaps. If a module is damaged, the system will automatically program the replacement module, when it is plugged in.



**DISPLAY INTERFACE**





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**WHISPER POWER - SMART ENERGY SOLUTIONS**

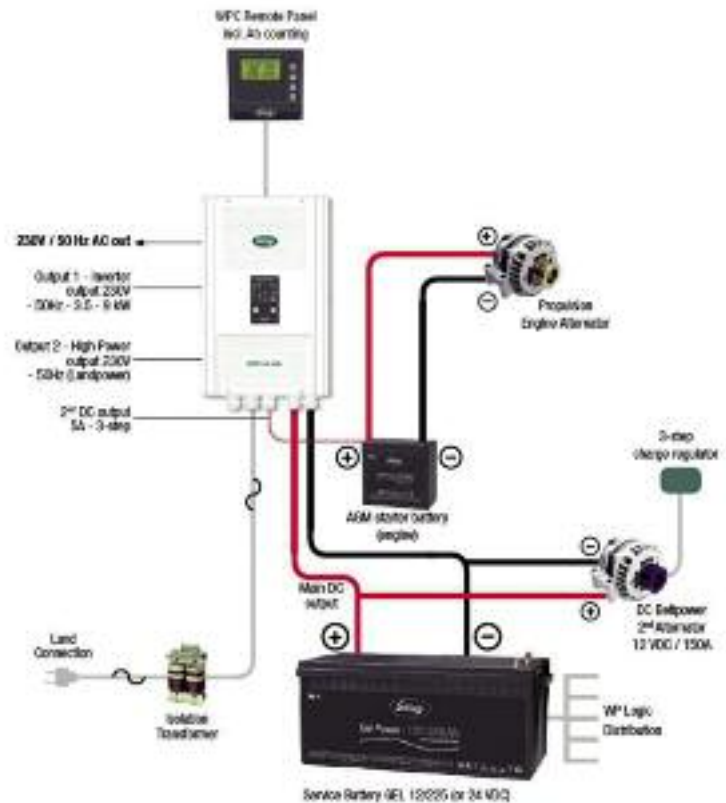
## WHISPER POWER - TOP QUALITY SYSTEMS

WhisperPower offers efficient, clean and exceptionally quiet power systems. Each product is characterised by its sustainable and reliable operation and exceptionally long life span.

### BASIC CONFORT SYSTEM WITHOUT GENERATOR

The Basic Confort system consists of a 3.5 kW Whisper Power Centre sine wave inverter/battery Charger, a remote control panel with energy monitor, shore connection with isolation transformer (optional) and a set of long-life GEL power batteries.

**Note:** The Basic Confort System is also available with generator



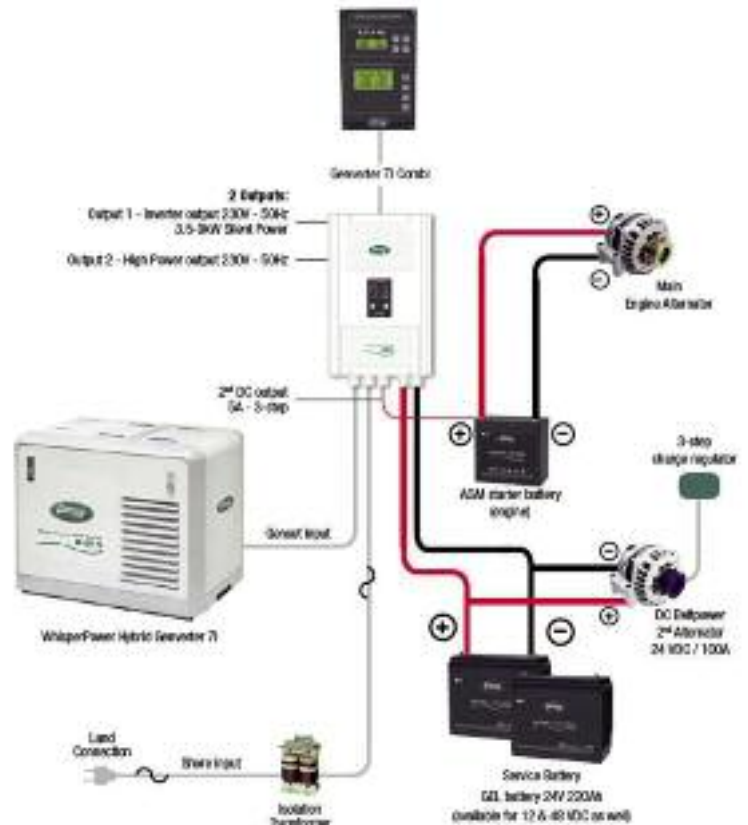
### ADVANCED SYSTEM

The Advanced system consists of a variable speed Generator, GENVERTER 7i, that supplies 24V to the onboard batteries and/or 230 VAC power via the WPC (Whisper Power Centre) inverter/battery charger, Power System Control Panel with built-in battery monitor and a set of GEL batteries.

It can feed the complete DC and AC board system.

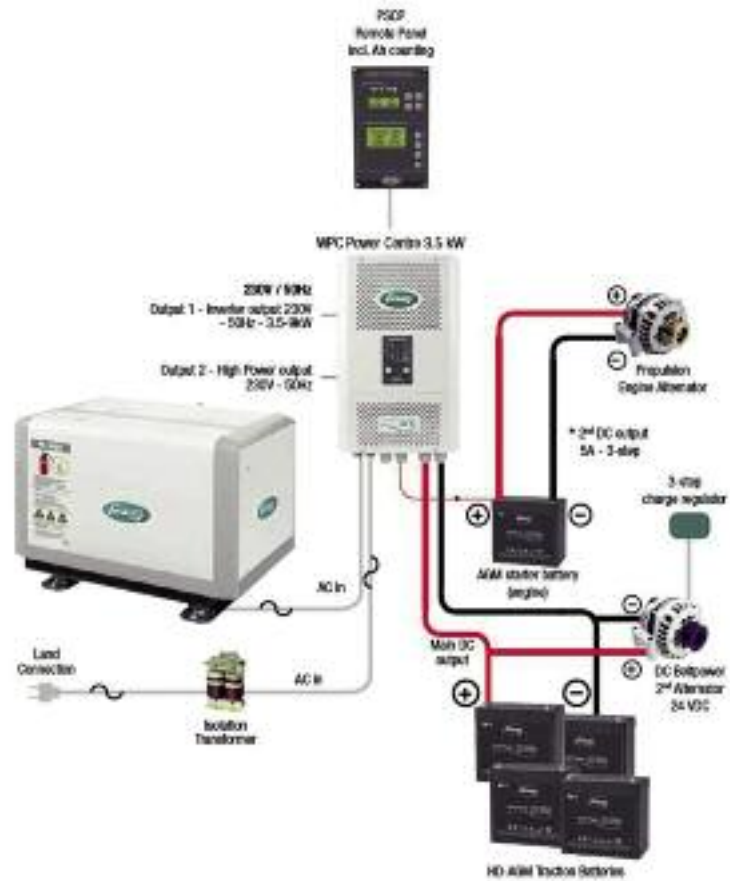
Total 230 VAC power rating is 7 kW. 'Silent power' is supplied by the highly reliable and efficient sine wave inverter (3.5 kW) that can also serve as a booster in case of limited shore power availability. The three-stage battery charger supplies a charge current up to 90 A. The system enables complete plug & play installation and considerable savings in fuel consumption.

Also available for 12 VDC and 48 VDC batteries.



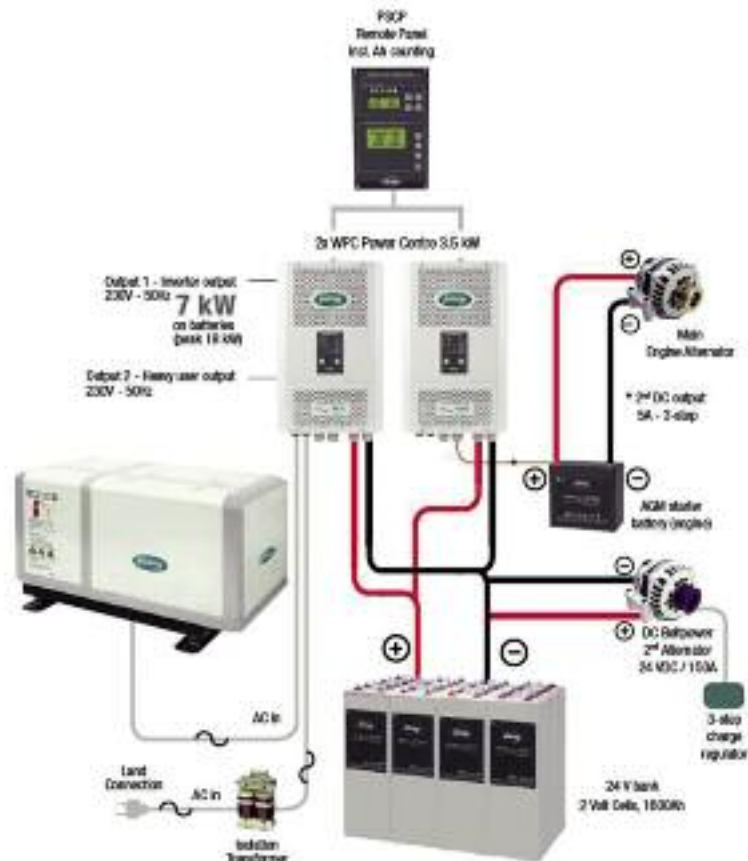
## ADMIRAL SYSTEM

The Admiral System has been developed for yachts and small Professional vessels longer than 12 metres. Its total capacity is 9.5 kW with sufficient peak power to start Inductive loads. It is based on the super silent whisper Power SQ6, 1500 rpm generator, of which the AC output is connected directly to the WhisperPower Centre. Additionally, the WhisperPower Center has a shore connection, with the option of an isolation transformer. The Power System Control Panel (PSCP) controls both the Whisper generator and the 3.5 kW Whisper Power Centre inverter/battery charger. A shortage of shore power can be compensated by the Whisper Power Centre via the batteries. The system is equipped with Whisper Power High Density deep cycle AGM batteries for 700 full cycles.



## ROYAL SYSTEM

The Royal System offers the perfect solution for yachts and professional vessels longer than 16 metres. It is based on the WhisperPower SQ 12 (12 kW) basic generator, linked to two parallel connected Whisper Power Centres of 3.5 kW. The total system capacity is nearly 20 kW, while the 'Silent power' is 7 kW and the charge capacity 180 A. The system can also be configured as a 3 phase (3x400 VAC) power system, with 3 Power Centres connected in parallel. Royal Systems are normally supplied with 2-VOLT GEL power traction batteries.



## WPC - WHISPER POWER CENTRE

### Integrated sine wave inverter/battery charger

#### WPC-2000-12; WPC-3500-24; WPC-4000-48

- Combined charger and sine wave inverter
- Power support function (smart-boost)
- High efficiency (93-96%)
- Superior start-up power
- Dual input: generator and grid/shore input
- Dual output: high power & inverter output
- Seamless AC source switching
- Available for 12, 24 and 48 VDC
- Conformity:  
Directive EMC:2004/108/EC: EN 61000-6-1, EN 610000-6-3, EN 55014, EN 55022, EN 61000-3-2, 62040-2. Low voltage directive 2006/95/EC: EN62040- 1-1, EN 50091-2, EN 60950-1



WPC

MODEL	WPC-2000-12*	WPC-3500-24*	WPC-4000-48*
PART No.	68248 X	68249 Z	68250 H
<b>INVERTER</b>			
Nominal battery voltage	12 VDC	24 VDC	48 VDC
Input voltage range	9.5 – 17 VDC	19 - 34 VDC	38 – 68 VDC
Continuous power @ 25°C	2000VA	3000VA	3500VA
Power 5 sec @ 25°C	6000VA	9000VA	10500VA
Maximum load	Up to short-circuit (fully protected)		
Maximum efficiency	93%	94%	96%
Consumption OFF/stand-by/ON	1.4W/1.6W/9W	1.4W/1.6W/12W	1.8W/2.1W/14W
Output voltage	Pure sine wave 230 VAC (+/- 2%)		
Overheat protection	Warning before shut-off with automatic restart		
<b>BATTERY CHARGER</b>			
Charge characteristic	6 step Bulk - Absorption - Floating - Equalization - Reduced floating - periodic absorption		
Maximum charging current	100 A	90 A	50 A
<b>GENERAL DATA</b>			
Input voltage range	150 to 250 VAC	150 to 250 VAC	150 to 250 VAC
Input frequency	45 to 65 Hz	45 to 65 Hz	45 to 65 Hz
Input current max. (transfer relay)/Output current max.	30A / 50A	30A / 45A	30A / 47A
Weight	25 kg	28 kg	28 kg
Dimensions H x W x D (mm)	510 x 330 x 150	510 x 330 x 150	510 x 330 x 150
Protection degree	IP21	IP21	IP21
Operating temperature range	20..+40 °C, derating to 55 °C	20..+40 °C, derating to 55 55 °C	20..+40 °C, derating to 55 55 °C
Ventilation	Forced from 45 °C	Forced from 45 °C	Forced from 45 °C
Acoustic level	<40dB /<45dB (without / with ventilation)		

\*designed to operate with Whisper SC & SQ diesel generators. 'Powerbox' delivered as part of the Genverter 7i

#### WPC-PSCP - POWER SYSTEM CONTROL PANEL - 68253 P

- Easy to connect remote panel for use with Whisper generators and WPC
- Standard supplied with Genverter 7i
- LCD displays and backlights. Integrated data logger with SD card storage

#### WPC - ACCESSORIES

- WPC-RCC - 68254 S Remote Combi Control
- WPC-BSI - 68255 U 500 Battery Status Interface
- WPC-RS232 - 68256 W Serial Interface
- WPC-BTS - 68257 Y Battery Temperature Sensor



WPC - PSCP

## M – GV4 BASIC GENVERTER

### Variable speed diesel generator

- Variable speed 2500 – 3400 rpm
- Permanent magnet fly wheel integrated alternator
- Liquid cooled
- High efficiency & fuel saving
- Low noise
- Ultra compact & light weight
- 3,4 kW output power, 230 VAC – 50 Hz
- Cooler integrated

MODEL	M-GV4 BASIC
PART No.	68108 E
<b>AC SYSTEM</b>	
Continuous output	3.8 kW at max rpm
Max output power	36 A
Output voltage/frequency	230V / 50 Hz
Harmonic distortion	< 5%
Parallel operation	max 2 units
<b>ALTERNATOR</b>	
Type	Permanent magnet
RPM range	2500-3400 rpm
Efficiency	94%
<b>DIESEL ENGINE</b>	
Engine model	Whisper WP1
Number of cylinders	1
Cylinder capacity	300 cc
Engine cooling	indirect watercooling
Fuel consumption (no load-full load)	0,8 – 1,5 l/hr
Starting	Electrical – 12V
Starter battery	12 V /55 Ah (optional)
12V battery charger	included
<b>DIMENSIONS &amp; WEIGHT</b>	
L x W x H (mm - sound shield incl.)	630 x 480 x 520
Dry weight	82 kg
Dry exhaust pipe	Ø 1½ inch BSP thread



WPC



Pannello DDC

#### DDC PANEL - 67502 D

Digital remote panel with accurate read-out of Volt/A/Hz/Load, time to service, including auto-start stop function. Supplied as standard with all Genverter 4 Whisper generators.



#### BELT POWER GENERATOR:

W-BD 3,5 kW - 67923 E  
W-BD 5,0 kW - 67924 G

## M -GV 7I GENVERTER

### Hybrid generator variable speed

MODEL	M-GV 7i	
PART No.	67708 A (12 VDC)	67709 C (24 VDC)
<b>SPECIFICATIONS</b>		
Variable speed	2400–3400 gpm	
Combined system output	7 kW / 24 VDC, 5.8 kW / modelli 12 V	
Generator power (running engine)	3.8 kW	
Silent power (inverter mode)	2.0 kW / 12V, 3.5 kW 24 VDC	
<b>INVERTER / GENERATOR</b>		
Peak output AC	60.0 A	
Nominal voltage	230 Vac	
Nominal current AC (combined)	30.0 A	
Nominal frequency AC	50.0 Hz	
Leading or lagging power factor	0,1 - 1	
Parallel use (multiple systems)	not possible	
Capacity (starter) battery (AGM)	12 V 55 Ah	
Starter battery charge current	10 A maintenance charger	
<b>BATTERY CHARGER</b>		
Charge current	12 V model 100 A, 24 V model 90 A,	
Charge characteristic	3-step, IUoUo	
AC Shorepower	190 – 260 Vac	
Temperature sensor	Yes	
<b>MECHANICAL SPECIFICATIONS</b>		
Cooling	indirect watercooling	
Max operation angle (in all directions)	25°	
Temperature range operational	-20° to 60 °C	
Relative umidity	max 95% rel. umidity, none condensing	
Remote control	WPC-PSCP panel	
<b>DIESEL ENGINE</b>		
Engine model	Whisper WP1	
Number of cylinders	1	
Cylinder capacity	300 cc	
Air consumption	0.42 m3/min @ 3000 gpm	
Engine cooling	indirect watercooling	
Fuel consumption (no load-full load)	0.8- 1.5 litri/ora	
<b>DIMENSIONS &amp; WEIGHT</b>		
	Generator	Combi - enclosure
L x W x H mm	630 x 480 x 520	500 x 360 x 300
Dry weight	92 kg	25 kg
Dry exhaust pipe	Ø 1½ inch BSP inner thread	

### M-GV 7I DIESEL GENERATOR + INVERTER + BATTERY CHARGER

- 3.4 kVA/230VAC diesel generator
- 3.5 kVA/230VAC sine wave inverter
- Built-in charger for 12 or 24V DC batteries
- Land power connection
- Variable speed 2500-3400 rpm
- Fully automatic operation
- Silent, liquid cooled diesel engine
- Plug & Play installation
- Combined output 6 kVA cont./ 7 kVA max (24V models)



M-GV 7i



WPC-PSCP

### WPC-PSCP 68253 P

**Power System control panel**  
Combined remote control and monitoring panel for Whisper Power generators and Genverter Series



## 1500 RPM M-SQ SERIES AND 3000 RPM M-SC SERIES FIXED RPM DIESEL GENERATORS

The 1500 RPM **M-SQ** Series offers a range from 5.7kW to 25.0 kW generators

The 3000 RPM **M-SC** Series range includes 3.5, 5.0, 6.5 and 9 kW generators

As an option to the metal sound shield, a polyester soundproof casing is available for all the M-SC Series generators (M-SC3.5 excepted: a polyester sound shield available only)

Main features: continuous performance, efficient sound proofing, vibration-free, water cooling system, advanced control system, easy access to all vital parts, pre-fab connections for easy installation, CAN bus for local or remote connection.

All generators are supplied with the digital control panel **DDC Panel**



**M-SC 3.5**



**M-SC 8**



**Polyester sound shield**



**M-SQ 8**



**M-SQ 25**



**WPC**

### **DDC PANEL - 67502 D**

Digital remote panel with accurate read-out of Volt/A/Hz/Load, time to service, including auto-start stop function. Supplied as standard with all Whisper generators.



# 1500 RPM M-SQ SERIES DIESEL GENERATORS – TECHNICAL SPECIFICATIONS

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**M-SQ6**



**M-SQ8**



**M-SQ10**

PART No.	67411 A	67412 C	67413 E
<b>GENERAL SPECIFICATIONS</b>			
Nominal power 50 Hz*	5,7 kW	8 kW	9,4 kW
Nominal voltage 50 Hz	230V single phase - 25A	230V single phase - 35A	230V single phase - 40A
Output frequency	50 Hz	50 Hz	50 Hz
Three phase voltage regulation**	n.a.	n.a.	n.a.
Voltage tolerance	± 5% electronic governor	± 5% electronic governor	± 5% electronic governor
Frequency tolerance	± 1% electronic governor	± 5 % electronic governor	± 1% electronic governor
Starter battery, AGM type, (optional)	12V – 70Ah	12V – 70Ah	12V – 70Ah
Battery charge current	Alternator 40A	Alternator 50A	Alternator 50A
Dim. with soundproof box	805x525x580 31,7x20,7x22,8	900x575x640 35,4x22,6x25,2	900x575x640 35,4x22,6x25,2
Dry weight	240 kg	334 kg	334 kg
Ø wet marine exhaust	40 mm	51 mm	51 mm
Oil refill cap location	top & side	top & side	top & side
Max. operating angle	25° in all directions	25° in all directions	25° in all directions
Alternator	water-cooled, no brushes, synchronous		
Sound level (dBA)	51.9	54.8	54.8

<b>DIESEL ENGINE SPECIFICATIONS</b>			
Engine model/N° of cylinders	L3E / 3	S3L2 / 3	S3L2 / 3
Cylinder capacity	952 cc	1318 cc	1318 cc
Bore & stroke	3x76x70 mm	3x78x92 mm	3x78x92 mm
Air consumption	0,8 m3/min	1,1 m3/min	1,1 m3/min
Engine cooling	indirect water-cooled	indirect water-cooled	indirect water-cooled
Fuel consumption (no load-full load)	1-3 l/hours	1-3 l/hours	1-3 l/hours
Pump capacity	15 l/min	18 l/min	18 l/min

<b>ACCESSORIES</b>			
Remote control panel (standard)	Digital Diesel Control	Digital Diesel Control	Digital Diesel Control
Additional remote control panel	Optional	Optional	Optional
7" touch screen	Optional	Optional	Optional
Power Take Off (PTO)	NO	Optional***	Optional***
Three phase version	N.A.	N.A.	N.A.

\* Peak capacity: 200%. %. Rating based on engine performance in conformity with ISO 3046; pressure 100 pKa, humidity 30%, temperature 25°C. Rating and tolerances of electric parameters are based on power factor 1.

\*\* Three phase generators are air-cooled

\*\*\* Power take off (PTO) with SAE A or SAE B flange.



**M-SQ12**

67342 H



**M-SQ16**

67414 G



**M-SQ20**

67415 J



**M-SQ25**

67416 L

	12 kW	16 kW	20 kW	25 kW
	230V single phase - 52A	230V single phase - 70A	230V single phase - 86A	230V single phase - 108A
	50 Hz	50 Hz	50 Hz	50 Hz
	AVR, ± 2% tolerance	AVR, ± 2% tolerance	AVR, ± 2% tolerance	AVR, ± 2% tolerance
	± 5% electronic governor	± 5% electronic governor	± 2% electronic governor	± 2% electronic governor
	± 1% electronic governor	± 3% electronic governor	± 3% electronic governor	± 3% electronic governor
	12V – 70Ah	12V – 120Ah	12V – 160Ah	12V – 160Ah
	Alternator 50A	Alternator 50A	Alternator 50A	Alternator 50A
	1060x575x640	1060x575x640	1260x680x800	1260x680x800
	41,7x22,6x25,2	41,7x22,6x25,2	49,6x26,8x31,5	49,6x26,8x31,5
	380 kg	454 kg	580 kg	580 kg
	51 mm	51 mm	63 mm	63 mm
	top & side	top & side	top & side	top & side
	25° in all directions	25° in all directions	25° in all directions	25° in all directions
water-cooled, no brushes, synchronous				
	55.7	56.1	58.3	58.3

	S4L2 / 4	S4Q2 / 4	S4S / 4	S4S / 4
	1758 cc	2505 cc	3331 cc	3331 cc
	4x78x92 mm	4x88x103 mm	4x94x120 mm	4x94x120 mm
	1,5 m3/min	2,1 m3/min	2,8 m3/min	2,8 m3/min
	indirect water-cooled	indirect water-cooled	indirect water-cooled	indirect water-cooled
	1-4 l/hours	1-5 l/hours	1-6 l/hours	1-8 l/hours
	18 l/min	22 l/min	22 l/min	22 l/min

	Digital Diesel Control	Digital Diesel Control	Digital Diesel Control	Digital Diesel Control
	Optional	Optional	Optional	Optional
	Optional	Optional	Optional	Optional
	Optional***	Optional***	Optional***	Optional***
	Yes	Yes	Yes	Yes



## 3000 RPM M-SC SERIES DIESEL GENERATORS - TECHNICAL SPECIFICATIONS



**M-SC3.5**

**M-SC6**

**M-SC8**

**M-SC10**

PART No.	67340 D	67341 F	67409 P	67410 Y
<b>GENERAL SPECIFICATIONS</b>				
Nominal power*	3 kW	5 kW	6,4 kW	9 kW
Nominal voltage	230V – 13A	230V – 22A	230V – 28A	230V – 39A
Output frequency	50 Hz	50 Hz	50 Hz	50 Hz
Power factor / cos phi	1	1	1	1
Voltage regulation	Capacitor	Capacitor	Capacitor	Capacitor
Voltage tolerance (V)	± 6%	± 5%	± 5%	± 5%
Frequency regulation	Electronic governor	Electronic governor	Electronic governor	Electronic governor
Frequency tolerance (Hz)	± 5%	± 5%	± 1%	± 1%
Starter battery, AGM type, optional	12V – 55Ah	12V – 85Ah	12V – 85Ah	12V – 85Ah
Battery charge current	Auxiliary winding 4A	Alternator 40A	Alternator 40A	Alternator 40A
Dimension with sound shield (lxlxh)	505x400x500 mm	690x525x520 mm	690x525x580 mm	804x525x680 mm
Dry weight	97 kg	178 kg	178 kg	210 kg
Ø Wet marine exhaust	40 mm	40 mm	40 mm	40 mm
Ø Dry exhaust pipe	1" BSP	1" BSP	1" BSP	1" BSP
Location oil refill cap	top & side	top & side	top & side	top & side
Max. operating angle	25° in all directions			
Alternator	water-cooled, no brushes, synchronous			
Sound level at 7 m (dBA)	56.2	56.2	56.2	59.3
<b>SPECIFICATIONS DIESEL ENGINE</b>				
Engine model	OC60	L2E	L2E	L3E
Number of cylinders	1	2	2	3
Cylinder capacity	276 cc	635 cc	635 cc	952 cc
Bore & stroke	72 x 68 mm	2 x 76 x 70 mm	2 x 76 x 70 mm	3 x 76 x 70 mm
Air consumption	0,38 m³/min	0,95 m³/min	0,95 m³/min	1,43 m³/min
Engine cooling	oil-cooled indirect	watercooling	watercooling	watercooling
Fuel consumption (no load – full load)	0,7-1,2 l/hour	1-2,5 l/hour	1-3 l/hour	1-4 l/hour
Pump capacity	10-12 l/min	18 l/min	18 l/min	18 l/min
<b>ACCESSORIES</b>				
Remote control panel	Digital Diesel Control	Digital Diesel Control	Digital Diesel Control	Digital Diesel Control
Additional remote control panel	Optional	Optional	Optional	Optional
7" touch screen	No	Optional	Optional	Optional
Power Take Off (PTO)	No	No	No	No
Three phase version	No	No	No	No

\*\* Peak power: 200%. Rating based on engine performance in conformity with ISO 3046; pressure 100 pKa, humidity 30%, temperature 25°C. Rating and tolerances of electric parameters are based on power factor 1.

## INSTALLATION KITS FOR DIESEL GENERATORS

When you install a Whisper Power generator, all connections and fittings shall be of the highest quality. Whisper Power provides a range of kits to make installation faster and easier. There are the anti-vibration kit, complete with base plate and shock mounts; the anti-siphon kit that prevents water percolation into the engine when it stops; the fuel kit allows to keep clean the fuel flowing into the generator; the water inlet kit avoids that seawater impurities goes into the generator; the exhaust and separator kits allow to have minimum noise and easy installation. Service kits are available too: the A kit for easier and more frequent maintenance and the B kit for larger maintenance.



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### WATER INLET KITS

Water inlet kit consisting of:

Water strainer, hoses, hose clamps, through-hull fitting and seacock

67417 N – Water inlet kit 12.5 mm (1/2") for M-SC 3.5 – wet exhaust

67418 R – Water inlet kit 20 mm (3/4")

67419 T – Water inlet kit 25 mm (1")



### SYPHON BREAKER KITS

Syphon breaker kit consisting of:

Syphon breaker, hoses and hose clamps

67420 B – Syphon breaker kit 12.5 mm (1/2") for M-SC 3.5 – wet exhaust

67421 D – Syphon breaker kit 20 mm (3/4")

67422 F – Syphon breaker kit 25 mm (1")



### DELTA EXHAUST KITS

DELTA exhaust kit consisting of:

Exhaust silencer/waterlock with rotating connections, through-hull fitting, hoses and hose clamps

67423 H – DELTA exhaust kit 40 mm (1 5/8")

67424 K – DELTA exhaust kit 51 mm (2")

67425 M – DELTA exhaust kit 63 mm (2 1/2")



### DELTA WATER/GAS SEPARATOR KITS

DELTA water/gas separator consisting of:

Water/gas separator with rotating connections, through-hull fitting, hoses, hose clamps and seacock

67426 P – DELTA water/gas separator kit 40 mm (1 5/8")

67427 S – DELTA water/gas separator kit 51 mm (2")

67428 U – DELTA water/gas separator kit 63 mm (2 1/2")



### ANTI-VIBRATION KITS

Anti-vibration kits consisting of:

Shock mounts and installation material

67429 W – anti-vibration kit M-SC 3.5

67430 E – anti-vibration kit M-SC 6/8

67431 G – anti-vibration kit up to 280 kg



### FUEL KITS

Fuel kit consisting of:

Fuel filter, hose clamps and couplings

67432 J – Fuel kit for W-SC, W-SQ, M-SC and M-SQ



### SERVICE KITS

These kits are available for maintenance or to have essential parts at hands.

The A-kit includes filters and V-belts

The B-kit includes seals and various mechanical parts.

Specify type of generator when ordering.

## WBC-HANDY SERIES PORTABLE BATTERY CHARGERS

### WBC-HANDY 20; WBC-HANDY 70; WBC-HANDY 150

- Fully automatic chargers for all types of lead-acid batteries (WET, AGM, GEL)
- Self adjusted temperature compensation, assuring cold start in winter and preventing from overcharging in summer
- Easy battery size selection and power supply function enabling forced float charge
- Equipped with Charging Status Interface, indicating charge phase at a glance
- Reverse polarity protection with built-in flashlight
- Standard supplied with permanent installation kit, for fixed installations.



WBC-Handy

MODEL	WBC-Handy 20	WBC-Handy 70	WBC-Handy 150
PART No.	68259 C	68260 L	68261 N
<b>SPECIFICATIONS</b>			
Input voltage	220-240 VAC ± 10%	220-240 VAC ± 10%	220-240 VAC ± 10%
Input current	0,5 A	1,5 A	2 A
Charging voltage	13,7-15,5 VDC a 25°C	13,7-15,5 VDC a 25°C	13,7-15,5 VDC a 25°C
Charging voltage supply	13,7 VDC	13,7 VDC	13,7 VDC
Charging current	Max 2 A	Max 7 A	Max 15 A
Ambient temperature	-40..+50°C	-40..+50°C	-40..+50°C
Cooling	Convection	Convection	Convection
Charge characteristic	5 step IUU + pulse	5 step IUU + pulse	5 step IUU + pulse
Forced float	13.7 VDC (maint. charge)	13.7 VDC (maint. charge)	13.7 VDC (maint. charge)
Battery capacity	1-40 AH	1-150 Ah (max 180 Ah)	20-300 Ah (max 360 Ah)
Cabling	Battery cable 1700 mm Power cable 1800 mm	Battery cable 1700 mm Power cable 1800 mm	Battery cable 1700 mm Power cable 1800 mm
Dimensions (LxWxH)	130 x 35 x 35 mm	225 x 50 x 50 mm	315 x 65 x 65 mm
International Protection grade	IP54	IP54	IP54
Weight	0,350 kg	0,500 kg	0,800 kg

### GETTING STARTED:

1. Connect the charger's main plug to a power socket
2. Connect the charger's red cable clamp to the battery's positive terminal post (+) and the black cable clamp to the battery's negative terminal post (-)
3. Select the correct mode, battery size (Ah) and battery technology (AGM/GEL or WET battery), or 13.7 VDC supply
4. When the green lamp blinks for the selected mode the battery is fully charged



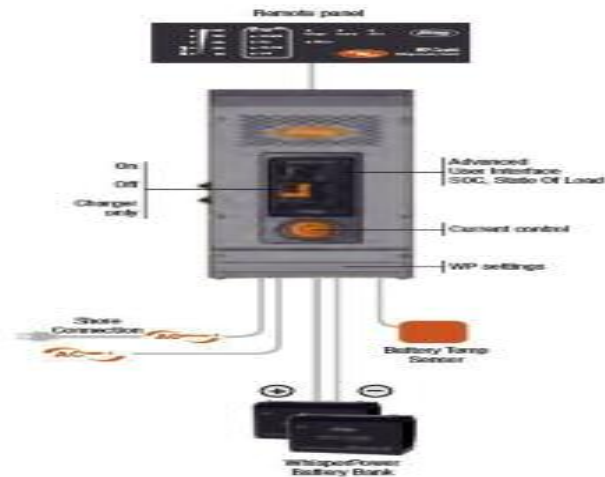
68262 R - WBC-Handy fixed installation kit  
68263 T - WBC-Handy battery fast connect clamps



## WP-COMBI SERIES 'POWER TO GO'

### Sine wave inverter/battery charger – 230 VAC from the battery

- Up to 3 kW 230 VAC / 50 Hz power
- Silent and clean operation
- Ideal to operate with solar and wind systems
- Automatic switching from shore/land power to inverter power
- Fully automatic 3-stage battery charging (two output)
- Adjustable to work with limited land or genset power
- Available for 12, 24 or 48 VDC batteries



WP-COMBI



RP-WP-COMBI - Remote Panel - 68267 B

MODEL	WP-COMBI 12/2000-80A	WP-COMBI 24/3000-60A	WP-COMBI 48/3000-30A
PART No.	68264 V	68265 X	68266 Z
<b>SPECIFICATIONS</b>			
Inverter	True sine wave	True sine wave	True sine wave
Nominal battery voltage	12 VDC	24 VDC	48 VDC
Input voltage range	10..16 VDC	20..35 VDC	40..65 VDC
Continuous Power @ 40°C	1800 VA	2600 VA	2600 VA
Power 20 sec. @ 25°C	3000 VA	4500 VA	4500 VA
Efficiency @ full load	88%	88%	88%
Output voltage	230 VAC +/- 3%	230 VAC +/- 3%	230 VAC +/- 3%
Charge characteristic	IUU multi step	IUU multi step	IUU multi step
Charge voltage – bulk	14.25 VDC	28.5 VDC	57.0 VDC
Charge voltage – absorption	14.25 VDC	28.5 VDC	57.0 VDC
Charge voltage – float	13.6 VDC	26.5 VDC	53.0 VDC
Max Charging current	80 A (adjustable)	60 A (adjustable)	30 A (adjustable)
Input voltage range	196..265VAC (UPS mode) 170..265VAC (GEN mode)		
Input current max	30A (protected by internal circuit breaker)		
Weight	18,5 kg	22,5 kg	22,5 kg
Dimensions mm	458 x 218 x 190	458 x 218 x 190	458 x 218 x 190

## WBI SERIES

### LOW VOLTAGE DROP BATTERY ISOLATOR

The WBI Series low voltage drop battery isolators have a negligible voltage drop, therefore are especially suitable for charging multiple battery banks with charge equipment whose charge voltage cannot be adjusted.

68268 D - WBI 150-2 IG (two output)

68269 F - WBI 150-3 IG (three output)



WBI

### WVG-200 BATTERY ISOLATOR VOLTAGE GUARD

The Voltage Guard increases battery bank life by protecting the batteries against damage by excessive discharge or overvoltage charge

WVG -200 - 68270 P - Voltage Guard



WVG

### WBL-120 MICROPROCESSOR CONTROLLED BATTERY LINK

- Simultaneously charging of two batteries
- Intelligent battery monitor function
- Safe battery connect algorithm
- Additional power boost by start assist function

WBL -120 - 68271 S - Battery link



WBL

### WP-MC & WP-MG DC/DC CONVERTERS

- The switched-mode DC/DC converters are designed to convert a DC voltage, i.e. 24VDC, to another DC voltage, i.e. 12 VDC.
- Provided with internal galvanic isolation
- Also suitable for charging a secondary battery from the main (service) battery

**WP-MC**, range, suitable for installations allowing common ground  
**WP-MG**, range, designed for positive/negative isolated battery installation (galvanic isolation)



WP-MC & WP-MG



## WBM HIGH PRECISION BATTERY MONITOR

- Accurate energy monitoring of one or two battery banks
- No sudden empty batteries: precise 'time remaining' indicator (hrs, min)
- Calculation of Amp hours consumed
- Two battery inputs
- Displays voltage, current, consumed Amp hours, remaining battery capacity and 'time remaining'
- State of charge indicator in %
- Large backlight LC display
- Fully programmable alarm relays
- Shunt selection capability enables flexible system integration
- Stores a wide range of historical events in internal memory
- Splash proof front panel
- 500 Amp shunt included
- Easy to use, plug and play installation
- CE and e-mark certified

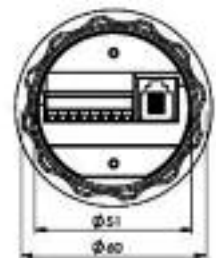
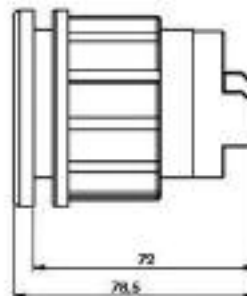


WBM

MODEL	WBM-Basic	WBM-Pro	WBM-Pro HV
PART No.	68272 U	68273 W	68274 Y
<b>SPECIFICATIONS</b>			
Supply voltage range	9.35 VDC	9.35 VDC	14,70 VDC
Input voltage range (auxiliary battery)	2.35 VDC	2.35 VDC	2.35 VDC
Input voltage range (main battery)	0.35 VDC	0.35 VDC	20.35 VDC
Input current range	-999..+999 A	-999..+999 A	-999..+999 A
Battery capacity range	20..999 Ah	20..999 Ah	20..999 Ah



500A/50mV WBM shunt



### WBM ACCESSORIES

- 68275 A – 6 m Connection accessory kit
- 68276 C – 12 m Connection accessory kit
- 68277 E – 3 m Quick Connection kit
- 68278 G – 10 m temperature sensor kit
- 68279 J – 1200A/50mV shunt

## AGM-POWER – GEL-POWER & OPzV 2 VOLT CELLS BATTERIES



AGM & GEL BATTERIES



OPzV 2 VOLT BATTERIES

### AGM-POWER BATTERIES 12V

- Multi purpose batteries for start and service use
- Deep cycle Absorbed Glass Mat batteries with **10 years** floating design life

AGM-POWER	55 Ah	80 Ah	100 Ah	145 Ah	200 Ah	260 Ah
PART No.	68280 T	68281 V	68282 X	68283 Z	68284 B	68285 D
<b>SPECIFICATIONS</b>						
Nominal voltage	12.0 V-DC	12.0 V-DC	12.0 V-DC	12.0 V-DC	12.0 V-DC	12.0 V-DC
Cranking@ 25°C (5sec)	550 A	800 A	1000 A	1450 A	2000 A	2600 A
20 hrs discharge	58.6 Ah	85.3 Ah	104.0 Ah	167.0 Ah	226.0 Ah	278.0 Ah
Weight +/- 10%	18.0 kg	24.0 Kg	30.0 kg	44.0 kg	60.0 kg	74.0 kg
Dimensions LxWxH (mm - excl. terminals)	229x138x210	350x157x180	328x172x222	340x173x280	522x240x219	520x268x220

### GEL-POWER BATTERIES 12V

- 'Long life' batteries for heavy duty service and frequent cyclic discharge applications under extreme temperatures
- Deep cycle GEL batteries with **12 years** floating design life

GEL	100 Ah	145 Ah	180 Ah	225 Ah
PART No.	68286 F	68287 H	68288 K	68289 M
<b>SPECIFICATIONS</b>				
Nominal voltage	12.0 V-DC	12.0 V-DC	12.0 V-DC	12.0 V-DC
Cranking@ 25°C (5sec)	1000 A	1450 A	1800 A	2250 A
20 hrs discharge	100.0 Ah	145.0 Ah	180.0 Ah	225.0 Ah
Weight +/- 10%	30.0 kg	44.0 Kg	53.0 kg	65.0 kg
Dimensions LxWxH (mm - excl. terminals)	328x172x222	340x173x280	530x209x214	522x240x219

### 2 VOLT CELLS OPzV – GEL POWER BATTERIES

- OPzV batteries are suitable for applications with extended charge/discharge cycles
- Designed to operate with high current DC & AC loads (inverter)

OPzV 2 Volt	600 Ah	800 Ah	1000 Ah	1200 Ah	1500 Ah
PART No.	68290 W	68291 Y	68292 A	68293 C	68294 E
<b>SPECIFICATIONS</b>					
Nominal voltage	2 V DC	2 V DC	2 V DC	2 V DC	2 V DC
Cycle life at 80% of D.O.D.	1250	1250	1250	1250	1250
Temperature cut-off ratio	4mV/cell/°C	4mV/cell/°C	4mV/cell/°C	4mV/cell/°C	4mV/cell/°C
Self discharge	less than 2% per month @ 20°C				
Weight +/- 10%	50.0 kg	68.0 Kg	82.0 kg	97.0 kg	120.0 kg
Dimensions LxWxH (mm - excl. terminals)	145x206x667	191x210x668	233x210x670	275x210x669	275x210x820

The Sinergex PureCharge series are fully automatic and intelligent battery chargers. Using microprocessor and switch-mode technology, the PureCharge battery charges carefully assess the battery and then deliver the optimum charge required.

Being a true 3-stage battery charger, the PureCharge delivers charges in bulk absorption and float stages, each stage delivering the optimum charge for the best performance and power for your battery.

By incorporating the float charge stage, the PureCharge battery charger allows you to set and forget, while your batteries are automatically maintained.

By implementing the latest technology, PureCharge battery chargers are extremely light in weight and very compact in size and can be used and installed almost anywhere.

### FEATURES:

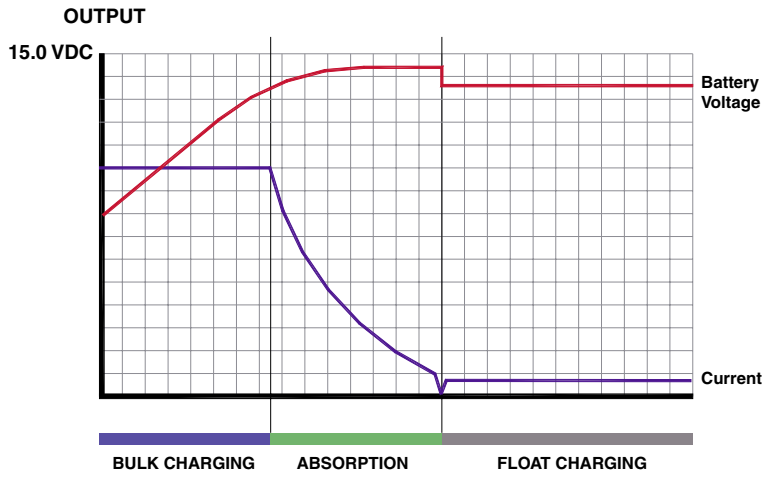
- Microprocessor Controlled
- Seven Selectable Charge Curves
- 2/3 Isolated Outputs
- Simple Status LED Display
- Temperature Sensor Included
- Automatic Intelligent Cooling
- Light Weight and Compact Design
- Electronic Reverse Polarity Protection
- 3 Stage Charging: Bulk, Absorption, Float

# Sinergex™



# PureCharge™

### CHARGING CURVE



Temperature has a major effect on batteries and charging. To overcome problems caused by temperature, the PureCharge includes a temperature sensor to measure ambient temperature and compensate to deliver an optimum efficient charge.



Want to know the status of your charge? The PureCharge incorporates a quick glance LED panel so you can easily see the level of charge.



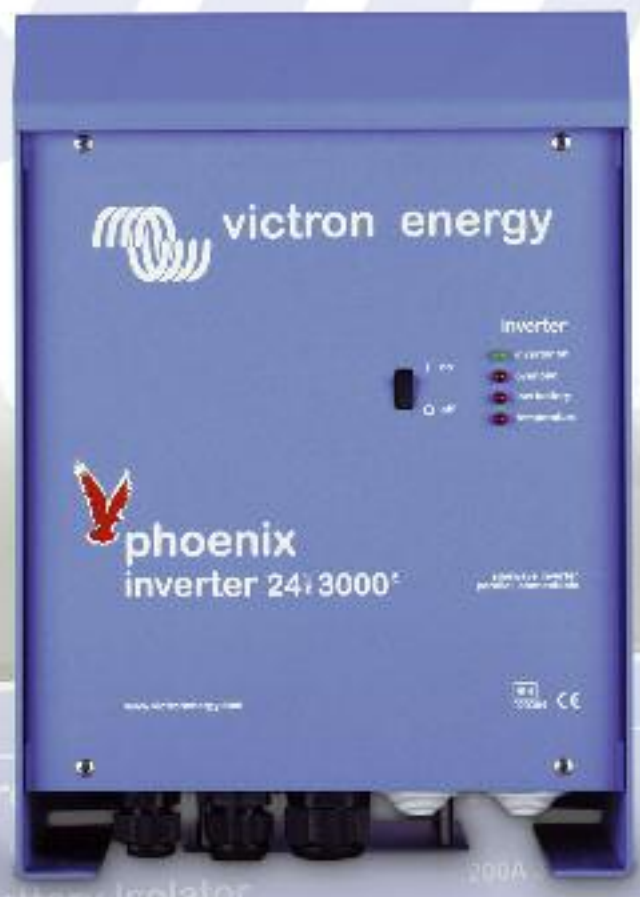
The unique design of the PureCharge allows you to customize the charge for your needs. By using the simple DIP switches, you can select the charging voltages and curve to suit your battery. The PureCharge has seven preset selectable charging curve suitable for Lead Acid, AGM, and GEL batteries.

MODEL	PC-2512	PC-4012
Part No.	65600 T	65601 V
Normal Input Voltage	150-250 VAC	150-250 VAC
Frequency	50 Hz	50 Hz
Normal Output Voltage	12 V	12 V
Maximum Charge Current	24 Amps/12V	40 Amps/12V
Protection Category	IP20	IP20
Dimension (mm)	270x185x70	330x185x70
Weight (kg)	3,5	4
Battery Capacity	100-300 Ah	100-400 Ah
Efficiency	82%	82%
Temperature Compensation	-20°C/+60°C	-20°C/+60°C
Charging absorption & float	7 pre-set selectable charging curve	7 pre-set selectable charging curve



# victron energy

B L U E P O W E R



ENERGY UNLIMITED

100A 3 input

ARGO FET Battery Isolator

200A

## BATTERY CHARGERS

### BLUE POWER BATTERY CHARGER IP20

Universal input: 90-265 VAC or 90-350 VDC  
The charger will operate on whatever supply is available

#### Standard features

Adaptive 4-stage charge characteristic: bulk- absorption-float-storage. The Blue Power charger features a microprocessor controlled 'adaptive' battery management. The 'adaptive' feature will automatically optimise the charging process relative to the way the battery is been used.



BLUE POWER IP 20



MODEL	PART No.	INPUT VOLTAGE RANGE	CHARGE VOLTAGE ABSORPTION	CHARGE CURRENT	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/7 IP20	65626 M	90-265V AC / 45-65 Hz 90-350V DC / 45-65Hz	14,4V DC	7A	50x85x200 (0.2x3.3x7.8)	1.3 (2.8)
12/10 IP20	65627 P	90-265V AC / 45-65 Hz 90-350V DC / 45-65Hz	14,4V DC	10A	50x85x200 (0.2x3.3x7.8)	1.3 (2.8)
12/15 IP20	65571 N	90-265V AC / 45-65 Hz 90-350V DC / 45-65Hz	14,4V DC	15A	50x85x200 (0.2x3.3x7.8)	1.3 (2.8)
12/25 IP20 <sup>(1)</sup>	67914 D	130-265V AC / 45-65 Hz 150-270V DC / 45-65Hz	14,4V DC	25A	66x90x235 (2.6x3.5x9.3)	1.3 (2.8)
12/25 IP20 <sup>(3)</sup>	67915 F	130-265V AC / 45-65 Hz 150-270V DC / 45-65Hz	14,4V DC	25A	66x90x235 (2.6x3.5x9.3)	1.3 (2.8)
24/5 IP20	65628 S	90-265V AC / 45-65 Hz 90-350V DC / 45-65Hz	28,8V DC	5A	50x85x200 (0.2x3.3x7.8)	1.3 (2.8)
24/8 IP20	65577 B	90-265V AC / 45-65 Hz 90-350V DC / 45-65Hz	28,8V DC	8A	50x85x200 (0.2x3.3x7.8)	1.3 (2.8)
24/15 IP20 <sup>(1)</sup>	67916 H	180-265V AC / 45-65 Hz 150-270V DC / 45-65Hz	28,8V DC	15A	66x90x235 (2.6x3.5x9.3)	1.3 (2.8)
24/15 IP20 <sup>(3)</sup>	67917 K	180-265V AC / 45-65 Hz 150-270V DC / 45-65Hz	28,8V DC	15A	66x90x235 (2.6x3.5x9.3)	1.3 (2.8)

(1) one output - (3) three outputs

### BLUE POWER BATTERY CHARGERS - WATERPROOF

Blue Power battery chargers have automatic three stage IUoUo charging. The casing is made of cast aluminium and they are waterproof (protection IP 65), shockproof and ignition protected.

#### Standard features

Protection against battery reverse polarity, output short circuit and over temperature; operating temperature range -20 to +60°C; red and black battery connection cables of 1.5 m of length; connection cable of 1,5 m with Europe class 1 plug, two LED's for status indication.



BLUE POWER IP 65



MODEL	PART No.	INPUT VOLTAGE RANGE	CHARGE VOLTAGE ABSORPTION	CHARGE CURRENT	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/7 IP65	66009 S	200-265V AC / 45-65Hz	14,4V DC	7A	43x80x155 (1.7x3.1x6.1)	1.1 (2.4)
12/17 IP65	66405 A	200-265V AC / 45-65Hz	14,4V DC	17A	47x99x193 (1.9x3.9x7.6)	1.4 (3.1)
24/3 IP65	66406 C	200-265V AC / 45-65Hz	28,8V DC	3A	43x80x155 (1.7x3.1x6.1)	1.4 (2.4)
24/12 IP65	66035 T	200-265V AC / 45-65Hz	28,8V DC	12A	47x99x193 (1.9x3.9x7.6)	1.4 (3.1)

## BATTERY CHARGERS

### CENTAUR BATTERY CHARGERS - ANALOGIC CONTROL

Centaur battery chargers have automatic three stage IUoUo charging. All models are designed to operate all over the world without any adjustment needed on input voltage range or frequency.

They have three isolated outputs to simultaneously charge 3 battery banks. Each output is capable to supply the full rated current.

#### Standard features

Aluminium epoxy powder coated case with drip shield, circuit board protection with an acrylic coating, built-in temperature sensors, forced cooling, protection against output short circuit and over temperature, analog ammeter, DIP switch for selection of charge/float voltage for flooded lead-acid, gel or AGM batteries, Europe CE certification and U.S.A. UL certification.

Temperature range: -20 + 60° C



CENTAUR



MODEL	PART No.	INPUT VOLTAGE RANGE	CHARGE VOLTAGE ABSORPTION	CHARGE CURRENT <sup>(1)</sup>	Ah BATTERIES	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/20	64886 K	90-265V AC / 45-65 Hz	14.3V DC	20 A	80 /200	355x215x110 (14.0x8.5x4.3)	3.8 (8.4)
12/30	64887 M	90-265V AC / 45-65 Hz	14.3V DC	30 A	120/300	355x215x110 (14.0x8.5x4.3)	3.8 (8.4)
12/40	64888 P	90-265V AC / 45-65 Hz	14.3V DC	40 A	160/400	426x239x135 (16.8x9.4x5.3)	5 (11)
12/50	64889 S	90-265V AC / 45-65 Hz	14.3V DC	50 A	200/500	426x239x135 (16.8x9.4x5.3x)	5 (11)
12/60	64890 A	90-265V AC / 45-65 Hz	14.3V DC	60 A	240/600	426x239x135 (16.8x9.4x5.3)	5 (11)
12/80	64891 C	90-265V AC / 45-65 Hz	14.3V DC	80 A	320/800	505x255x130 (19.9x10.0x5.2)	12 (26.4)
12/100	64892 E	90-265V AC / 45-65 Hz	14.3V DC	100 A	400/1000	505x255x130 (19.9x10.0x5.2)	12 (26.4)
12/200	64893 G	90-265V AC / 45-65 Hz	14.3V DC	200 A	800/2000	505x255x230 (19.9x10.0x9.1)	16 (35.3)
24/16	64894 J	90-265V AC / 45-65 Hz	28.5V DC	16 A	45/150	355x215x110 (14.0x8.5x4.3)	3.8 (8.4)
24/30	64895 L	90-265V AC / 45-65 Hz	28.5V DC	30 A	120/300	426x239x135 (16.8x9.4x5.3)	5 (11)
24/40	64896 N	90-265V AC / 45-65 Hz	28.5V DC	40 A	160/400	505x255x130 (19.9x10.0x5.2)	12 (26.4)
24/60	64897 R	90-265V AC / 45-65 Hz	28.5V DC	60 A	240/600	505x255x130 (19.9x10.0x5.2)	12 (26.4)
24/80	64898 T	90-265V AC / 45-65 Hz	28.5V DC	80 A	320/800	505x255x230 (19.9x10.0x9.1)	16 (35.3)
24/100	64899 V	90-265V AC / 45-65 Hz	28.5V DC	100 A	400/1000	505x255x230 (19.9x10.0x9.1)	16 (35.3)

(1) 100 % output up to 40°C, 80% nominal output at 50°C and 60% of nominal at 60°C.

## BATTERY CHARGERS

### PHOENIX BATTERY CHARGERS - MICROPROCESSOR CONTROL

Phoenix automatic battery chargers with microprocessor can suit perfectly and automatically the charge for the batteries. During the 4 charge stages (bulk-absorption-float-storage) the battery charger will maintain the optimal charge depending on battery status and use.

#### Standard features

Aluminium epoxy powder coated case with drip shield, circuit board protection with an acrylic coating, built-in temperature sensors, forced cooling, protection against output short circuit and over temperature, battery temperature sensor, compensation on cable voltage fall, two full charge output and one oputput limited to 4 A, RS-485 data port for computer connection, feeder function.



PHOENIX



MODEL	PART No.	INPUT VOLTAGE RANGE	CHARGE VOLTAGE (Absorption)	CHARGE CURRENT <sup>(1)</sup>	Ah BATTERIES	DIMENSIONS H x L x P mm (")	WEIGHT kg (lbs)
12/30	64900 A	90-265V AC / 45-65 Hz	14,4V DC	30 A (x2) + 4 A	100/400	350x200x108 (13.8x7.9x4.3)	3.8 (8.4)
12/50	64901 C	90-265V AC / 45-65 Hz	14,4V DC	50 A (x2) + 4 A	200/800	350x200x108 (13.8x7.9x4.3)	3.8 (8.4)
24/16	64902 E	90-265V AC / 45-65 Hz	28,8V DC	16 A (x2) + 4 A	100/200	350x200x108 (13.8x7.9x4.3)	3.8 (8.4)
24/25	64903 G	90-265V AC / 45-65 Hz	28,8V DC	25 A (x2) + 4 A	100/400	350x200x108 (13.8x7.9x4.3)	3.8 (8.4)

(1) 100 % output up to 40°C, 80% nominal output at 50°C and 60% of nominal at 60°C

### SKYLLA BATTERY CHARGERS - MICROPROCESSOR CONTROL

Skylla battery chargers have automatic three stage IUoUo charging. They are designed for use on battery banks with 24Vcc / 48Vcc. They have two outputs, two full charge output and one oputput limited to 4 A

#### Standard features

Aluminium epoxy powder coated case with drip shield, circuit board protection with an acrylic coating, built-in temperature sensors, forced cooling, protection against output short circuit and over temperature, battery temperature sensor, compensation on cable voltage fall, feeder function.



SKYLLA



MODEL	PART No.	INPUT VOLTAGE RANGE	CHARGE VOLTAGE (Absorption)	CHARGE CURRENT <sup>(1)</sup>	Ah BATTERIES	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
TG 24/30	64904 J	185-265V AC / 45-65 Hz	28.5V DC	30 A + 4A	150/300	365x250x147 (14.4x9.9x5.8)	5.5 (12.1)
TG 24/30 GMDSS	66036 V	185-265V AC / 45-65 Hz	28.5V DC	30 A + 4A	150/300	365x250x147 (14.4x9.9x5.8)	6 (13.2)
TG 24/50	64905 L	185-265V AC / 45-65 Hz	28.5V DC	50 A + 4A	250/500	365x250x147 (14.4x9.9x5.8)	5.5 (12.1)
TG 24/50 GMDSS	67918 M	90-265V AC / 45-65 Hz	28.5V DC	50 A + 4A	250/500	485x250x147 (19.1x9.9x5.8)	6 (13)
TG 24/80	64906 N	185-265V AC / 45-65 Hz	28.5V DC	80 A + 4A	400/800	365x250x257 (14.4x9.9x10.1)	10 (22)
TG 24/100	64907 R	185-265V AC / 45-65 Hz	28.5V DC	100 A + 4A	500/1000	365x250x257 (14.4x9.9x10.1)	10 (22)
TG 24/100 3 fasi	64908 T	320-450V AC / 45-65 Hz	28.5V DC	100 A + 4A	500/1000	515x260x265 (20.0x10.2x10.4)	23 (48)
TG 48/25	64909 V	185-265V AC / 45-65 Hz	57V DC	25 A + 4A	125/250	365x250x147 (14.4x9.9x5.8)	5.5 (12.1)
TG 48/50	64910 D	185-265V AC / 45-65 Hz	57V DC	50 A + 4A	250/500	365x250x257 (14.4x9.9x10.1)	10 (22)

(1) 100 % output up to 40°C, 80% nominal output at 50°C and 60% of nominal at 60°C.

OPTIONAL: Skylla control panel (page 173)



## PHOENIX INVERTERS

Developed for professional duty, Phoenix pure sine inverters are suitable for the widest range of applications. The design criteria have been to produce a true sine wave inverter with optimised efficiency without compromise in performance. Employing hybrid HF technology, the result is a top quality product with compact dimensions, light in weight and capable of supplying power, problem-free, to any load. A unique feature of the **SinusMax** technology is very high start-up power. Phoenix inverters, in fact, are well suited to power up difficult loads such as: refrigeration compressors, electric motors and similar applications. Conventional high frequency technology does not offer such extreme performance.

### PHOENIX INVERTER UP TO 750 VA

#### Standard features

Aluminium epoxy powder coated case with drip shield, circuit board protection with an acrylic coating, forced cooling with temperature sensors, remote connector, battery cables (1.5 m), output short circuit protection, over temperature protection.



PHOENIX up to 750 VA

MODEL	PART No.	INPUT VOLTAGE RANGE V DC	CONT. OUTPUT POWER - VA <sup>(1)</sup>	PEAK POWER - W		MAX EFFIC. %	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/180 Schuko	64911 F	10,5 – 15,5	180	200	OUTPUT: 230V AC ± 2% - 50 Hz ± 2%	91	72x132x200 (2.8x5.2x7.9)	2.7 (5.9)
12/350 Schuko	64912 H	10,5 – 15,5	350	500		90	72x155x237 (2.8x6.1x9.3)	3.5 (7.7)
12/800 Schuko	68056 M	9,2 - 17,3	800	1600		91	108x165x305 (4.2x6.4x11.9)	6.5 (14.3)
24/180 Schuko	64914 M	21,0 – 31,0	180	200		92	72x132x200 (2.8x5.2x7.9)	2.7 (5.9)
24/350 Schuko	64915 P	21,0 – 31,0	350	500		91	72x155x237 (2.8x6.1x9.3)	3.5 (7.7)
24/800 Schuko	64917 U	18,4 - 34,0	800	1600		93	108x165x305 (4.2x6.4x11.9)	6.5 (14.3)

(1) Continuous output power at 25°C

### PHOENIX INVERTER 1200 VA

#### Standard features

Aluminium epoxy powder coated case with drip shield, circuit board protection with an acrylic coating, forced cooling with temperature sensors, protection against: output short circuit, overload, low battery voltage, reverse polarity, reverse voltage on output, input voltage ripple, high temperature. Relay multifunction.



PHOENIX da 1200 VA

MODEL	PART No.	INPUT VOLTAGE RANGE V DC	CONT. OUTPUT POWER - VA <sup>(1)</sup>	PEAK POWER - W		MAX EFFIC. %	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
C12/1200	64918 W	9,5 – 17,0	1200	2400	OUTPUT: 230V AC ± 2% - 50 Hz ± 2%	93	375x214x110 (14.7x8.4x4.3)	10 (22)
C12/1600	64919 Y	9,5 – 17,0	1600	3000		93	375x214x110 (14.7x8.4x4.3)	10(22)
C12/2000	66407 E	9,5 – 17,0	2000	4000		93	520x255x125 (20.5x10.0x4.9)	13 (28.6)
12/3000	66037 X	9,5 – 17,0	3000	6000		93	362x258x218 (14.2x10.1x8.6)	18 (39.7)
C24/1200	64921 J	19,0 – 33,0	1200	2400		94	375x214x110 (14.7x8.4x4.3)	10 (22)
C24/1600	64922 L	19,0 – 33,0	1600	3000		94	375x214x110 (14.7x8.4x4.3)	10 (22)
C24/2000	66408 G	19,0 – 33,0	2000	4000		94	520x255x125 (20.5x10.0x4.9)	13 (28.6)
24/3000	64923 N	19,0 – 33,0	3000	6000		94	362x258x218 (14.2x10.1x8.6)	18 (39.7)
24/5000	66244 C	19,0 – 33,0	5000	10.000		94	444x328x240 (17.5x12.9x9.4)	28 (61.7)

(1) Continuous output power at 25°C

All models are suitable for parallel (max 6 parallel units) and 3-phase operation  
 OPTIONAL: control panel Phonix CC Inverter (page 173)

# MULTI-FUNCTION INVERTER/BATTERY CHARGERS

## QUATTRO 5kVA

### Two AC inputs with integrated transfer switch

The Quattro can be connected to two independent AC sources, for example shore-side power and a generator, or two generators: the Quattro will automatically connect to the active source.

### Two AC outputs

The main output has no-break functionality. In the event of a grid failure, or shore or generator power being disconnected, the Quattro takes over the supply to the connected loads. This happens so fast (less than 20 milliseconds) that computers and other electronic equipment will continue to operate without disruption. The second output is live only when AC source is available. Loads that should discharge the battery, like a water heater for example can be connected to this output.

### Virtually unlimited power thanks to parallel operation

Up to 10 Quattro's can operate in parallel. Ten units 24/5000/120, for example, will provide 40kW / 50kVA output power and 1200 Amp charging capacity.

### Three phase capability

Three units can be configured for three-phase output and up to 6 sets of three units can be parallel connected to provide 75kW / 90kVA inverter power and more than 2000 Amp charging capacity.

### Power Control - Dealing with limited generator, shore-side or grid power

The Quattro is a very powerful battery charger. It will therefore draw a lot of current from the generator or shore-side supply (16A per Quattro at 230 VAC). A current limit can be set for both AC inputs. The Quattro will then take account of the other AC loads and use whatever is spare for charging, thus preventing the generator or shore supply from being overloaded.

### Power Assist - Boosting shore or generator power

Where peak power is so often required only for a limited period, the Quattro makes sure that insufficient shore or generator power is immediately compensated for by power from the battery. When the load reduces, the spare power is used to recharge the battery. With this feature, problems related to insufficient shore or generator power are solved once and for all. Air conditioning, an electric hob, a washing machine, a dishwasher, a 16A shore connection, or even less than 16A, will not limit you in any way.



QUATTRO 5kVA



MODEL	PART No.	INPUT VOLTAGE RANGE	CONT. OUTPUT POWER <sup>(1)</sup>	BATTERY CHARGE INPUT VOLTAGE RANGE	CHARGE CURRENT	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/3000/120-50-30	66880 M	9,5 - 17	3000	14.4V DC (absorption) 13.8V DC (float)	120A + 4A	362x258x218 (14.3x10.1x8.6)	19,0 (41.8)
12/5000/220-100-100	67437 V	19 - 33	5000	14.4V DC (absorption) 13.8V DC (float)	220A + 4A	470x350x280 (18.5x13.8x11)	34,0 (74.9)
24/3000/70-50-30	66881 K	19 - 33	3000	28.8V DC (absorption) 27.6V DC (float)	70A + 4A	362x258x218 (14.3x10.1x8.6)	19,0 (41.8)
24/5000/120-100-100	66097 S	19 - 33	5000	28.8V DC (absorption) 27.6V DC (float)	120A + 4A	444x328x240 (17.4x12.9x9.4)	30,0 (66.1)
24/8000/200-100-100	67388 T	19 - 33	8000	57,6V DC (absorption) 55,2V DC (float)	110A + 4A	470x350x280 (18.5x13.8x11)	45,0 (99.2)

(1) Continuous output power at 25°C

## EASYPLUS

The Poenix EasyPlus is a multifunctional energy system: 12 Volt 1600VA sine wave inverter (3000 Watt peak power) and 70A charger including 4A trickle charge for start battery.

Unique **PowerAssist**® technology protects the shore or generator from being overloaded by adding extra inverter power when needed.

4 stage adaptive charge technology for quick and accurate battery charging.

RCD (30mA/16A) on AC output.

Two AC output sockets protected by 16A automatic circuit breakers for optimum safety.

Second AC output active only when shore power is available.

No-break system: uninterrupted switching between shore/generator and inverter.

Battery cables and remote panel included.

MODEL	PART No.	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
EP C 12/1600/70-16	64948 F	510x214x110 (20x8.4x4.3)	11,7 (25,8)



EASYPLUS



# MULTI-FUNCTION INVERTER/BATTERY CHARGERS

## MULTIPLUS

The MultiPlus is a powerful true sine wave inverter, a sophisticated battery charger that features adaptive charge technology, and a high-speed AC transfer switch in a single compact enclosure.

**The MultiPlus is compatible with Lithium-ion batteries.**

### Double AC outputs

The main output features a no-break function: when the shore power or the genset power fails, the MultiPlus takes charge of the active loads without discontinuity. The second output is active only when an AC source is connected. The loads that may discharge the batteries, like the boiler, shall be connected to the second output.

### Parallel operation and three-phase configuration

The MultiPlus are able to be installed in parallel up to 6 units. In addition to parallel connection, three units of the same model can be configured for three-phase output: up to 6 sets of three units can be parallel connected for a total output of 75KW /90kVA and a current of 2000A.

### Power Control

The MultiPlus is a very powerful battery charger, drawing high currents from the genset or from the shore power (up to 10A per 5kVA Multi at 230 VAC). In order to avoid any generator or shore overload, a current limit can be set through the Multi Control Panel; this way the Multiplus will charge the battery with the current not used from the others AC loads on board.

### Power Assist

In the event that the onboard load exceeds the available shore power, the inverter function works in parallel with the shore connection to boost the total energy available and avoid overload. This works just the same with a generator.

### Four stage adaptive charger and dual battery charging

The main output provides a powerful charge to the battery system by means of advanced "adaptive charge" software. The software automatically tunes three charging stages in order to give the battery what it needs and to add a fourth stage for long periods of float charging. The second output is a float –only intended for engine start battery.

### System configuration

After installation, the MultiPlus is ready to work. If settings have to be changed, this can be done with the DIP switch setting procedure. Even parallel and 3-phase operation can be programmed with DIP switches. The VE.Net panel can be used as well for any setting modification.



MODEL	PART No.	INPUT VOLTAGE RANGE	CONT. OUTPUT POWER <sup>(1)</sup> VA	OUTPUT	BATTERY CHARGE		DIMENSIONS H x L x P mm (")	WHIGHT kg (lbs)
					INPUT VOLTAGE RANGE	CHARGE CURRENT		
C12/800/35-16	64927 X	9,5 – 16	800	230V AC ± 2% 50 Hz ± 2%	187-265 V AC / 45-55 Hz	35 A + 4A	375x214x110 (14.7x8.4x4.3)	10 (22)
C12/1200/50-16	64932 P	9,5 – 16	1200			50 A + 4A	375x214x110 (14.7x8.4x4.3)	10 (22)
C12/1600/70-16	64933 S	9,5 – 16	1600			70 A + 4A	375x214x110 (14.7x8.4x4.3)	10 (22)
C12/2000/80-30	64936 Y	9,5 – 16	2000			80 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
12/3000/120-16	64938 C	9,5 – 16	3000			120 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
12/3000/120-50	66875 R	9,5 – 16	3000			120 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
C24/800/16-16	64929 B	9,5 – 16	800			16 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
C24/1200/25-16	64940 N	19,5 – 33	1200			25 A + 4A	375x214x110 (14.7x8.4x4.3)	10 (22)
C24/1600/40-16	64941 R	19,5 – 33	1600			40 A + 4A	375x214x110 (14.7x8.4x4.3)	10 (22)
C24/2000/50-30	65725 P	19,5 – 33	2000			50 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
24/3000/70-16	64944 X	19,5 – 33	3000			70 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
24/3000/70-50	64945 Z	19,5 – 33	3000			70 A + 4A	362x258x218 (14.2x10.1x8.6)	18 (39.7)
24/5000/120-50	67433 L	19,5 – 33	5000			120 A + 4A	448x328x240 (17.6x12.8x9.4)	30 (66.1)

(1) Continuous output power at 25°C

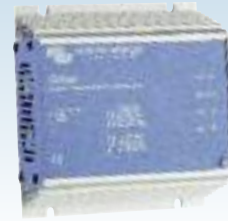
For a better use of all MultiPlus systems, it is necessary to install the **Ve bus Multi Control 16** or the **Digital Multi Control** remote control. It offers power control and power assist (page 173).

## ORION DC-DC CONVERTERS

Orion DC/DC Converters are designed to deliver a stable 12 Volt supply from a 24 Volt system. An inferior supply can cause irreparable damage to 12 Volt system, but the use of an Orion voltage converter prevents such problems. Next to converters from 24V to 12V, a wide range of other models is available.



ORION DC-DC



ISOLATED ORION DC-DC



### SERIE ORION NON ISOLATI

MODEL	PART No.	INPUT VOLTAGE RANGE - Vcc	OUTPUT VOLTAGE - VDC	MAX OUTPUT CURRENT	TEMPERATURE CONTROL	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
Orion 24/12-5	64949 H	18-35	12	5	no	45x90x65 (1.8x3.5x2.6)	0.2 (0.40)
Orion 24/12-12	64951 U	20-35	12	12	no	45x90x100 (1.8x3.5x3.9)	0.3 (0.65)
Orion 24/12-17	67919 P	18-35	12	17	no	45x90x110 (1.8x3.5x4.0)	0.3 (0.65)
Orion 24/12-25	68027 E	18-35	10-15	25	no	65x88x160 (2.6x3.5x7.3)	0.7 (1.55)
Orion 24/12-40	68107 C	18-35	12	40	si	65x88x185 (2.6x3.5x7.3)	0.85 (1.9)
Orion 24/12-70	68222 C	18-35	10-15	70	si	65x88x195 (2.6x3.5x7.7)	0.90 (2.0)
Orion 12/24-7	64955 C	9-18	24	7	no	49x88x98 (1.9x3.5x3.9)	0.30 (0.7)
Orion 12/24-10	64956 E	9-18	24	10	no	45x90x125 (1.8x3.5x4.5)	0.40 (0.9)

To obtain 120A, it is possible to connect in parallel two 24/12-60 units.

### ISOLATED ORION CONVERTERS

ISOLATED (xx = input: 2,24 V DC - yy = output: 12 or 24 V DC)							
Orion xx/yy-100	-	12-24	12,5/24	100 W*	no	49x88x152 (1.9x3.5x6.0)	0.50 (1.1)
Orion xx/yy-200	-	12-24	12,5/24	200 W*	si	49x88x182 (1.9x3.5x7.2)	0.60 (1.3)
Orion xx/yy-360	-	12-24	12,5/24	360 W*	si	64x163x160 (2.5x6.4x6.3)	1.40 (3.1)
Orion 12/27,6-12	67800 M	9-18	27,6	-	si	64x163x160 (2.5x6.4x6.3)	1.40 (3.1)

\* Nominal power

### ISOLATION TRANSFORMERS

The isolation transformer eliminates any electrical continuity between AC shore power and the ship. It is essential for safety and eliminates the need for galvanic isolators and polarity alarms. The shore power is fed to the primary side of the transformer and the ship is connected to the secondary. The isolation transformer completely isolates the boat from the shore ground. By connecting all metal parts to the neutral output on the secondary side of the transformer, a GFCI (ground fault current interrupter) will trip or a fuse will blow in case of a short circuit.

#### Features

Aluminium epoxy powder coated case with drip shield, circuit board protection with an acrylic coating, toroidal transformer.



ISOLATION TRANSFORMER



MODEL	PART No.	WATT	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
2000 W 115/230 V	64969 P	2000 W	375x214x110 (14.8x8.4x4.3)	10 (22.0)
3600W 115/230 V	64970 Y	3600 W	362x258x218 (14.2x10.1x8.5)	23 (50.7)
7000W 230 V	64972 C	7000 W	362x258x218 (14.2x10.1x8.5)	24 (52.9)

## ACCESSORIES

### BATTERY MONITORS

The BMV monitors feature an advanced microprocessor control system combined with high resolution measuring system for battery voltage and charge/discharge current. It can display: voltage, charge/discharge current, state of charge of the battery (in Ah or %), remaining charge. Standard with connection cables and shunt.

**Mounting hole:** 52mm (2")

**BMV 600S** - 66164 E - monitoring 1 battery 9-90 VDC

**BMV 602S** - 66409 J - monitoring 2 batteries 9-90 VDC

**BMV 600HS** - 67434 N - monitoring 1 battery 70-350 VDC

Available RS230 or NMEA2000 interface to connect to a computer



BMV 600S / BMV 600H



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### BATTERY ISOLATORS

Battery isolators allow simultaneous charging of two or more batteries from one alternators, without connecting the batteries together. Discharging the accessory battery, for example, will not result in discharging the starter battery.

#### ARGO - DIODE BATTERY ISOLATORS

The Argo battery isolators feature a low voltage drops thanks to the use of Schottky diodes: at low current the voltage drop is approximately 0,3V and at the rated output approximately 0,45V.

All models are fitted with a compensation diode that can be used to slightly increase the output voltage of the alternator. This compensates for the voltage drop over the diodes in the isolator.



ARGO



#### Alternator energize input

Some alternators need DC voltage on the B+ output to start charging. Obviously, DC will be present when the alternator is directly connected to a battery.

Inserting a Diode or FET splitter will however prevent any return voltage/current from the batteries to the B+, and the alternator will not start. The new diode isolators have a special current limited energize input that will power the B+ when the engine run/stop switch is closed.

MODEL	PART No.	MAX CHARGE CURRENT	ALTERNATOR MAX CURRENT	No. of BATTERIES	DIMENSIONS H x L x P mm ("")	WEIGHT kg (lbs)
80-2AC	67435 R	80A	80A	2	60x120x90 (2.4x4.7x3.5)	0.6 (1.3)
100-3AC	64984 K	100A	100A	3	60x120x115 (2.4x4.7x4.5)	0.8 (1.8)
120-2AC	64985 M	120A	120A	2	60x120x115 (2.4x4.7x4.5)	0.8 (1.8)
140-3AC	64986 P	140A	140A	3	60x120x150 (2.4x4.7x6.0)	1.2 (2.6)
160-2AC	64987 S	160A	160A	2	60x120x150 (2.4x4.7x6.0)	1.2 (2.6)
180-3AC	64988 U	180A	180A	3	60x120x200 (2.4x4.7x7.9)	1.5 (3.3)

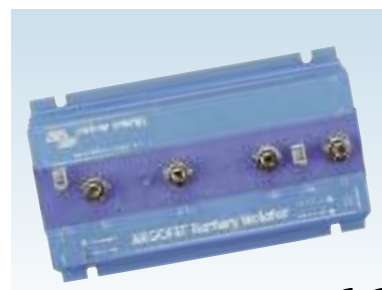
#### ARGO FET BATTERY ISOLATORS: NO VOLTAGE LOSS

Differently from diode battery isolators, FET isolators have virtually no voltage loss. Voltage drop is less than 0,02 Volt at low current and averages 0,1 Volt at higher currents.

When using ARGO FET battery isolators, there is no need to also increase the output voltage of the alternator. Care should be taken however to keep cable lengths short and of sufficient cross section.

#### Alternator energize input

The new ARGO FET isolators have a special current limited energize input that will power the B+ when the engine run/stop switch is closed.



ARGO FET



MODEL	PART No.	MAX CHARGE CURRENT	ALTERNATOR MAX CURRENT	No. of BATTERIES	DIMENSIONS H x L x P mm ("")	WEIGHT kg (lbs)
1002-FET	64989 W	100A	100A	2	65x120x200 (2.6x4.7x7.9)	1.2 (2.6)
1003-FET	64990 E	100A	100A	3	65x120x200 (2.6x4.7x7.9)	1.2 (2.6)
2002-FET	64991 G	200A	200A	2	65x120x200 (2.6x4.7x7.9)	1.2 (2.6)
2003-FET	64992 J	200A	200A	3	65x120x200 (2.6x4.7x7.9)	1.2 (2.6)

## CIRYX – MICROPROCESSOR CONTROLLED BATTERY COMBINER

The Ciryx battery combiner is a microprocessor controlled heavy duty relay that automatically connects batteries in parallel when one of them has reached a preset voltage (indicating that the battery has been charged) and disconnects when the voltage decreases below float level (indicating that one or more batteries have been discharged).

### No voltage loss

Ciryx battery separators are an excellent replacement for diode isolators. The main feature is that there is virtually no voltage loss so that the output voltage of alternators or battery chargers does not need to be increased.

### Prioritising the starter battery

In a typical setup the alternator is directly connected to the starter battery. The accessory battery and possibly also a bow thruster and other batteries are each connected to the starter battery by Ciryx battery combiners.

When a Ciryx senses that the starter battery has reached its connect voltage will engage, to allow for parallel charging of the other batteries.

### Bidirectional voltage sensing

The Ciryx senses the voltage of both connected batteries. It will therefore also engage if for example the accessory battery has been charged by a battery charger.

### Parallel connection in case of emergency

The Ciryx can also be engaged with a switch to connect manually batteries in parallel. This is especially useful in case of emergency when the starter battery is discharged or damaged.

### 12/24V auto ranging with Ciryx-i

The Ciryx-i 12/24-100 automatically detects system voltage.



CYRIX



MODEL	PART No.	CONTINUOUS CURRENT A	PEAK CURRENT	CONNECT VOLTAGE V	DISCONNECT VOLTAGE	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
i 12/24-120	66245 E	120	180	13÷13.8V e 26÷27.6V	11÷12.8V e 22÷25.7V	46x46x80 (1.8x1.8x3.2)	0.11 (0.24)
i 12/24-225	67063 D	225	500	13÷13.8V e 26÷27.6V	10,5÷12.8V e 21÷25.6V	100x90x100 (4x3.5x4)	0.66 (1.45)
i 12/24-400	67064 F	400	2000	13÷13.8V e 26÷27.6V	10,5÷12.8V e 21÷25.6V	78x102x110 (3.0x4.0x4.3)	0.9 (1.9)

## BATTERY PROTECTION

The Victron battery protection disconnects the battery from non essential loads before it is completely discharged (which would damage the battery) or before it has insufficient power left to crank the engine.



BP-40i e BP-60i

BP-200i

MODEL	PART No.	MAX CONTINUOUS CURRENT	PEAK CURRENT	OPERATING VOLTAGE RANGE	LOAD DISCONNECT DELAY	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
BP-40i	66038 Z	40A	120A	6-35V	1 minuto	80x60x40 (3.2x2.4x1.6)	0.2 (0.5)
BP-60i	65000 S	60A	120A	6-35V	1 minuto	80x60x40 (3.2x2.4x1.6)	0.2 (0.5)
BP-200i	66246 G	200A	480A	6-35V	1 minuto	60x120x110 (2.4x4.7x4.3)	0.8 (1.8)

## REMOTE CONTROL PANELS AND CONNECTION CABLES



DMC - Digital Multi Control GX



VE.Bus Multi Control



PHOENIX CC



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### CONTROL PANELS

MODEL	PART No.	DESCRIPTION
DMC 200/200	66717 W	Digital Multi Control 200/200
DMC 200/200 GX	67920 Y	Digital Multi Control 200/200GX
VE.Bus MC 16/200A	66247 J	VE.Bus Multi Control 16/200A panel
Phoenix CC Inverter	65005 C	Phoenix Inverter Control panel
Phoenix RC Inverter	66202 K	Remote Control for 750VA Phoenix Inverter - 3m cable
Phoenix CC Charger	65006 E	Phoenix Charger Control panel
Skylla CC	65007 G	Skylla Control panel
CW	65008 J	On-Off Skylla switch
BA	65009 L	Battery alarm panel

### CABLES AND CONNECTION KIT

MODEL	PART No.	DESCRIPTION
UTP-5 RJ 45	65010 V	UTP 5 m cable
UTP-10 RJ 45	65011 X	UTP 10 m cable
UTP-15 RJ 45	65012 Z	UTP 15 m cable
UTP-20 RJ 45	65013 B	UTP 20 m cable
UTP-25 RJ 45	65014 D	UTP 25 m cable
UTP-30 RJ 45	65015 F	UTP 30 m cable
RS232/MK.2b	65018 M	Connection Kit RS232/MK.2b Victron Interface
USB/RS232	65019 P	Converter USB/RS232
MK2/USB	67082 H	Converter Kit USB/MK.2b



#### STAINLESS STEEL MALE PLUG

- 3 poles with cover IP67 rating
- MP32-10 – 66731P – 32A

### AUTOMATIC TRANSFER SWITCH

66138 D Filax transfer switch CE 50Hz (up to 3500W) shore/inverter

## BATTERIES



Deep cycle **AGM** batteries are more suitable for short-time delivery of very high currents (engine starting) than gel batteries. Life: 7 – 10 years

AGM Type	PART No.	CAPACITY*	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/60	65022 C	60 - 55 Ah	299x138x227 (11.7x5.4x8.9)	20 (44.0)
12/66	65023 E	66 - 60 Ah	258x166x235 (10.1x6.5x9.2)	24 (52.9)
12/90	65024 G	90 - 80 Ah	350x167x183 (13.8x6.6x7.2)	27 (59.5)
12/110	65645 S	110 - 100 Ah	330x171x220 (13x6.7x8.7)	32 (70.5)
12/130	65025 J	130 - 120 Ah	410x176x227 (16.1x6.9x8.9)	38 (83.7)
12/165	65026 L	165 - 150 Ah	485x172x240 (19.1x6.7x9.4)	47 (103.6)
12/220	65027 N	220 - 200 Ah	522x238x240 (20.5x9.3x9.4)	65 (143.0)

\*value for 20 hours of discharging

GEL deep cycle batteries. Life: 12 years

GEL Type	PART No.	CAPACITY*	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
12/60	65028 R	60 - 55 Ah	299x138x227 (11.7x5.4x8.9)	20 (44.0)
12/66	65029 T	66 - 60 Ah	258x166x235 (10.1x6.5x9.2)	24 (52.9)
12/90	65030 B	90 - 80 Ah	350x167x183 (13.8x6.6x7.2)	26 (57.3)
12/110	65646 U	110 - 100 Ah	330x171x220 (13x6.7x8.7)	33 (72.7)
12/130	65031 D	130 - 120 Ah	410x176x227 (16.1x6.9x8.9)	38 (83.7)
12/165	65032 F	165 - 150 Ah	485x172x240 (19.1x6.7x9.4)	48 (103.6)
12/220	65033 H	220 - 200 Ah	522x238x240 (20.5x9.3x9.4)	66 (143.0)

\*value for 20 hours of discharging

GEL long life 2Vcc batteries with lead calcium grids. Life: 20 years.

GEL 2 V DC Type	PART No.	CAPACITY*	DIMENSIONS H x W x D mm (")	WEIGHT kg (lbs)
2/800	65034 K	800 Ah	215x193x710 (8.5x7.6x27.9)	68 (150)
2/1000	65035 M	1000 Ah	215x235x710 (8.5x9.2x27.9)	82 (181)
2/1500	65036 P	1500 Ah	215x277x855 (8.5x10.9x33.6)	120 (264)
2/2000	65037 S	2000 Ah	215x400x815 (8.5x15.7x32.1)	160 (352)
2/3000	65038 U	3000 Ah	215x580x815 (8.5x22.8x32.1)	240 (529)

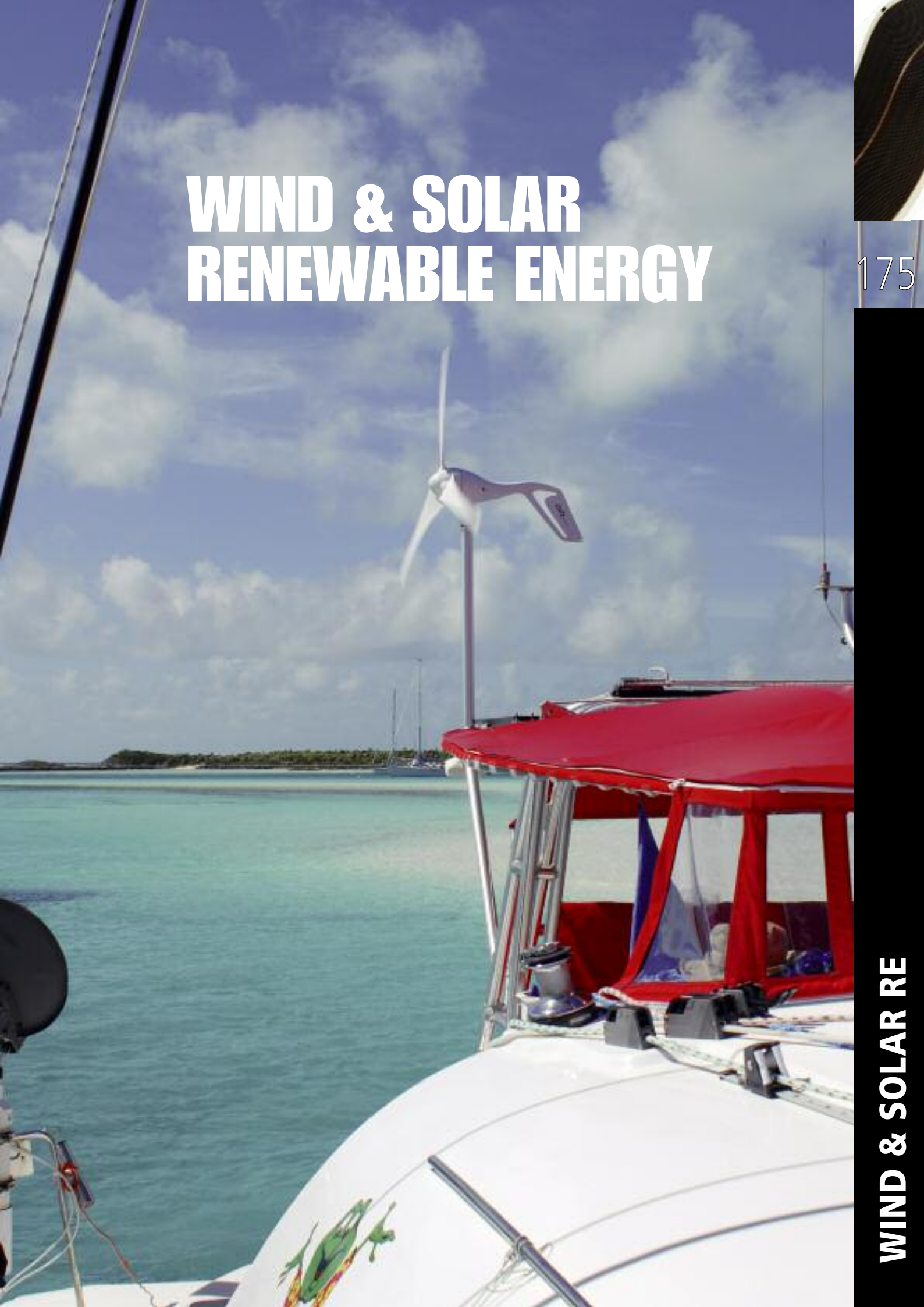
\*value for 10 hours of discharging  
Lithium batteries available on request



# WIND & SOLAR RENEWABLE ENERGY

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WIND & SOLAR RE



## AIR BREEZE WIND GENERATORS

### Quiet, reliable energy for sea and shore

AirBreeze is trusted by sailors around the world and recommended as the best high-energy output turbine by Yachting Monthly. Its optimized electronic controls deliver energy quietly and efficiently. Extensive third party testing and certification shows more consistent output than the competition. AirBreeze is part of the latest generation of AIR products – the world’s best-selling wind turbines – with more than 135,000 units sold in more than 120 countries.

### High performance in marine environments

We recommend AirBreeze for all small battery-charging applications in coastal areas or offshore: boats, docks and other marine uses. The AirBreeze is an ideal wind turbine for hybrid systems with solar to offset those cloudy or stormy periods. AirBreeze is built and backed by the worldwide leader in small wind.

- Improved reliability backed by a lifetime warranty
- Quiet operation
- Energy in light winds
- Lightweight; unique design is simple and easy to install
- Stop switch included
- Corrosion resistant paint tested to SAE J2334 standard
- Marine grade O-ring seal
- Stainless steel external fasteners
- Anodized blade hub



### TECHNICAL SPECIFICATIONS

Model:	Air Breeze M1 12V	Air Breeze M2 24V
Part No.:	68070 F	68071 H
Energy:	approx. 3200 Ah/month at 11.3 knots (5.8 m/s)	
Rotor Diameter:	46 in (1.17 m)	
Weight:	13 lb (5.9 kg)	
Shipping dimensions:	27 x 12.5 x 9 in (686 x 318 x 229 mm) – 17 lb (7.7 kg)	
Mount:	1.9 in (48 mm) outer diameter	
Startup Wind Speed:	7 mph (3.13 m/s)	
Voltage:	12 or 24 VDC	
Turbine Controller:	Microprocessor-based smart internal regulator	
Body:	Cast aluminium with corrosion resistant paint	
Blades:	Injection-moulded composite	
Overspeed protection:	Electronic torque control	
Survival Wind Speed:	110 mph (49.2 m/s)	

## SUPERWIND - 350

The Superwind 350 is a small wind generator for professional use, which even under extreme conditions works autonomously and automatically. It is often used on sites where there is no grid available. The electric power generated by Superwind charges batteries and can be used directly for 12V- or 24 V-appliances. There are many industrial appliances on these voltage levels like measurement systems, transmitters or navigational aids. But there are also quite a number of high-quality energy-saving appliances available, such as energy saving lamps, refrigerators, deep-freezers, water pumps, ventilators, consumer electronics, TV, radio and navigation equipment, etc. Superwind generators are used in wind/solar hybrid systems to ensure the availability of power.

### TECHNICAL SPECIFICATIONS:

Nominal Power:	350W a 12,5 m/s
Nominal wind speed:	3,5 m/s
Cut off wind speed:	none
Rotor diameter:	1,20 m
Number of blades:	3
Blade material:	CFK
Rotor speed:	500 – 1300 rpm
Generator:	permanent magnet
Nominal voltage:	12V DC - 24V DC
Speed regulation:	rotor blade pitch
Power regulation:	rotor blade pitch
Brake:	generator short-circuit
Weight:	11,5 kg
Rotor thrust (operation):	70 N
Rotor thrust (extreme wind speed)	220 N

**SUPERWIND 350 12V** - 65726 S  
**SUPERWIND 350 24V** - 65727 U

**CHARGE REGULATOR CRM 12V** - 65728 W  
**CHARGE REGULATOR CRM 24V** - 65729 Y

**STOP SWITCH** - 65730 G

**INSTALLATION KIT** - 65731 J





## MARINE PV SOLAR MODULES



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Sunware solar modules, without glass, are functionally reliable, robust, light-weight, weather-proof and sea-water resistant: therefore they have been specially designed for marine applications on board.

The innovative manufacturing process and the use, in some cases, of 40 polycrystalline solar cells instead of 36, make them particularly suitable to be installed on the deck of the boat, avoiding vibrations and the negative effects of high temperature.

Self-cleaning and safe to step-on, SUNWARE modules are easy to bend and can therefore adhere to the deck (maximum bending 3%, i.e. bending of 3 cm per 1 m long module). Each module is supplied complete with stainless steel back-plate, a sea-water proof and UV resistant cable (3 m long – red/blue 2x1.5 mmq), a surrounding edge protection profile and mounting stainless steel eyelets for easy installation using screws, hooks or ropes.

Manufacturing process, result of long experience achieved, includes an individual final test for each SUNWARE solar module. All modules are covered by a 3 year warranty on the power output.



MODEL	SW-3061	SW-3062	SW-3063	SW-3064	SW-3065	SW-3066	SW-3265	SW-3266
P. No.	65103C	65104E	65105G	65106J	65107L	65108N	65109R	65110Z
Rated power Wp	12	18	24	36	48	70	48	70
N° of Cells	40	40	40	40	40	40	80	80
Battery System	12	12	12	12	12	12	24	24
Imp. (A)	0.55	0.83	1.1	1.65	2.2	3.3	1.1	1.6
Voc (V)	24.6	24.6	24.6	24.6	24.6	24.6	49.2	49.2
Isc (A)	0.6	0.89	1.2	1.8	2.4	3.6	1.2	1.7
Dimensions mm ("*)	249 x 467 (9.8 x 18.4)	249 x 642 (9.8 x 25.3)	459 x 467 (18.0 x 18.4)	459 x 638 (18.0 x 25.1)	499 x 838 (19.6 x 33.0)	891 x 638 (35.0 x 25.1)	499 x 838 (19.6 x 33.0)	891 x 638 (35.0 x 25.1)
Weight Kg (lbs)	1.2 (2.6)	1.7 (3.7)	2.3 (5.0)	3.1 (6.8)	3.2 (7.0)	6.1 (13.4)	4.5 (9.9)	6.1 (13.4)

\* Thickness: 5 mm - 0.2"

### ACCESSORIES:



#### MID CLIPS AND SIDE CLIPS

- Part No. 64098 H (2 clips)
- Part No. 64099 K (4 clips)



#### PLUGS, SOCKETS AND CONNECTORS

- Male Socket Part No. 64100 R
- Female Socket Part No. 64101 T
- Plug Part No. 64102 V
- Bulkhead kit Part No. 64104 Z



### PV MODULES

Photon® employs top quality materials to factory build reliable and long lasting multi-crystalline PV Modules.

Photon® prime quality main components are: high efficiency cells, reflection-free and power transmitting glasses, anodized aluminium frames. Back positioned mounting holes for easy of installation.

Photon® PV Modules are suitable for both stand-alone and grid-connected installations. Photon® Quality Policy is to provide quality solar energy products and services to meet or exceed customers' expectations.

The Quality Management System (QMS) at Photon® is certified by TÜV, in compliance with ISO 9001:2000 standards.

Solar Modules (up to 220 Wp) manufactured by Photon® are certified by TÜV, in accordance with IEC61215 standards.



MODEL	PART No.	Pmax Watt	Vmp Volt	Imp Amp	Voc Volt	Isc Amp	Dimension mm	Weight kg
PM005	65867 L	5	16,5	0,31	20	0,35	300x185x22	0,7
PM010	65868 N	10	16,5	0,61	20	0,7	340x280x22	1,15
PM020	65869 R	20	16,5	1,22	20	1,36	500x340x22	2,0
PM040	65707 M	40	17,7	2,30	21,6	2,5	655x535x34	4,2
PM060	65493 V	60	17,7	3,75	21,6	3,8	670x760x34	6,9
PM080	65708 P	80	17,7	4,52	21,6	5,1	890x655x34	8,4
PM0100	65870 Z	100	17,7	5,76	21,6	6,3	1150x655x34	10,8
PM0115	65118 S	115	17,7	6,50	21,6	7,3	1325x653x34	10,8
PM0135	66211 L	135	17,7	7,60	21,6	8,3	1490x655x35	12

**Pmax:** Nominal power  
**Vmp:** Voltage at Maximum Power  
**Imp:** Current at Maximum Power  
**Voc:** Open Circuit Voltage  
**Isc:** Short Circuit Current



## MORNINGSTAR® CHARGE REGULATORS - PROSTAR™ AND SUNSAVER™ SERIES



### PROSTAR™ SERIES FEATURES

- 3 digits LCD display reading in sequence: Battery Current, PV Current, Loads Current
- Automatic voltage select for either 12 or 24V DC systems
- Automatic voltage select for either a sealed or flooded battery
- Full electronic protection against any consequence of reversed wire connection
- Instant disconnection/connection of all PV modules and loads by a button

### SUNSAVER™ SERIES FEATURES

- Multi-colour status LED
- 3 LED's for battery state of charge with self-diagnostic
- Full electronic protection against reversed PV, battery or load wire connections
- Either a flooded or sealed battery can be selected with a simple jumper
- Encapsulated in epoxy compound for service in harsh environment
- Dead battery recovery

### PROSTAR™ SERIES TECHNICAL SPECIFICATIONS

MODEL	PS15M	PS30M	PS15M-48V
Part No.	62643W	61737A	63072H
Nominal Voltage	12V DC	24V DC	48V DC
Rated solar current	15 Amp	30 Amp	15 Amp
Rated load current	15 Amp	30 Amp	15 Amp
Load disconnect/LVD reconnect	11,5 V/12,6V	11,5 V/12,6V	11,5 V/12,6V
Self consumption	22 mA	22 mA	28 mA
Dimensions mm	153 x 105 x 55	153 x 105 x 55	153 x 105 x 55
Weight	0,34 kg	0,34 kg	0,34 kg

### SUNSAVER™ SERIES TECHNICAL SPECIFICATIONS

MODEL	SS 6 L	SS 10	SS 10 L	SS 20 L	SS10 L-24
Part No.	61213E	61415B	61192X	61734U	61938L
Nominal Voltage	12V DC	12V DC	12V DC	12V DC	24V DC
Rated solar current	6 A	10 A	10 A	20 A	10 A
Rated load current	6 A	10 A	10 A	20 A	10 A
Load disconnect/LVD reconnect	11,5 /12,6V	11,5 /12,6V	11,5 /12,6V	11,5 /12,6V	23/25,2V
LVD reconnect	Yes	No	Yes	Yes	Yes
Dimensions mm	152x55x34	152x55x34	152x55x34	152x55x34	152x55x34
Weight	0,23 kg	0,23 kg	0,23 kg	0,23 kg	0,23 kg

**MORNINGSTAR®**  
**BATTERY CHARGER**  
**SUNSAVER MPPT™**

SunSaver MPPT™ solar controller is an advanced maximum power point tracking (MPPT) battery charger for off-grid photovoltaic (PV) systems

**FEATURES**

- Smart tracking algorithm that maximizes the energy harvest from the PV modules
- Well suited for both professional and consumer PV applications
- Peak efficiency of over 97%
- Enables the use of high voltage and thin film modules for off-grid battery charging
- Provides a means to use up to a 36V PV array to charge either a 24V or 12V battery
- Load control to prevent over discharge of the battery
- User selection via on-board switches or PC connection
- Records key operating parameters of the PV system and includes 30 days of data logging
- Options: Remote Meter, Remote temperature Sensor



**TECHNICAL SPECIFICATIONS**

MODEL	SunSaver MMPT™
Part No.	66242 Y
Nominal Battery Voltage	12V o 24V DC
Max Battery Current	15 Amp
Battery Voltage Range	7-36V
Max PV Open Circuit Voltage	75V
Nominal max PV input (12V DC Battery)	200 Watt
Nominal max PV input (24V DC Battery)	400 Watt
Output Rating	15 Amp
Self Consumption	35 mA
Dimensions	16,9 x 6,4 x 7,3 cm
Weight	0,60 kg

**ELECTRONIC PROTECTION**

- PV: Overload, Short Circuit, High Voltage
- Load: Overload, Short Circuit
- Reverse Polarity: Battery, PV and Load
- Lightning and Transient Surges
- High Temperature
- Reverse Current at night

**CERTIFICATIONS**

- CE
- RoHs

**MORNINGSTAR®**  
**BATTERY CHARGER**  
**SUNSAVER DUO™**



SunSaver DUO™ is a two battery solar controller with remote adjustable meter

**FEATURES**

- Will charge two separate and isolated batteries at the same time based on user selectable priorities
- Includes a backlit remote meter with LED display which may be mounted in or on a wall and displays information about the solar power system
- User adjustable via DIP switch or connection to a PC
- Two battery charging eliminates the added cost of two separate solar charging systems and the need for isolation between the batteries
- Will not be damaged by wiring mistakes during installation
- Epoxy encapsulated for environmental protection
- Options: Remote Temperature Sensor



**TECHNICAL SPECIFICATIONS**

MODEL	SunSaver DUO™
Part No.	66129 C
Battery Voltage	12 Volt
Rated Solar Input	25 Amp
Max Solar Voltage	30 Volt
Max battery Voltage	15 Volt
Self Consumption	25 mA (controller and meter)
Operating Ambient Temperature	-40°C a +40°C
Dimensions	170 x 56 x 41 mm
Meter Hole size	76 mm
Largest wire	16 mm <sup>2</sup>
Weight	0,26 kg

**ELECTRONIC PROTECTION**

- PV: Over Current, Short Circuit
- Reverse polarity
- Lightning
- High Temperature
- Reverse Current at Night

**CERTIFICATIONS**

- CE





*Quiet  
vibration-free  
performance from  
today's high-revving  
diesels*



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## SILENCING AND EXHAUST SYSTEMS

Components to build exceptionally quiet exhaust systems

**SILENCING AND EXHAUST SYSTEMS**

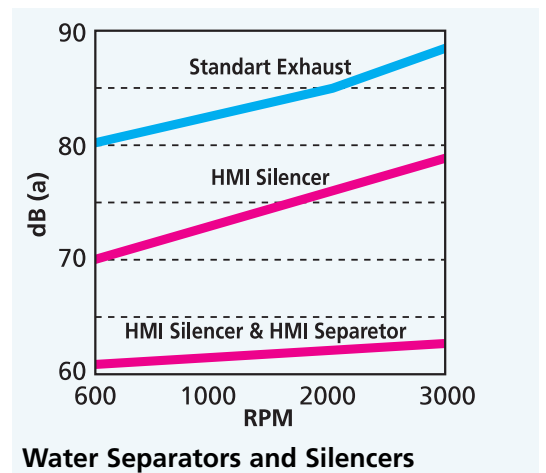
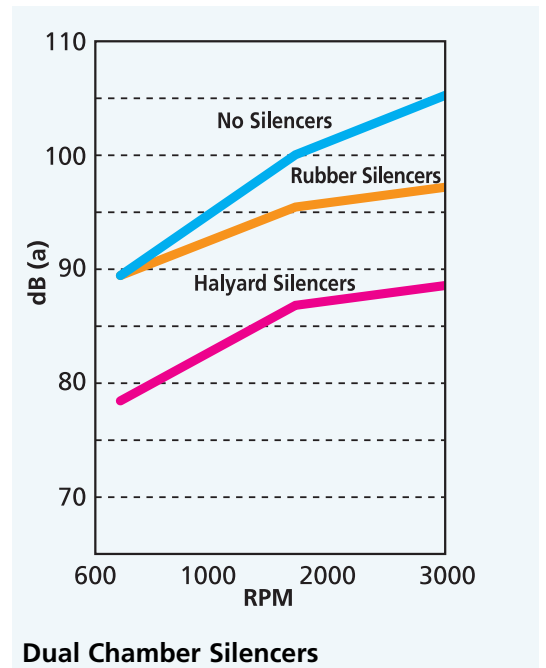
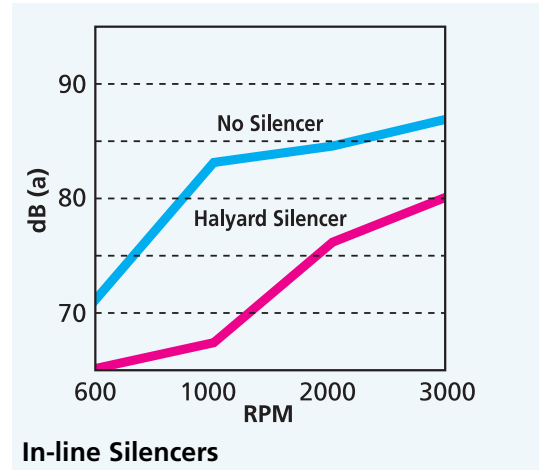
A marine engine exhaust system ejects the cooling water as well as silencing the engine's combustion noise and removing the exhaust gasses. The system must create minimal restriction to the flow of exhaust gasses, known as back pressure, or the engine may be damaged.

Halyard® produces GRP silencers using specialist resins, allowing Halyard® silencers to survive remarkably high temperatures if the cooling water supply blocks for short periods. Halyard® silencers are usually made from filament wound GRP tube, manufactured in our own plant, which is hand-laminated with flat sheet bases. Every single silencer produced is pressure tested individually to guard against leaks. GRP is used as the base material to avoid the corrosion and acoustic problems of welded stainless units, and to avoid the low melting points of plastic silencers. Although normal marine exhausts run at between 40°C and 60°C, Halyard® silencers will remain operational after exposure to 300°C or more, while a plastic unit will melt at around 150°C.

Halyard® GRP silencers are approved by Lloyds Register.

**Here are four main objectives achieved by Halyard®:**

1. To reduce noise by between 40% and 90%.
2. To cool the exhaust, and eject the engine cooling water through the exhaust without excessive back pressure.
3. To minimise the risk of water running back up the exhaust and into the engine cylinders, causing serious engine damage.
4. To site the outlets at the stern of the boat to minimise exhaust fumes on board.



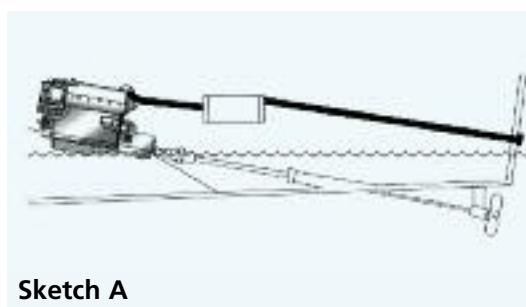


### WHERE'S THE WATERLINE?

Marine exhausts are cooled by sea water, so it's essential that the water cannot run back up the exhaust and into the engine's cylinders. The resulting damage can be catastrophic. A few simple rules need to be followed, and engine installers should seek expert advice if in any doubt.

### ENGINE WELL ABOVE WATERLINE

This engine is sited well above the waterline, and the exhaust system has a downhill gradient of 1 in 8, or steeper, as it scope to the stern. The water will naturally run down the slope and away from the engine. A standard in-line silencer will achieve a noise reduction of approximately 40%. A dual chamber silencer will achieve up to 80%. (Sketch A)

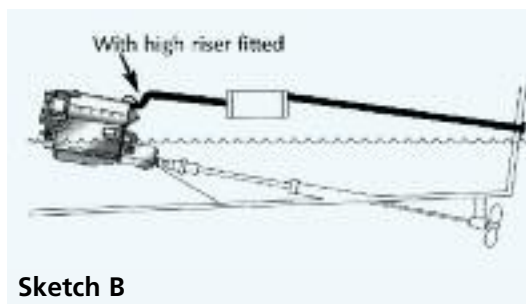


Sketch A

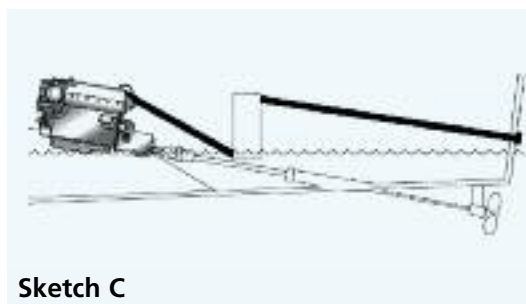
### ENGINE JUST ABOVE WATERLINE

Water could run back into the engine if the vessel pitches on its mooring – or a wave could do the same. There are two solutions:

1. Fit a "high riser". This is an extension to the exhaust outlet on the engine taking it well above water-line to create a 1 in 8 gradient from the water injection on the engine down to the stern. An in-line silencer can then be used with a noise reduction of around 40%. Alternatively you might get the necessary height by using a Dual Chamber silencer, with a noise reduction of around 80%. (Sketch B)
2. Fit a dual chamber silencer. The dual chamber silencer means the hose scope steeply down from engine to silencer, and again from silencer to stern. The geometry needs careful checking, but it can solve the problem and it offers a noise reduction up to 80%. (Sketch C)



Sketch B

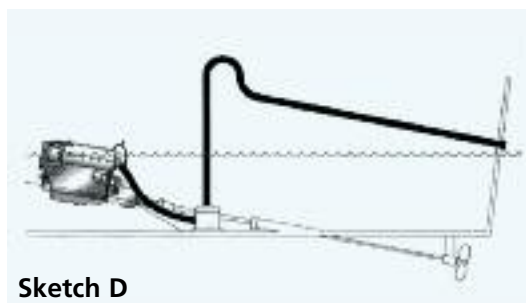


Sketch C

### ENGINE NEAR OR BELOW WATERLINE

Most displacement craft have their engines low down. The sketch shows a typical water-trap silencer positioned below and behind the engine. The hose from this silencer runs gradually down to the stern. Water in the system drains into the silencer when the engine is stopped. A wave coming up the stern is unlikely to climb over the gooseneck. (Sketch D)

Siphon breakers should always be used in the cooling water supply to installations of this type. Normal lift silencers reduce noise by 45% or so. You can add a water separator to increase this around 90%.



Sketch D

**NOTE:** Dimensions on Lift Silencing systems vary widely, but a 12m yacht normally needs a drop of 300mm (12") from the water injection point on the engine exhaust outlet to the top of the lift silencer. The gooseneck should then be 450mm (18") above waterline – or more if the exhaust is to one side. The lift silencer should not fill with water by more than 30% when the engine is stopped, and it must be large enough for this. These are very general guidelines and will change with angles of heel, size of vessel, engine choice etc. Individual installations must be checked with qualified designers or marine engineers.

## **HALYARD® LIFT SILENCERS - LLOYDS APPROVED**

### **UP TO 50% NOISE REDUCTION**

Halyard® Lift silencers are designed for use with engines positioned on, or below waterline.

Halyard® Lift Silencers are as popular with generators as they are with propulsion engines.



### **SIDE IN, TOP OUT LIFT SILENCERS**

The side in, top out lift silencer is the best selling small lift silencer in the Halyard® range.

Every unit is pressure tested and gel-coated for a durable and smart appearance.

Available lengths: page 189

### **TOP IN, TOP OUT LIFT SILENCERS**

In many applications a top inlet unit will be easier to use. The noise result and cost are the same as the side inlet units, and the same rigorous quality tests apply.

Available lengths: page 189



### **HORIZONTAL LIFT SILENCERS**

These low lying units can be very useful in sailing yachts, where the silencer needs to be secured alongside the propeller shaft. The moulded ends are used on smaller units.

Available lengths: page 190

## **HALYARD® IN-LINE SILENCERS - LLOYDS APPROVED**

### **UP TO 50% NOISE REDUCTION**

Halyard® in-line silencers are used where the engine is well above the water-line, or where a high-riser has been fitted to achieve a 1 in 8 gradient from the engine to the transom outlet. They are simple to specify and fit, and ideally need to be 0,5m to 1m behind the engine. The internal design requires the exhaust gasses and water to bubble through a layer of water on the bottom of the silencer to reduce noise. They offer excellent noise reduction and are widely used on both pleasure and commercial engines.

### **ROUND IN-LINE SILENCERS**

These silencers are made from enormously strong filament wound tube, giving the maximum possible protection if the exhaust back-fires. Every unit is pressure tested before being gel-coated. They must be installed within 5 degrees of horizontal.

Available lengths: page 190



### **OVAL IN-LINE SILENCERS**

Our oval silencers are hand-moulded for use where the round body unit cannot be accommodated. They give the same excellent results and every single unit is pressure tested and gel-coated. The inlets can be angled to ease the connection to the engine and positioned on the end or the side.

Available lengths: page 190



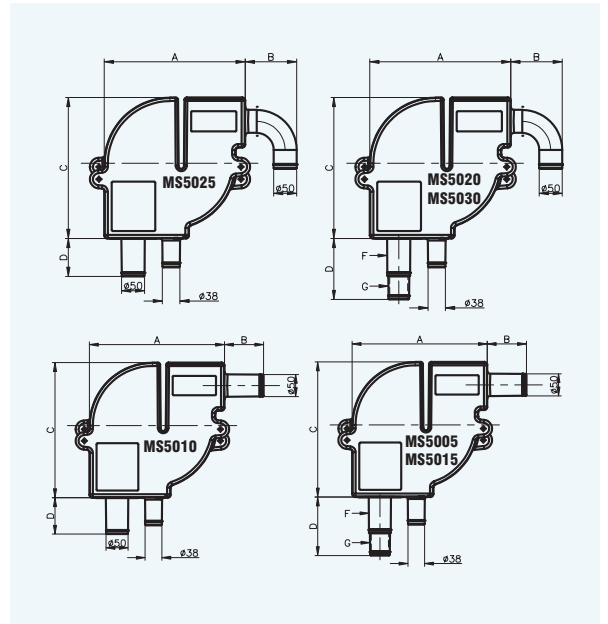
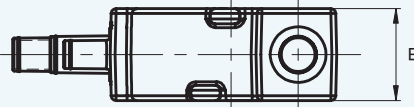


# HALYARD® SILENCERS AND EXHAUST WATER SEPARATORS - LLOYDS APPROVED

## MS 5000 SERIES

- Three sizes cover exhaust diameters of 45 mm, 50 mm, 60 mm (1 3/4", 2", 2 1/2")
- Maximum water flow rate: 45 litres per minute

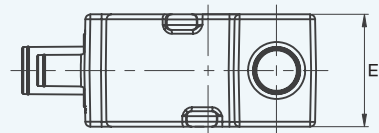
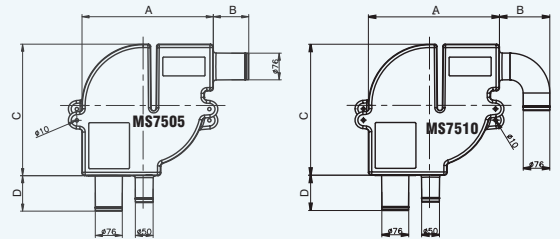
PART No.	HALYARD PART NO.	A mm	B mm	C mm	D mm	E mm	F mm	G mm
66710 F	H010257	306	89	306	133	125	50	45
66812 P	H010258	306	89	306	83	125	50	50
66711 H	H010261	306	89	306	164	125	63	60
66708 V	H010259	306	112	306	133	125	50	45
66882 M	H010260	306	112	306	83	125	50	50
66709 X	H010262	306	112	306	164	125	63	60



## MS 7500 SERIES

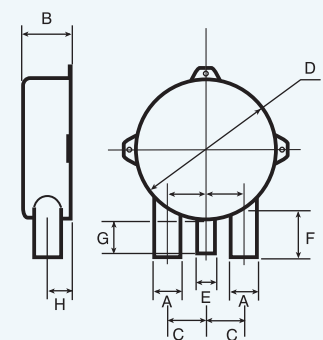
- Size covers exhaust diameter: 75 mm (3")
- Maximum water flow rate: 65 litres per minute

PART No.	HALYARD PART NO.		A mm	B mm	C mm	D mm	E mm
66883 P	H07889	straight outlet	371	100	371	100	180
66884 S	H08363	90 deg. outlet	371	143	371	100	180



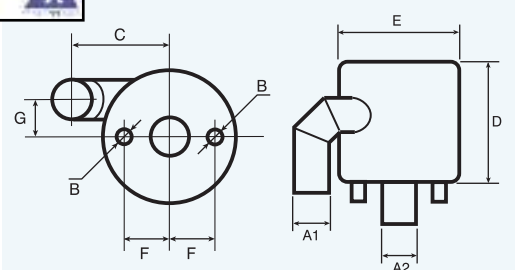
## MID-GEN EXHAUST WATER SEPARATORS

PART No.	HALYARD PART NO.	A1 mm (")	B mm	C mm	D mm	E mm (")	F mm	G mm	H mm
65843 W	HFS025	60 - (2.5)	140	100	356	38 - (1.5)	144	100	70
65845 A	HFS035	89 - (3.5)	140	110	406	51 - (2.0)	144	100	70
65568 A	HFS040	102 - (4.0)	170	110	398	51 - (2.0)	144	100	85



## MID-ENGINE EXHAUST WATER SEPARATORS

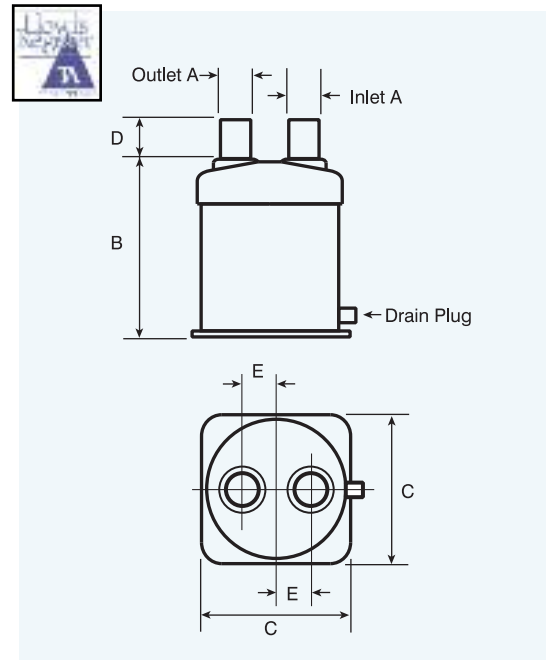
PART No.	HALYARD PART NO.	A1 mm	A2 mm	B mm	C mm	D mm	E mm	F mm	G mm
65846 C	HWS035	90	90	38	250	356	356	120	110
65847 E	HWS040	102	102	38	260	356	356	120	110
65848 G	HWS050	127	127	51	310	406	406	150	112
65849 J	HWS060	152	152	51	335	406	406	158	100



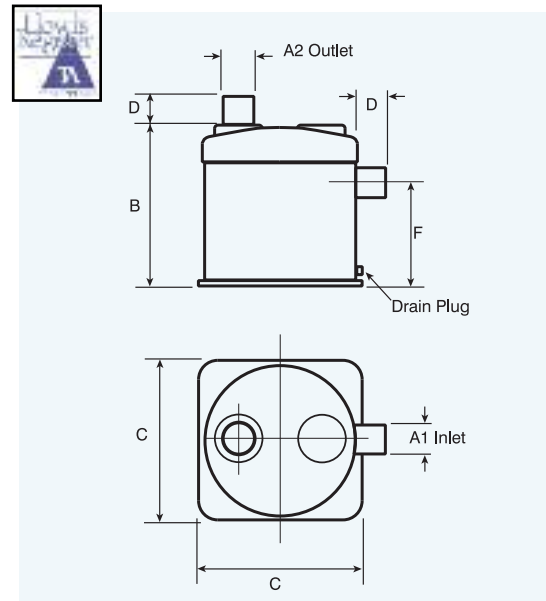
# HALYARD® SILENCERS AND EXHAUST WATER SEPARATORS – LLOYDS APPROVED

## LIFT SILENCERS (UP TO 40% NOISE REDUCTION)

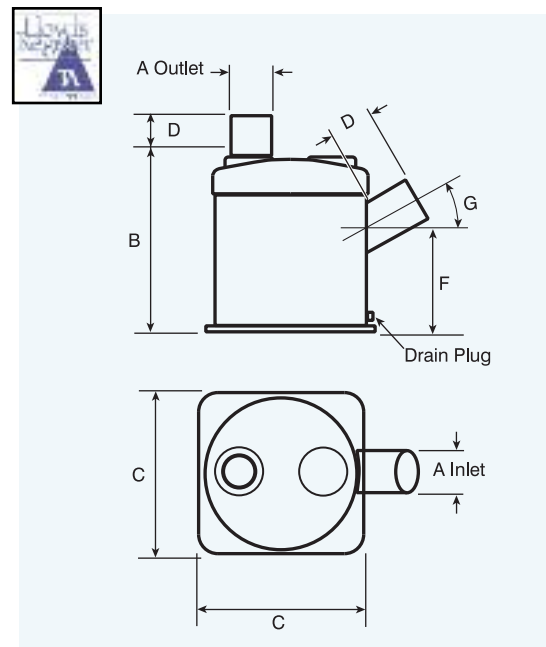
PART No.	HALYARD PART NO.	A mm (")	B mm	C mm	D mm	E mm	WEIGHT Kg
65850 T	HTT005	38 - (1.50)	164	200	51	44	1,4
65851 V	HTT010	38 - (1.50)	233	200	51	44	1,6
65852 X	HTT025	40 - (1.62)	164	200	51	44	1,7
65853 Z	HTT030	40 - (1.62)	233	200	51	44	1,8
65854 B	HTT040	45 - (1.77)	164	200	51	44	1,7
65855 D	HTT045	45 - (1.77)	233	200	51	44	1,8
65856 F	HTT055	51 - (2.00)	164	200	71	44	1,8
65857 H	HTT065	51 - (2.00)	270	275	51	68	3,7
65858 K	HTT070	51 - (2.00)	305	324	80	84	4,2
65896 U	HTT085	60 - (2.38)	270	275	60	68	4,0
65897 W	HTT090	64 - (2.50)	270	275	64	68	3,6
65898 Y	HTT110	75 - (3.00)	270	275	76	68	4,0
65899 A	HTT115	90 - (3.50)	305	324	90	84	5,4
65900 F	HTT120	100 - (4.00)	305	340	102	70	6,3
65901 H	HTT125	125 - (5.00)	360	446	127	83	8,4
65902 K	HTT130	150 - (6.00)	360	446	127	102	9,3



PART No.	HALYARD PART NO.	A1 mm (")	A2 mm (")	B mm	C mm	D mm	F mm	WEIGHT Kg
65903 M	HST005	38 - (1.50)	38 - (1.50)	186	200	38	95	1,5
65904 P	HST010	38 - (1.50)	38 - (1.50)	233	200	38	142	1,5
65905 S	HST025	40 - (1.62)	40 - (1.62)	186	200	40	94	1,7
65906 U	HST035	40 - (1.62)	40 - (1.62)	270	275	40	175	3,9
65907 W	HST055	45 - (1.75)	45 - (1.75)	233	200	45	139	1,8
65908 Y	HST105	50 - (2.00)	50 - (2.00)	233	200	51	136	2,0
65769 L	HST110	50 - (2.00)	50 - (2.00)	270	275	51	170	4,0
65909 A	HST115	50 - (2.00)	50 - (2.00)	305	324	81	203	4,7
65910 J	HST145	60 - (2.38)	60 - (2.38)	305	324	60	199	4,4
65911 L	HST150	60 - (2.38)	60 - (2.38)	270	275	60	165	4,0
65912 N	HST165	64 - (2.50)	64 - (2.50)	270	275	64	163	4,2
65913 R	HST200	75 - (3.00)	75 - (3.00)	270	275	76	158	4,3
65914 T	HST205	75 - (3.00)	75 - (3.00)	293	324	100	191	4,5
65783 H	HST210	90 - (3.50)	90 - (3.50)	305	324	90	184	4,4
65770 V	HST215	100 - (4.00)	100 - (4.00)	305	324	102	191	4,7
65915 V	HST220	125 - (5.00)	125 - (5.00)	370	446	102	224	7,8
65916 X	HST225	125 - (5.00)	125 - (5.00)	343	340	114	219	8,2
65917 Z	HST230	150 - (6.00)	150 - (6.00)	370	446	127	254	11,4
65918 B	HST235	150 - (6.00)	200 - (8.00)	370	446	152	222	12,4
65919 D	HST240	200 - (8.00)	200 - (8.00)	585	446	152	392	15,0



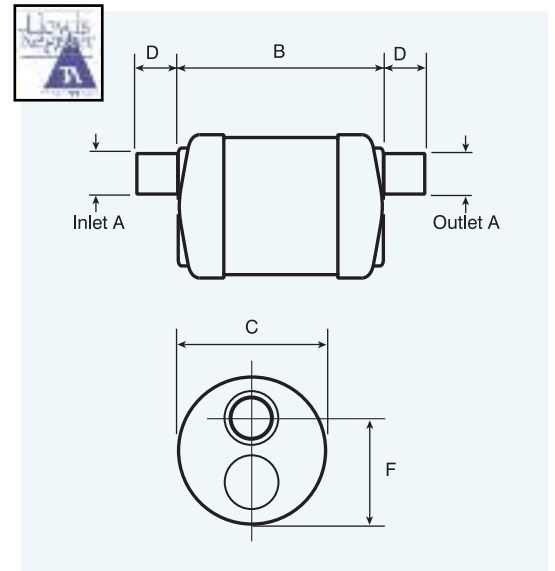
PART No.	HALYARD PART NO.	A mm (")	B mm	C mm	D mm	F mm	G °	WEIGHT Kg
65920 M	HAT015	60 - (2.38)	285	275	60	175	30	4,1
65921 P	HAT020	76 - (3.00)	295	275	76	175	30	3,3
65922 S	HAT025	90 - (3.50)	305	324	90	175	30	4,8
65923 U	HAT030	90 - (3.50)	257	275	89	152	30	3,3
65924 W	HAT035	100 - (4.00)	486	340	130	292	35	7,6
65925 Y	HAT040	100 - (4.00)	304	340	86	179	35	6,1
65926 A	HAT043	114 - (4.50)	483	340	135	305	35	6,6
65927 C	HAT045	125 - (5.00)	483	340	135	305	35	7,1
65928 E	HAT050	152 - (6.00)	365	446	200	230	35	8,0



# HALYARD® SILENCERS AND EXHAUST WATER SEPARATORS – LLOYDS APPROVED

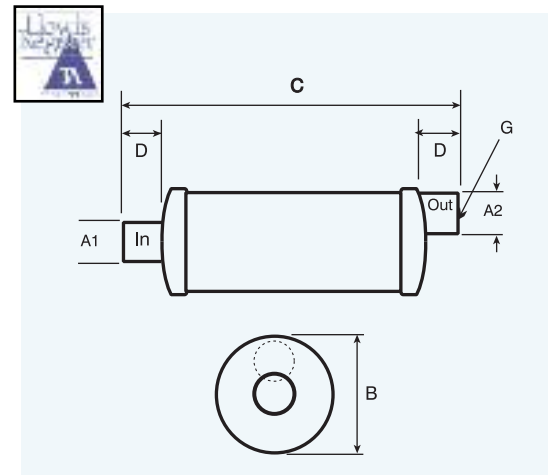
## LIFT SILENCERS (up to 40% noise reduction)

PART No.	HALYARD PART NO.	A mm (")	B mm	C mm	D mm	F mm	WEIGHT Kg
65929 G	HEE005	38 - (1.50)	270	186	51	137	1,5
65930 R	HEE010	40 - (1.62)	270	186	51	137	1,8
65931 T	HEE020	45 - (1.77)	270	186	51	137	1,8
65932 V	HEE035	50 - (2.00)	355	186	51	137	2,2
65933 X	HEE040	50 - (2.00)	440	254	51	200	4,4
65934 Z	HEE045	50 - (2.00)	270	186	51	137	2,1
65935 B	HEE060	60 - (2.38)	330	262	51	200	3,8
65936 D	HEE065	60 - (2.38)	450	262	51	200	4,4
65937 F	HEE070	64 - (2.50)	440	262	51	200	4,3
65938 H	HEE080	75 - (3.00)	440	262	76	200	4,5
65939 K	HEE090	90 - (3.50)	465	254	89	184	4,0
65940 U	HEE095	100 - (4.00)	462	305	102	192	5,5
65941 W	HEE100	114 - (4.50)	462	305	114	192	6,2
65942 Y	HEE105	125 - (5.00)	599	305	111	241	9,9

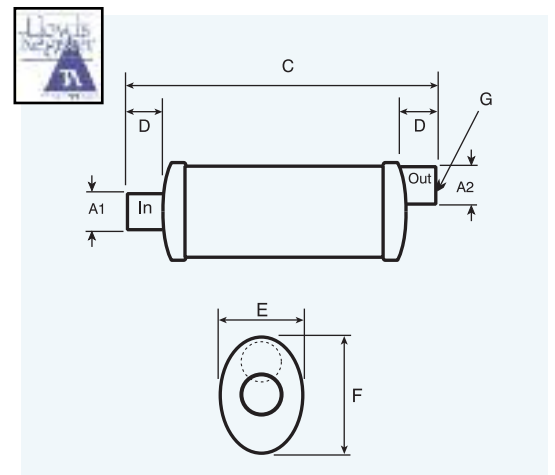


## IN-LINE SILENCERS (up to 40% noise reduction)

PART No.	HALYARD PART NO.	A1 mm (")	A2 mm (")	B mm	C mm	D mm	G mm	WEIGHT Kg
65943 A	HILR003	60 - (2.38)	60 - (2.38)	152	343	70	40	2,2
65944 C	HILR005	75 - (3.00)	75 - (3.00)	203	485	75	59	2,9
65945 E	HILR010	90 - (3.50)	90 - (3.50)	207	590	100	53	3,3
65946 G	HILR015	100 - (4.00)	100 - (4.00)	254	645	100	68	5,8
65947 J	HILR020	115 - (4.50)	115 - (4.50)	254	730	115	61	6,3
65948 L	HILR025	125 - (5.00)	125 - (5.00)	254	800	127	55	7,7
65949 N	HILR030	125 - (5.00)	150 - (6.00)	305	1016	127	65	9,4
65950 X	HILR035	150 - (6.00)	150 - (6.00)	305	965	152	65	10,4
65951 Z	HILR040	150 - (6.00)	200 - (8.00)	398	1280	200	94	16,0
65952 B	HILR045	200 - (8.00)	200 - (8.00)	398	1282	203	94	*
65954 F	HILR050	250 - (10.00)	250 - (10.00)	446	1600	254	87	*
65955 H	HILR055	300 - (12.00)	300 - (12.00)	459	1918	305	116	*



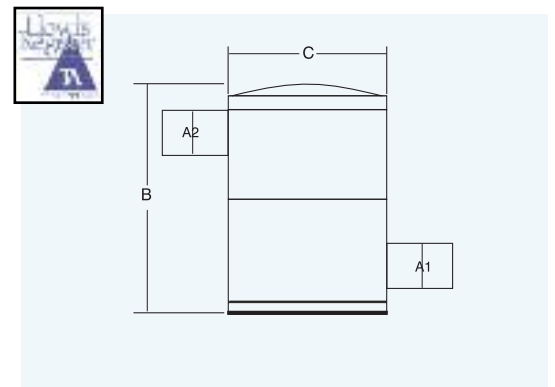
PART No.	HALYARD PART NO.	A1 mm (")	A2 mm (")	C mm	D mm	E mm	F mm	G mm	WEIGHT Kg
65956 K	HIL0005	125 - (5.00)	125 - (5.00)	800	140	229	385	118	10,8
65957 M	HIL0006	125 - (5.00)	150 - (6.00)	940	152	225	385	105	10,6
65958 P	HIL0010	150 - (6.00)	150 - (6.00)	940	152	225	385	105	9,5
65959 S	HIL0012	150 - (6.00)	200 - (8.00)	1334	203	270	420	93	12,0
65960 A	HIL0015	200 - (8.00)	200 - (8.00)	1282	203	270	420	93	16,0
65961 C	HIL0016	200 - (8.00)	250 - (10.00)	1164	203	295	465	87	21,5
65962 E	HIL0020	250 - (10.00)	250 - (10.00)	1600	254	365	630	164	*



\*Weight on request.

## DUAL CHAMBER SILENCERS (up to 70% noise reduction)

PART No.	HALYARD PART NO.	A1 mm (")	A2 mm (")	B mm	C mm
65964 J	HDC025	100 - (4.00)	100 - (4.00)	600	420
65965 L	HDC035	125 - (5.00)	125 - (5.00)	700	420
65966 N	HDC040	125 - (5.00)	150 - (6.00)	800	420
65967 R	HDC045	150 - (6.00)	150 - (6.00)	800	420
65968 T	HDC050	150 - (6.00)	200 - (8.00)	800	420
65969 V	HDC055	200 - (8.00)	200 - (8.00)	900	525
65970 D	HDC060	200 - (8.00)	250 - (10.00)	900	628
65971 F	HDC065	250 - (10.00)	250 - (10.00)	1000	628
65972 H	HDC070	300 - (12.00)	300 - (12.00)	1000	672





# NOISE INSULATION MATERIALS

## HALYARD® QUALITY

Marine diesels create very high noise levels – often well over 100 decibels. Engines are always located close to the boat user, generally in engine spaces made from GRP, timber, or steel. Noise insulation changes all this. It adds a soft facing to hard bulkheads to absorb noise and stop it bouncing around and growing. It features a clever multi-layer construction to make a thin material more effective than simple insulations many times thicker.

### ■ The absorption layer

A thick layer of fire zero rated foam which soaks up noise and stops it bouncing around the engine space.

### ■ The transmission layer

A high density barrier provides the highest possible mass and gives the best noise reduction. The damping layer weighs 5kgs per square meter – more than the lead sheet used in older materials.

### ■ The isolation layer

This thin layer of foam has a crucial function: It acts like the gap in double glazing and stops the noise which hits the transmission layer being carried through to the bulkhead – just like the gap in double glazing.

The multi-layer construction used in Halyard® materials offers the best possible acoustic result in a thicknesses which can be accommodated in the tightest engine space, beating simpler materials many times as thick.

## PROTECTIVE SKIN

### ■ Maritex

An immensely tough fibreglass cloth with a sealed metallised skin so it cannot absorb oil. It won't tear or fray. It looks heavy duty, and it is fire zero rated. Maritex is simply the best facing in the Halyard® range. Maritex is fire zero rated to BS 476 parts 6 and 7.

### ■ Sealglass

A tough off-white glass cloth, sealed against oil. The cloth is extremely tough and will not tear. The sealant will burn off in a fire. The material meets the ISO 9094 fire requirements of the EU Recreational Craft Directive.

### ■ Re-inforced Silver Polyester

This facing meets the requirements of the Recreational Craft Directive. It provides a seal to keep oil out. You can pierce it, but it has a reinforcing layer behind it. It will burn, but once laminated in place it meets the ISO 9094 fire requirements of the EU Recreational Craft Directive. In a fire the facing will burn, but not the foam behind it.

## HOW TO CHOOSE THE PROPER THICKNESS

### ■ 45mm (1.75").

This unique double damper material was invented by Halyard® and is designed to give the best possible result for the minimum thickness and weight. It is used where big turbo-charged engines are involved, or for vessels where noise is a particular problem

Supplied with 2 sheets 1000 mm x 600 mm (39" x 24") per box

### ■ 2mm (1.25").

The standard thickness used throughout the industry. Today's fire zero rated foams have increased the weight and made this material even more effective. 32 mm is the choice for any installation where the builder wants an excellent result at a sensible cost. Remember, you can always double layer it in critical areas.

Supplied with 4 sheets 1000 mm x 600 mm (39" x 24") per box

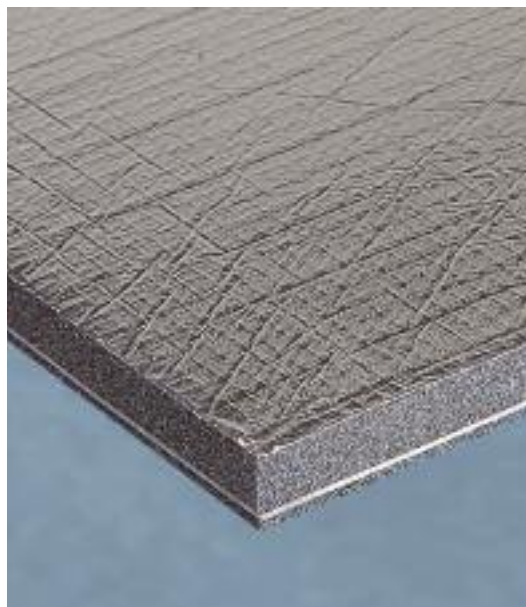
### ■ 12mm (0.5").

The budget material when thickness or cost are crucial. Although it is only 12mm or half an inch thick, this material is highly effective and will reduce noise by 50% if used properly. You can also double layer it in places.

Supplied with 4 sheets 1000 mm x 600 mm (39" x 24") per box



Sealglass



Re-inforced Silver Polyester

## NOISE INSULATION MATERIALS

12 mm (1/2") Materials - All are supplied with 4 sheets 1000 x 600mm (39" x 24") per box: tot 2,4 m<sup>2</sup>

66383 T	S3002	Maritex faced material
66384 V	S3004	Sealglass faced material
66385 X	S3003	Reinforced silver polyester faced material

12 mm (1/2") Self-adhesive materials - All are supplied with 4 sheets 1000 x 600mm (39" x 24") per box: tot 2,4 m<sup>2</sup>

66386 Z	S5002	Maritex faced material
66387 B	S5004	Sealglass faced material
66388 D	S5003	Reinforced silver polyester faced material

32mm (1.25") Materials - All are supplied with 4 sheets 1000mm x 600mm (39" x 24") per box: tot 2,4 m<sup>2</sup>

66007 M	S3017	Maritex faced material
66389 F	S3015	Sealglass faced material
66390 P	S3016	Reinforced silver polyester faced material

32mm (1.25") Self-adhesive materials - All are supplied with 4 sheets 1000mm x 600mm (39" x 24") per box: tot 2,4 m<sup>2</sup>

66391 S	S5017	Maritex faced material
66392 U	S5015	Sealglass faced material
66393 W	S5016	Reinforced silver polyester faced material

45mm (1.75") Materials - All are supplied with 2 sheets 1000mm x 600mm (39" x 24") per box: tot 1,2 m<sup>2</sup>

66394 Y	S3039	Maritex faced material
66395 A	S3037	Sealglass faced material
66396 C	S3038	Reinforced silver polyester faced material

45mm (1.75") Self-adhesive materials\* - All are supplied with 2 sheets 1000mm x 600mm (39" x 24") per box: tot 1,2 m<sup>2</sup>

66397 E	S5039	Maritex faced material
66398 G	S5037	Sealglass faced material
66399 J	S5038	Reinforced silver polyester faced material

\*Self-adhesive materials have to be fixed when ceiling mounted

### JOINING TAPES

66400 P	S4021	5m x 50mm (16'x2") Sealglass tapes
66008 P	S4025	5m x 50mm (16'x2") Maritex tapes
66401 S	S4035	10m x 50mm (33'x2") Re-inforced silver polyester tapes
66402 U	S4036	50m x 50mm (164'x2") Re-inforced silver polyester tapes

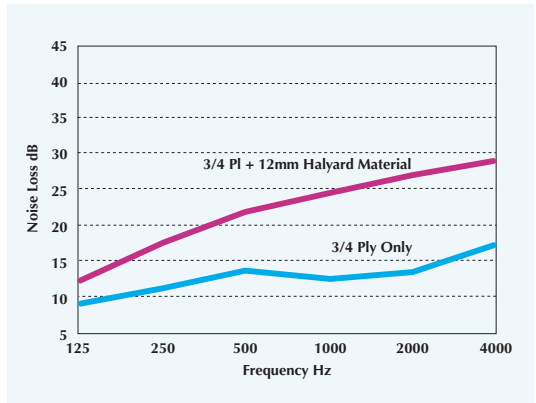
### PACKAGING

#### ■ 12 mm (1/2") and 32 mm (1.25") Materials

Every sheet is 1000mm x 600mm (39"x24"). 4 sheets per box: total 2,4 m<sup>2</sup> (26 sq ft). Weight per box: 14 kg (12 mm) and 19 kg (32 mm).

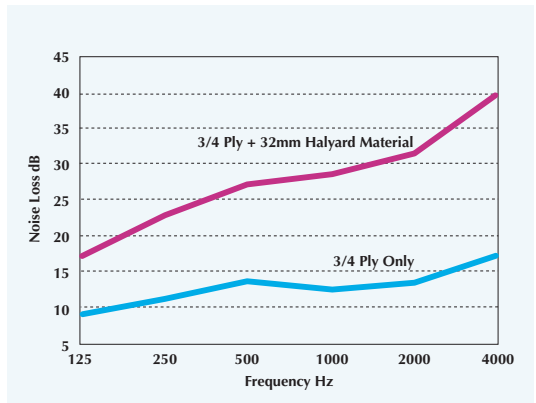
#### ■ 45mm (1.75") Materials

Every sheet is 1000mm x 600mm (39"x24"). 2 sheets per box: total 1,2 m<sup>2</sup> (13 sq ft). Weight per box: 16 kg.



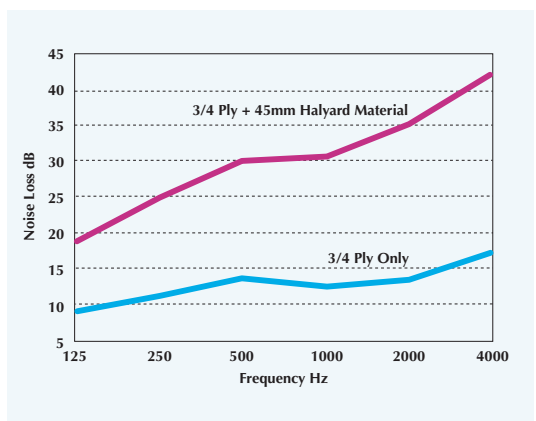
### 12 MM (1/2") MATERIALS

These material offers around 12dB reduction at 1000Hz and above, but its efficiency reduces with the heavier noises of lower frequencies. The overall reduction will give excellent results with smaller, lighter engines.



### 32MM (1.25") MATERIALS

The 32 mm materials offer a startling 15dB reduction at 1000Hz. Noise doubles every three decibels, so this is nearly three times as good as the 12mm. It also holds a good performance at lower frequencies, making it excellent with larger engines.



### 45MM (1.75") MATERIALS

These materials offer more noise reduction than other. They are suggested when noise is a serious problem.

# PUREGEN

## REMOVING SOOT SYSTEM FROM GENERATOR EXHAUST

Puregen removes soot from generator exhausts. Some soot emerges from the exhaust gas outlet as smoke – unsightly and smelly. Some soot is generally scrubbed from the exhaust gas by the exhaust system water separator, and washes out into the surrounding water. It floats, and in quiet waters forms a light blue sheen on the water surface. Anyone going for an early morning swim, after running a generator all night, can find this greasy soot deposited lightly on their bikini, swimming shorts, and skin. Superyacht skippers will move the yacht first thing in the morning, to allow guests a cleaner swim. Puregen removes soot from the exhaust gas.



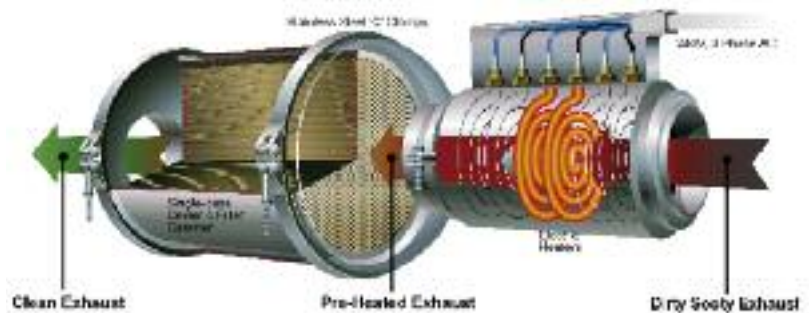
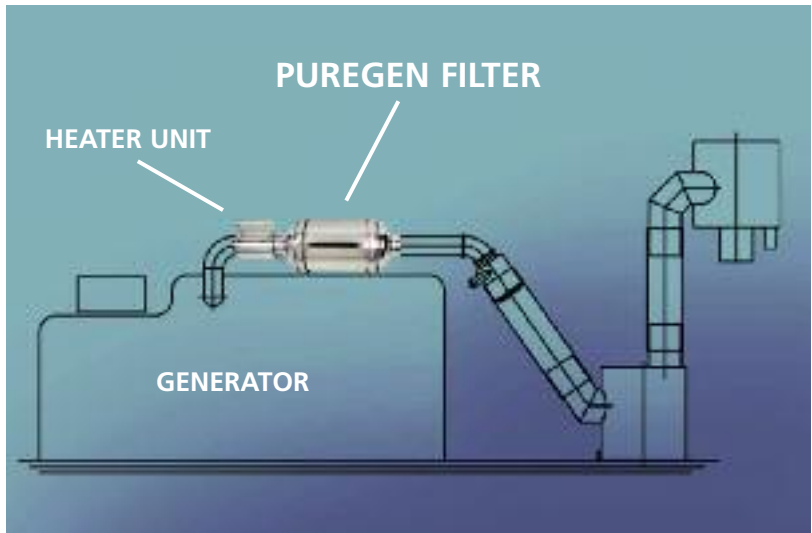
The inlet and outlet photos show clearly the difference made with soot deposits on the input side, and clean filters on the outlet side. Intermittent gas heating then ensures destruction of the soot on the input side.



The system uses a combination of a pre-heater and a catalytically coated filter and is designed for generators from 40kw to 500kw.

The preheater cuts in for 10 minutes each hour, raising the temperature of the exhaust gas and ensuring all soot is burnt from the ceramic filter. Preheater timing is adjustable. The preheater uses approx 10kW for ten minutes each hour. The filter efficiency remains almost constant as it is continually cleaned by the burning process. The system adds between 2.5mbar and 10mbar in back pressure.

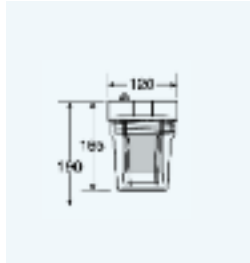
A typical system for 150kw measures 300mm long by 150mm diameter (preheater) and 900mm long x 300mm diameter (filter).



## WAVESTREAM™ - LLOYDS APPROVED BILGE WATER FILTRATION SYSTEM

### WAVESTREAM MICRO - 65973 K

Designed for the bilges of day boats, RIBs and small sports boats or where minimal space is available, the Micro unit is easy to connect into the bilge water system, using 3/4" BSP connections. Filter cartridges can be replaced in seconds.



- Flow rate: 1 – 40 liters/minute
- Max. pressure: 10 bar
- Max. temperature: 40°C
- Min. temperature: 1° C
- Connections: 3/4" BSP
- Cartridge: WS-CM – 65977 U

### WAVESTREAM 1000 - 65974 M

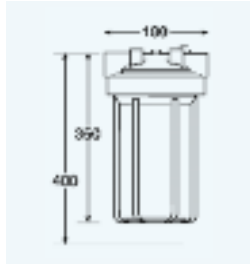
The 1000 system has a larger filter element to cope with the demands of larger pleasure boats up to 20m. 3/4" BSP connections are used, and the flow rate, at 40 liters, is the same as the Micro system but filter cartridge replacement intervals double.



- Flow rate: 1-40 liters/minute
- Max. pressure: 8 bar
- Max. temperature: 40°C
- Min. temperature: 1°C
- Connections: 3/4" BSP
- Cartridge: WS-C1 - 65978 W

### WAVESTREAM 2000 - 65975 P

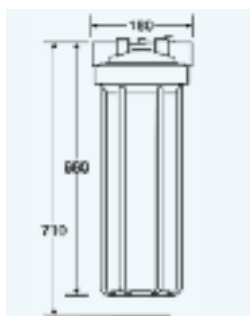
Recommended for large pleasure craft and commercial boats, the 2000 system will handle bilge pump flow rates up to 265 liters per minute with a 117mm diameter filter cartridge and 1 1/2" BSP connections.



- Flow rate: 1-265 liters/minute
- Min. pressure: 0,5 bar
- Max. pressure: 6,8 bar
- Max. temperature: 37°C
- Min. temperature: 1°C
- Connections: 1 1/2" BSP
- Cartridge: WS-C2 - 65979 Y

### WAVESTREAM 3000 - 65976 S

The 3000 is designed for large commercial craft and ships. It incorporates a massive filter cartridge almost 500mm long, with significantly increased capacity. The flow rate and BSP connectors are common with the 2000 series.



- Flow rate: 1-265 liters/minute
- Min. pressure: 0,5 bar
- Max. pressure: 6,2 bar
- Max. temperature: 37°C
- Min. temperature: 1°C
- Connections: 1 1/2" BSP
- Cartridge: WS-C3 - 65980 G

COOLING  
76°F  
H. H. H. H. H.

# Climate Control Technology for Yachts and Boats

195



MARINE AIR CONDITIONING SYSTEMS

## SELF-CONTAINED REVERSE CYCLE AIR CONDITIONERS 220/240 V – 50 Hz MAB SERIES

MARVAIR®'s water source self-contained reverse cycle air conditioners are designed for use in either fresh or salt water. The self-contained units are complete packaged units factory charged with R-410A refrigerant and wired.



MAB16RC

### FEATURES

- Reverse cycle operation
- High efficiency Tecumseh and Copeland compressors
- Enhanced thermal performance with the cupronickel, eight volute, multi-lead inner tube
- Backward inclined impeller, with Venturi ring, for incredible performance and very quiet operation
- Three duct outlets eliminate the need to rotate the blower, saving installation time
- Quieter blowers than conventional centrifugal ones
- Corrosion resistant backed polyester copper coil
- Stainless steel base pan with an insulated anti vibration pad
- All units are built using R-410A refrigerant which is environmentally friendly, non ozone depleting and accepted for use throughout the European Community
- "EASY START" function included
- All units can be controlled by either the o-Touch or o-LED thermostat with dual fan speed regulation. The cooling or heating and the fan speed can be controlled automatically or manually. Thermostat is required and ordered separately



o-Touch - 68208



o-LED - 68145 L

All units meet CE directives, applicable ABYC and US Coast Guard regulations

Marvair® is an ISO 9001-2008 registered company

MODEL	MAB07	MAB10	MAB12	MAB16	MAB24
Part No.	68235 M	68299 R	68300 W	68234 K	68302 A
Nominal Capacity BTUH	7.000	10.000	12.000	16.000	24.000



## TECHNICAL SPECIFICATIONS

MODEL		MAB07	MAB10	MAB12	MAB16	MAB24
Voltage	Volt/phaseHz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
LRA	Amp	18,8	21,0	21,0	24,5	61,0
KVA	kg/Volt/Amp	0,9	1,0	1,0	1,4	2,8
Unit Run Cooling	Amp	2,80	3,20	3,20	4,39	8,26
Unit Run Heating	Amp	3,74	4,22	4,22	5,89	11,86
Protection	Amp	10	10	10	10	25
Cable size	mm <sup>2</sup>	2,5	2,5	2,5	4,0	6,0
Minimum Opening for Return Air Grill	cm <sup>2</sup>	645	645	900	1110	1550
Minimum Opening for Supply Air Grill	cm <sup>2</sup>	260	390	450	540	1240
Nominal Air Flow	m <sup>3</sup> /h	365	408	323	323	442
		365	544	518	1062	790
Minimum Hose Size	cm	12,7	15,2	15,2	17,8	20,3
		17,8	17,8	17,8	20,3	20,3
Minimum Water Flow	l/min	7,6	11,0	13,3	17,8	26,5
	GPH	120	174	210	282	420
Dimensions L x H x P	cm	61,0x34,6x27,9	61,0x34,6x27,9	63,5x35,2x27,9	63,5x35,2x27,9	-
Weight	kg	33,5	33,5	35	35	57,1

LRA: Locked Rotor Amp (compressor only)

Cool: 7°C evaporator and 38°C condenser

Heat: 7°C evaporator and 54°C condenser

Two oval hose adapters are shipped with each MAB unit

### ACCESSORIES FOR MAB UNITS

- Sea water pump kit
- Air duct, supply grill(s) and return grill
- Plumbing fittings
- Thermostat: o-Touch 68208 J or o-LED 68145 L

### SEA WATER PUMPS FOR MAB UNITS

PUMP MODEL	PSL-250-29	PSA-500-29	PSA-1000-29
Part No.	68303 C	68304 E	68305 G
MAB model	MAB07/10/12	MAB16	MAB24
Capacity	250 GPH	500 GPH	985 GPH
Volt/Fasi/ Hz	230/1/50	230/1/50	230/1/50
Inlet	¾" MPT	¾" FPT	1" FPT
Outlet	¼" MPT	½" MPT	½" MPT

### PUMP ACCESSORIES

- Pump relay 2-6 PRP two to six units - 68339 A
- Reservoir tank for pump 250-1000 - 68340 J
- Pump mounting kit for PSA-1000 type - 68341 L



## SELF-CONTAINED DC AIR CONDITIONERS

### 12V DC & 24V DC

The MARVAIR® 12 and 24 Volt DC air conditioners are designed to operate directly from a DC power supply – an inverter is not required.

The DC units provide an ideal solution for cooling when off-grid or renewable sources, e.g. solar photovoltaic (PV), fuel cells or wind generated electricity are available.

The refrigerant is R-134A, non-flammable, environmentally friendly and non-ozone depleting.

#### 12V DC SMB05 KIT

- Nominal cooling capacity of 5.000 BTUH
- SMB05 can be operated directly from batteries and can be used dockside with a suitable battery charger
- Draws a nominal 30 Amp, including a small circulating pump
- Single duct discharge
- Operating voltage: 9V DC to 17V DC
- Remotely mounted control box with a 4,5' cable
- The SMB05 kit includes the o-LED thermostat, the water pump and 5 m (15') of cable



SMB05

#### 24V DC SMB14 KIT

- Variable capacity of 7.000 to 14.000 BTUH
- SMB14 can be operated directly from batteries or dockside and, with the appropriate charging device, run from a conventional 12 V DC system
- Draws 13 to 32 Amp, excluding the circulating pump
- Top and side duct discharge
- Operating voltage: Nominal 24V DC
- Remotely mounted control box with a 4,5' cable
- The SMB14 kit includes the o-Touch thermostat, the water pump and 5 m (15') of cable



SMB14

#### ACCESSORIES FOR DC UNITS

- Supply and return grilles
- Plumbing fitting

MODEL		SMB05	SMB14
Part No.		68308 N	68309 R
Nominal capacity	BTUH	5.000	Variabile da 7.000 a 14.000
Minimum Water Flow	l/min	6,0	
DimensionsL x H x P	cm	43,0 x 26,8 x 24,4	63,5 x 35,6 x 27,9
Weight	kg	15,9	





## REVERSE CYCLE CHILLERS AND CHILLED WATER AIR HANDLERS

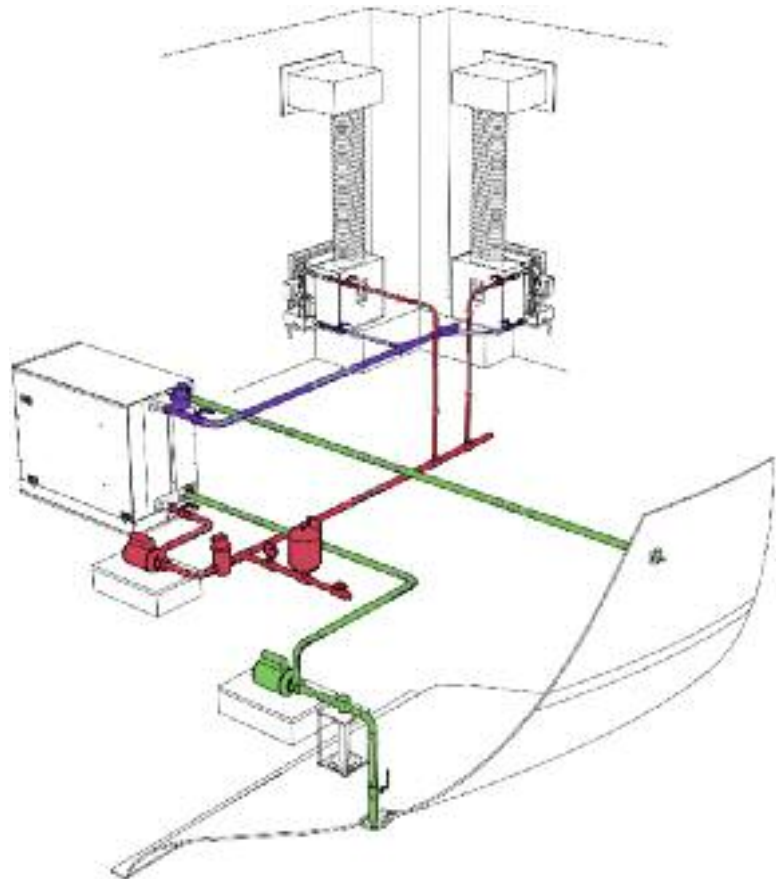


The MARVAIR® line of reverse cycle chillers are self contained units designed for use with chilled water handlers. The units are available in multiple cooling capacities for operation on various voltages.

### FEATURES

- Reverse cycle operation
- Low vibration scroll compressor insures quiet operation as well as energy efficiency
- Coaxial tube-in-tube cupronickel heat exchanger and copper refrigerant tubing
- Revolutionary blower with Venturi ring increases air flow and reduces sound level
- Air handlers with multiport discharge plenum allow for multiple duct connections and eliminate the need for "Y" and "T" adapters and rotating of the blower
- Air handlers quiet operation provided by the "Quiet Fan Technology"
- Air handlers coil is dipped in a corrosion resistant polyester enamel
- Air handlers feature a stainless steel base pan with an insulated anti vibration pad
- **All units are built using R-410A refrigerant which is environmentally friendly, non ozone depleting and accepted for use throughout the European Community**
- All units can be controlled by either the o-Touch or o-LED thermostat with dual fan speed regulation. The cooling or heating and the fan speed can be controlled automatically or manually. Thermostat is required and ordered separately

All units meet CE directives, applicable ABYC and US Coast Guard regulations  
Marvair® is an ISO 9001-2008 registered company



## TECHNICAL SPECIFICATION

CHILLER	CHA24RCW	CHA36RCW	CHA48RCW	CHA24RCE	CHA36RCE	CHA48RCE
Part No.	68310 Z	68311 B	68312 D	68313 F	68314 H	68315 K
Nominal Capacity BTUH	24.000	36.000	48.000	24.000	36.000	48.000
Volt /Fase/Hz	220-240/1/50	220-240/1/50	220-240/1/50	380/3/50	380/3/50	380/3/50
Nominal cooling Amp	6,1	9,8	13,0	2,7	3,8	4,7
MCA	13,6	20,0	26,4	6,4	7,4	9,7
MFS	20	35	45	10	10	15
LRA	10	10	10	10	25	25
Soft Start Amp						
Dimensions L x H x P cm	55,9x47,3x33,0	55,9x47,3x33,0	66,0x52,9x35,1	55,9x47,3x33,0	55,9x47,3x33,0	66,0x52,9x35,1

**Cooling:** 7,2°C evaporator and 37,8°C condenser

**MCA:** Minimum Circuit Ampacity

**MFS:** Maximum Fuse Size

**LRA:** Locked Rotor Amp

**Soft Start Amp:** Approximate starting amp with Soft Start Device

## CHILLED WATER AIR HANDLERS

Marvair® chilled water air handlers (fan-coils) are available in multiple capacities



AIR HANDLERS	CWAH04	CWAH06	CWAH09	CWAH12	CWAH18	CWAH24
Part No.	68316 M	68317 P	68318 S	68319 U	68320 C	68321 E
Nominal Capacity BTUH	4.000	6.000	9.000	12.000	18.000	24.000
Volt/Hz	220/50	220/50	220/50	220/50	220/50	220/50
Dimensions L x H x P cm	36,5x28,8x27,9	39,1x28,6x27,9	42,9x33,3x27,5	44,1x33,0x26,5	45,4x33,6x29,9	58,7x43,0x34,9

## DISPLAY AND CONTROL BOARD FOR CHILLERS

The display of the chiller is on a cable (up to 50'/15,2 m) to allow mounting for easy viewing and access.

Marvair® chillers, air handlers and self-contained units (DX Systems) use the same control board. It is easily configured for the various displays/thermostats by simply moving jumpers on the board: the board automatically recognizes what display is connected to. The control board is easy to set up for operation with a single or two chillers.



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SINGLE STAGE CONTROLS	o-LED CW 1/1	o-LED CW 1/3
Part No.	68322 G	68323 J
Compressor	1	3



CONTROL BOX

## CHILLED WATER ACCESSORIES

### CHILLED WATER PUMPS AND SEA WATER PUMPS:

- Please contact our Technical Service for pump specifications
- Pump Relay 68324 L – 2-6 PRP two to six units 230V 1 phase

### HEATER ASSEMBLY FOR AIR HANDLERS

- 1,5 kW, 240V 68342 N
- 3,0 kW, 240V 68343 R
- SecureStart 68344 T – The SecureStart is designed to reduce the inrush currents to the single phase compressors
- Variable Frequency Drive – The Variable Frequency Drive is designed to reduce the inrush currents to the 3-phase compressors

### FILL COMPONENTS

- 68325 N: Backflow Preventer ½" FPT w/valves
- 68326 R: Fill Assembly ½" FPT, Press Reducer & Fill Valve
- 68327 T: Press Reducing Valve, 12PSI, ½" FPT

### AUTOMATIC AIR VENTS:

- 68328 V: Spirotop ½"
- 68329 X: Spirovent 1-¼" in-line 15 GPM (60k BTU)
- 68330 F: Spirovent 1-½" in-line 30 GPM (120k BTU)

### GRILLS:

A wide selection of return air and discharge grills is available. Please contact our Technical Assistance for details.

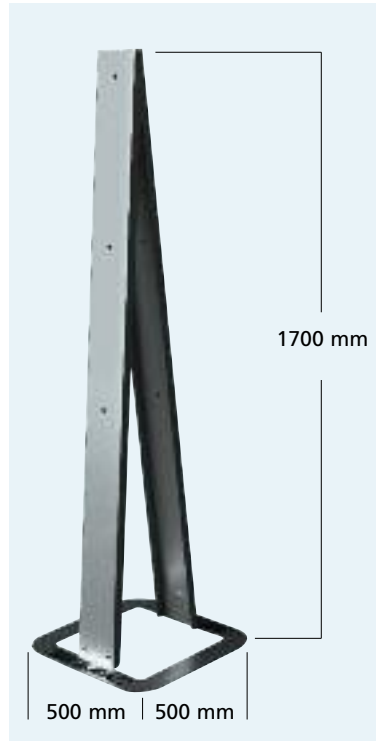


**ULTRAFLEX®  
AND UFLEX®  
MARKETING ITEMS**

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**ULTRAFLEX WHEELS DISPLAY**

**67436 T** - Fashionable dismountable display in light gray painted metal.



**UFLEX and ULTRAFLEX ADHESIVE LABELS:**

Printed on transparent vinyl

**UFLEX** - 65360 Z

Dimensions: 450 x 130 mm (17.71" x 5.12")

**ULTRAFLEX** - 65359 R

Dimensions: 300 x 130 (11.81" x 5.12")



**FOREX:**

**65369 U** - Dimensions: cm 70 x 100 (2.29' x 3.28')

**65370 C** - Dimensions: cm 119 x 168 (3.9' x 5.5')



Please contact our Marketing Department to ask for the CD with all FOREX available.



**ULTRAFLEX®  
AND UFLEX®  
MARKETING ITEMS**

**UFLEX FLAG - 65226 V:**

Dimensions: 150 x 225 cm (4.92' x 7.38')

UFLEX flags are made of high resistance nylon, with anti-tears double hem, strengthening side sheathing and fixing line. The logo is printed on both sides and they are resistant to sunwear and washing.



65266 V

**UFLEX SHIRT:**

- Size S - 65355 G
- Size M - 65356 J
- Size L - 65357 L
- Size XL - 65358 N



**UFLEX CAP - 65613 C**

Heavy cotton with adjustable back strip

**FOREX WITH DIGITAL PHOTO AND VIDEO FRAME**

Display digital photos and videos without PC or laptop.  
Insert memory card (included) into photo frame to view Ultraflex or Uflex products or videos.  
Remote control, USB connection cable and AC Adapter are included.  
Power Supply: 110 - 220V ~ 50/60Hz  
CE and RoHS certified

**new**

**68178 C** - ULTRAFLEX® Forex with digital photo frame and memory card presenting Ultraflex products and videos.  
Dimensions: cm 32 x 49 (1.04' x 1.60')

**68177 A** - UFLEX® Forex with digital photo frame and memory card presenting Uflex products and videos.  
Dimensions: cm 32 x 49 (1.04' x 1.60')

**68111 T** - RAILBLAZA Forex with digital photo frame and memory card presenting Railblaza products and videos.  
Dimensions: cm 32 x 49 (1.04' x 1.60')





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