



So-Pac
marine

2024 CATALOGUE

BOAT CARE



BBQs



CRANES



DECK H/WARE



ENGINE RM



ELECTRICAL



HATCHES



HEATING



PLUMBING



PROPULSION



STABILIZERS



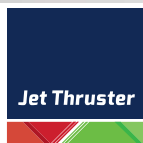
TRIM TABS



STEERING



THRUSTERS



WATERMAKERS



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marine

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www.sopac.co.nz

INFRARED GOURMET SERIES II GRILLS

All New! Completely Redesigned Gourmet I I



We know all about Magma Products - imported them for over 30 years. Hotter than the rest!

Magma BBQs and Grills are constructed of 18-9 mirror polished stainless steel. Most have electronic ignition and are noted for rapid heat up to sear that piece of beef or lamb quickly. Try a whole chicken, crispy skin out, but still moist inside.

Round kettles are ideal when stowage is limited. Mount it on a rod holder, rail or staunchion, choose from 10 options. Connect it to LPG or Coleman camping gas cans. The dome shape creates even heat to surround your fare, lid down or up.

Rectangular Grills have fold away legs or rod, rail, rail-extended or transom mounts. Newport 11 is ideal size cooking for 3-4. Catalina 11 better for 6 or more. Both run from LPG or Coleman cans. Numerous mounting possibilities, from stand-up poles, rail, rod, and bullhead.

Infrared versions of Newport & Catalina, reduce flare-ups and keep flames away from direct contact with your food. Both have viewing windows, Catalina has a warming rack.

An amazing array of spares are available from our Auckland warehouse.

Call for knowledgeable assistance

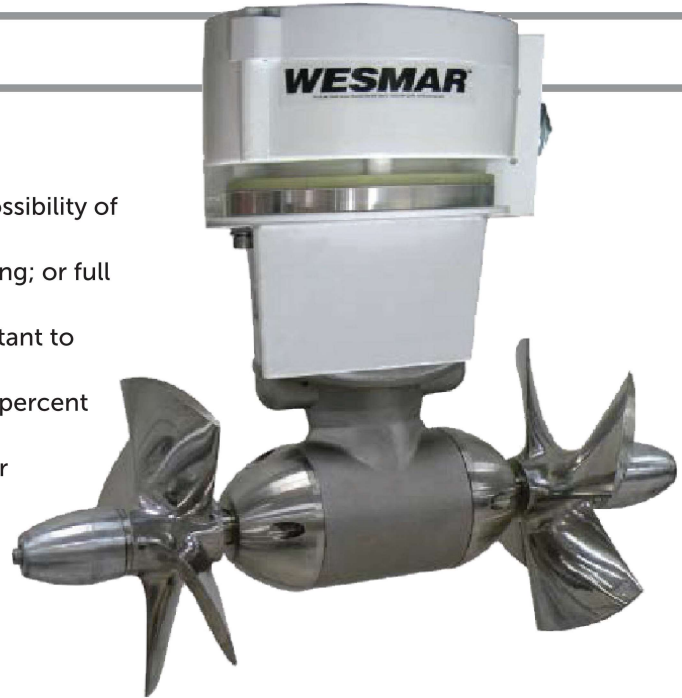


BOW & STERN THRUSTERS

DC PRO THRUSTER SERIES

Important Advantages of WESMAR Thrusters

- Extremely efficient electric motors eliminate the possibility of early thermal shutdown
- Fully proportional control for safe and gentle docking; or full power if the conditions dictate
- Durable stainless steel gearbox and propellers resistant to electrolysis
- Counter rotating dual propellers provides up to 40 percent more thrust with the same input power
- Easy retrofit drop-in installation for existing thruster tunnels
- High quality AGMA 9 matched and lapped spiral bevel gears for quiet operation.
- Proportional motor and control upgrades available for WESMAR's conventional on/off DC Systems.



WESMAR STANDARD DC PRO PROPORTIONAL SYSTEMS

Continuous operation and proportional Control

WESMAR's proportional DC electric thrusters provide the advantages of continuous operation and proportional control available in hydraulic systems. This allows the operator to apply the appropriate thrust for the docking operation without the worry of thermal shutdown of conventional DC systems.

V2-8 NS

24 or 48 VDC Proportional
Tunnel Size: 8 in
24 VDC 6 HP Brushless
48 VDC 13 HP



V2-10-48/13 or V2-12-48/13

Tunnel Size: 10 or 12 in
48 VDC 13 HP



V2-12-48/23

Tunnel Size: 12 in 48
VDC 23 HP



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BOW & STERN THRUSTERS

Retrofits: Designed for Easy Mount to Fit Existing Metric Sized Tunnels

Easy Retrofit

Upgrading your vessel has never been easier. WESMAR's two bolt design allows for a simple drop-in installation on existing metric sized tunnels. Both the V2-7 and V2-10 M Models replace Max Power, Side Power, and Vetus Thrusters.



V2-7 M
24 or 48 VDC Proportional
Tunnel Size: 185 mm
24 VDC 6 HP Brushless
48 VDC 13 HP



V2-10 M
48 VDC Proportional
Tunnel Size: 250 mm
48 VDC 13 HP

BOW & STERN THRUSTER CONTROLS



Up to 6 proportional control stations can be provided.



Single Control

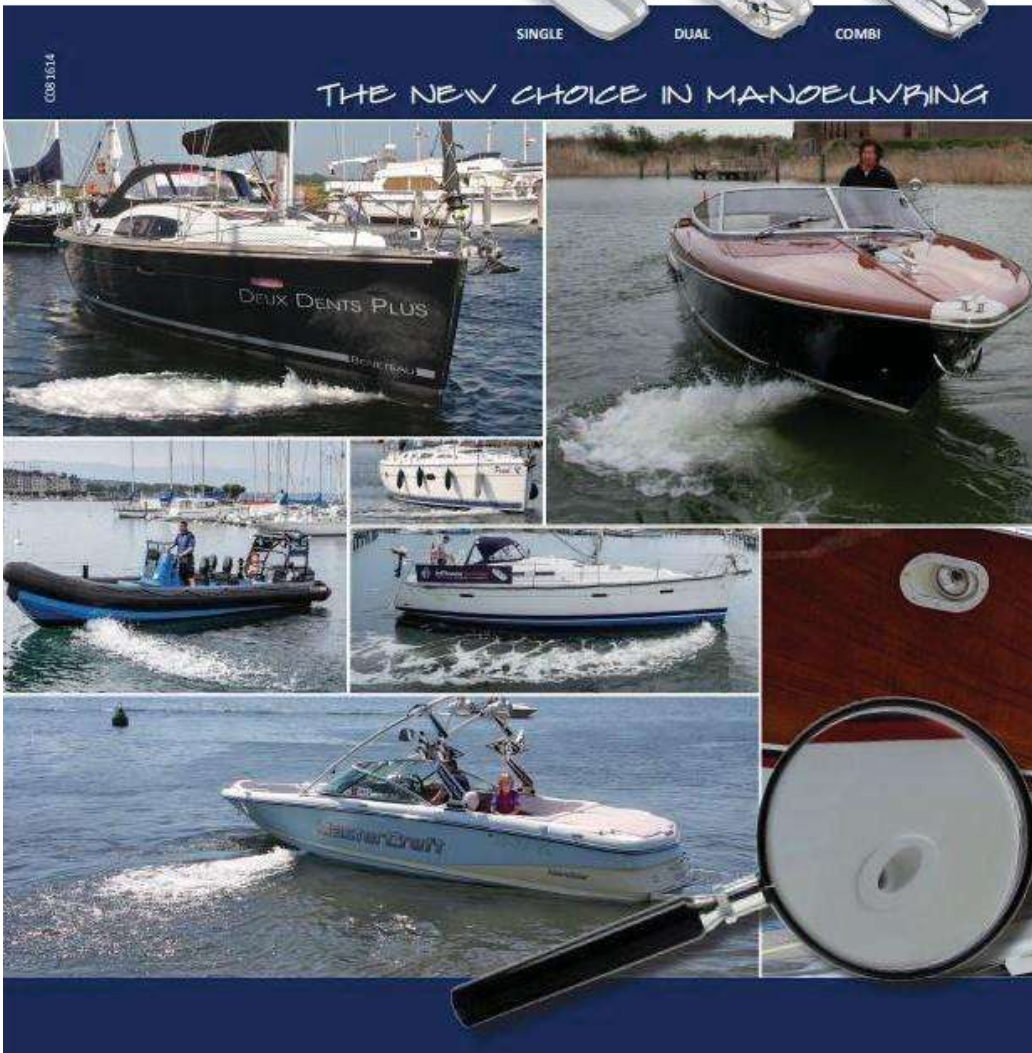


Bow/Stern Control

Jet Thruster

DOCK YOUR BOAT EASILY

JET THRUSTERS FOR BOW AND STERN



Common thrusters **→** Our solution
 Problems **→** Jet Thruster



Retractable Thruster
High risk of damage!



Traditional Thruster
High risk of damage!



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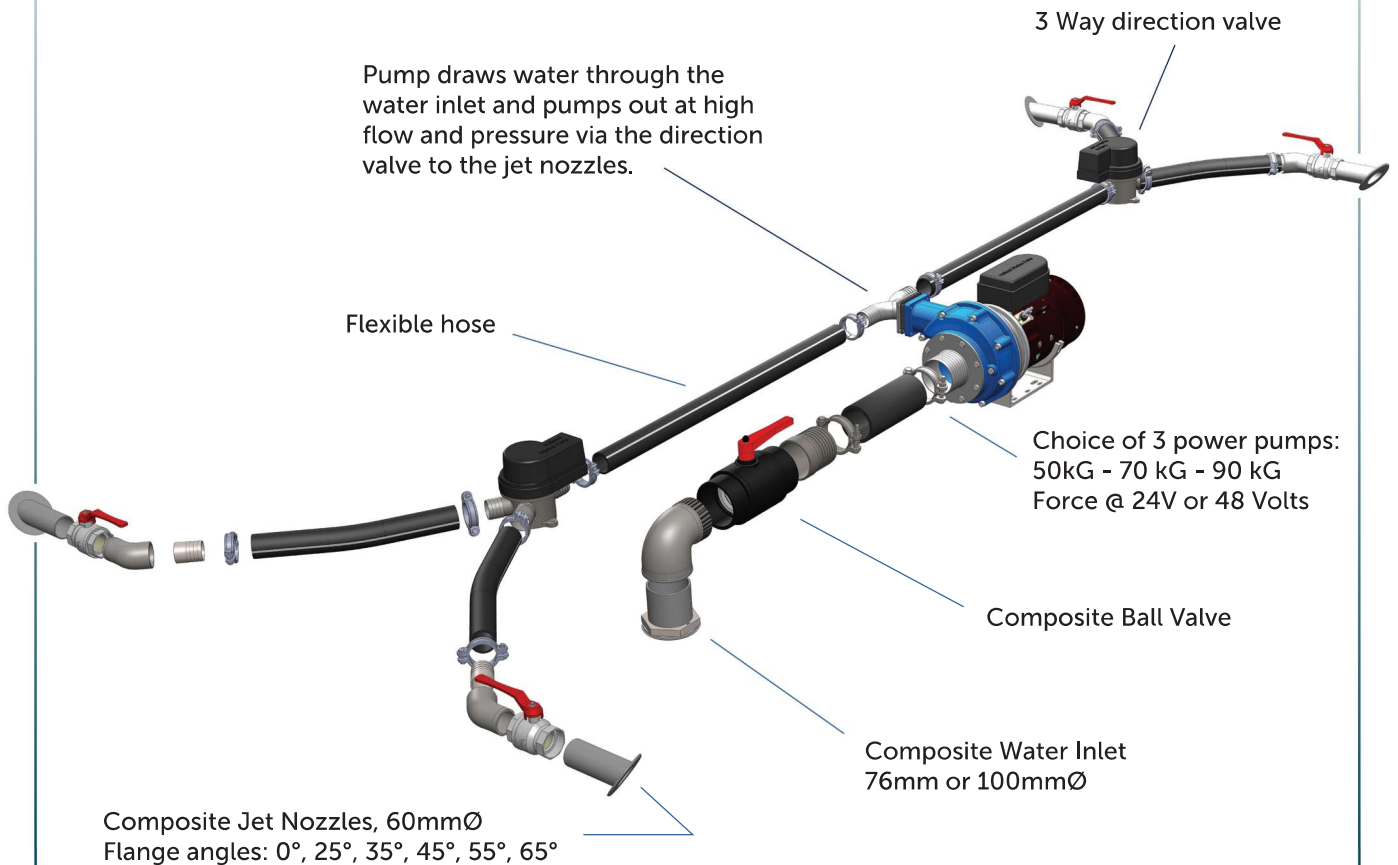
WELCOME TO

ULTIMATE MANEUVERABILITY



WHY CHOOSE A JET THRUSTERS?

A Water jet thruster avoids the need for large tunnels at the bow and stern. Instead, a powerful flow of water through a small 60mm diameter nozzle does the work. Due to the small size, nozzles can be installed as far forward as possible that increases fulcrum effectiveness. Pumps can be installed horizontally or vertically in the engine room or wherever space permits and are very much quieter than others!





WIRELESS DOCKING & MANOEUVRING
WATER JET THRUSTERS
FOR BOW & STERN



Jet Thruster



THE EASY ELECTRIC SOLUTION

JET THRUSTER CONTROLLER

PLUG & PLAY WIRING

5 Big Benefits

- Easy installation
- In Water Service
- Reliable operation
- No moving parts
- Low maintenance costs



THE NEW COMPACT SERIES

**POWERFUL,
LIGHTER, SMALLER**

WILL FIT ANY BOAT



WIRELESS CONTROL

**JET THRUSTER
REMOTE**

FOR YOUR VESSEL

(Optional)



VERY SMALL HULL PENETRATIONS

**NO VULNERABLE
PROPELLER**

VERY LOW OPERATION SOUND



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marine

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Jet Thruster Micro[®]

The world's smallest and most easy to install inboard thruster system!

Water Jet Thruster for 25 - 30 ft boats for Bow or Stern

Advantages:

- For shallow draft (trailerable) boats
- Bow or Stern thruster
- No tunnel required
- Easy installation / DIY suitable
- Very small Nozzles
- Safe for Gasoline Engine Areas
- All Composite corrosion resistant components
- Complete package: Ready for installation



Jet Thruster

www.jetthruster.com

Manufactured by Holland Marine Parts B.V.

NEED FAST RELIABLE BATTERY CHARGING FOR HOUSE BANK?



6 Series Alternator
with Regulator Kit



XT Series Alternator
with Regulator Kit



SG200 Battery Monitor Kit

BALMAR[®] WWW.BALMAR.NET **DC CHARGING SOLUTIONS**

Balmar Marine alternators are specifically designed to deliver high output at engine idle.

Even when working in a hot engine room their performance remains high.

- 6 Series up to 120 amps
- XT Series up to 250 amps
- Multi-6, 8 and 10 groove Serpentine pulleys and pulley kits are available for most engines.

Complete kits include programmable Regulator with temperature sensors. Add SG200 Battery Monitor with Smartlink Bluetooth to your phone.

Yanmar fitted with Valeo alternator? Ask about 30% faster charging with Smart Ready Retrofit.

For experience backed advice, contact us about 24 V and 48 V alternators for high output heavy duty applications.

We Know How To Charge Your Batteries

How to Select a Balmar Charging System

Step 5: Determine your Belt and Pulley Requirements ... Continued

If the alternator output you have chosen exceeds the capability of your existing belt/pulley system, you must upgrade the pulley system using one of Balmar's patented AltMount® Pulley Conversion Kits. Refer to the chart on page 11 to find the applicable AltMount® Conversion Kit for your engine and alternator choice.



U.S. Patent Nos.
8.939.855 and D654.778

Here are some additional rules-of-thumb to guide your choices:

- Balmar 6-Series 100A Alternators can perform with a 1/2" Single Vee pulley. If you need to charge above 100A, then you will need a Dual Vee or Serpentine pulley system to be present on your engine to avoid a pulley upgrade. If a Dual Vee or Serpentine pulley is not present, then an AltMount® Conversion Kit is required.
- Unless you own a recently produced engine which already contains a Serpentine pulley system, the superior power afforded by the XT-Series Alternator Packages will require an AltMount® Conversion Kit Upgrade.
- Choose wisely! Need more help? - call Balmar Technical Support at the number below!

With the completion of these 5 steps, you have reviewed all the critical variables required to choose the correct charging system upgrade for your vessel.

Small Case Alternator Kit Selection Chart - Common Configurations

Balmar Product Family	Output	Mounting	Power Take Off	Alternator Part Number ⁽¹⁾	Balmar External Regulator	Temp Sensors	Alternator Kit Number ⁽¹⁾ (includes Alternator, Regulator & Temp Sensors)	AltMount® Pulley Kit Required?
6-Series	100A	1-2" Spindle	4.0 HP	621-100-XX	MC-618-H	MC-TS-A & MC-TS-B	621-VUP-MC-100-XX	Yes, If Dual Vee or Serpentine is Not Already Present See Page 15
		3.15" Saddle		60-100-XX			60-YP-MC-100-XX	
	120A	1-2" Spindle	4.8 HP	621-120-XX	621-VUP-MC-120-XX			
		3.15" Saddle		60-120-XX	60-YP-MC-120-XX			
	70A, 24V	1-2" Spindle	4.3 HP	621-24-70-XX	MC-624-H		621-VUP-24-70-XX	
		3.15" Saddle		60-24-70-XX			60-YP-24-70-XX	
XT-Series	170A	1-2" Spindle	5.2 HP	XT-SF-170-XX	MC-618-H	XT-SF-170-XX-KIT		
		3.15" Saddle		XT-DF-170-XX		XT-DF-170-XX-KIT		
		3.15" Saddle		XT-CR-170-XX		XT-CR-170-XX-KIT		
	250A	1-2" Spindle	6.6 HP	XT-SF-250-XX	XT-SF-250-XX-KIT			
		3.15" Saddle		XT-DF-250-XX	XT-DF-250-XX-KIT			
	3.15" Saddle	XT-CR-250-XX	XT-CR-250-XX-KIT					
		90A, 24V	1-2" Spindle	4.8 HP	XT-SF-24-90-XX	MC-624-H	XT-SF-24-90-XX-KIT	
	3.15" Saddle		XT-DF-24-90-XX		XT-DF-24-90-XX-KIT			

(1) "XX" Pulley Designations: "SV" = 1/2" Single Vee, "DV" = 1/2" Dual Vee, "K6" = K6 Serpentine, "J10" = J10 Serpentine
 (2) The "CR" design is provided for Yanmar "Common Rail" engines

Step 6: Select Additional Charging System Options

Now that you have selected an appropriate Balmar Alternator Kit, complete your purchase by adding a SG200 Battery Monitor and a Belt Buddy Tensioning Kit! See pages 16 and 26, respectively for details.





6-Series Alternators

Designed for Recreational Applications

- Balmar's Top Selling Alternator Line
- 100A and 120A Versions
- Patented Smart Ready® Technology
- Dual Fan Cooling
- High Airflow Frame
- Maximum RPM: 12,000
- USCG Title 33, ISO 28846 and SAE J1171 Certified
- Ideal for Modest Charging Upgrades

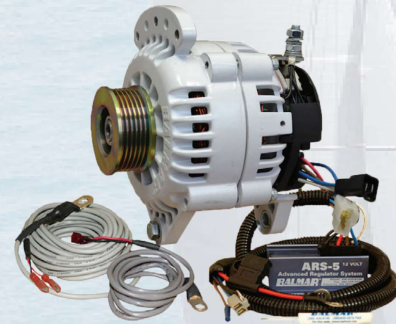
Balmar **6-Series Alternators** deliver high-output performance in a compact, small-case package and are available in all four common mounting configurations (see page 6).

While all Balmar's high-output alternators are designed and recommended for use with our multi-stage voltage regulators, the 6-Series Alternator utilizes Balmar's Smart Ready® Technology. If battery loads are relatively small and your engine is running frequently, the alternator's internal regulator may be sufficient to support your electrical needs without external regulation. If your vessel utilizes larger deep-cycle battery banks or the engine's duty cycle is less frequent (as is the case in most sailing applications), the 6-Series Alternator combines and works seamlessly with Balmar's ARS-5 Voltage Regulator or Max Charge Voltage Regulator.

Purchased either individually or as a charging kit, 6-Series Alternators can solve a multitude of charging problems at a reasonable price. All kits come with alternator, regulator and two temperature sensors.



Smart Ready® 6-Series



Charging Kit

6-Series Output	Power Take Off	Mounting	Individual Alternator Part Number	Alternator Kit with Max Charge Regulator	Altmount® Pulley Kit Required?
100A	4.0 HP	1-2" Spindle	621-100-XX	621-VUP-MC-100-XX	No
		3.15" Saddle	60-100-XX	60-YP-MC-100-XX	
120A	4.8 HP	1-2" Spindle	621-120-XX	621-VUP-MC-120-XX	Yes, If Dual Vee or Serp is Not Present See Page 15
		3.15" Saddle	60-120-XX	60-YP-MC-120-XX	
70A, 24V	4.3 HP	1-2" Spindle	621-24-70-XX	621-VUP-24-70-XX	
		3.15" Saddle	60-24-70-XX	60-YP-24-70-XX	

- (1) "XX" Pulley Designations: "SV" = 1/2" Single Vee, "DV" = 1/2" Dual Vee, "K6" = K6 Serpentine, "J10" = J10 Serpentine.
- (2) A Max Charge Regulator Kit is required for 24 volt, Dual-Alternator or Twin Engine Applications.
- (3) Additional 6-Series mounting styles (J-180) are available and listed on Page 30.
- (4) All Dual Foot Yanmar Kits include 6-0020 mounting kit.
- (5) Yanmar Common Rail and newer Volvo engines require the 61-0050 K6 pulley.



We Know How To Charge Your Batteries

XT-Series Alternators
Designed for Recreational Applications

- 170A or 250A in a Small Case Package
- Up to 180A at Idle Speeds
- Patented Smart Ready® Technology
- Dual Fan Cooling, High Airflow Frame
- Ideal for Lithium Battery Banks
- USCG Title 33, ISO 8846 and SAE J1171 Certified



New XT-Series Alternators from Balmar bring together the latest innovations in alternator design to deliver incredible charging power in a compact, Marine & RV-friendly package.



Advanced Braided Stator

The **New XT-Series Alternator** family features a state-of-the-art, braided wire stator design to generate exceptional output in the smallest possible area. Available XT-Series mounting styles have been expanded to include a “Common Rail” design found on new production Yanmar engines.

XT-Series Alternators feature 96 slots - compared to 36 slots in a traditional S-wound stator – allowing the stator to develop superior electromagnetic energy and efficiency compared to traditional stator designs. The XT-170 and XT-250 are designed to deliver superior performance at idle speeds - up to 128A and 186A, respectively for 12V applications.

XT-Series Alternators may require a Tachometer Signal Stabilizer (Part No. 15-TSS) if your current tach is not adjustable. XT-Series Alternators should only be used in Dual Vee or Multi-Groove Serpentine belt configurations. Balmar’s range of **AltMount® Serpentine Pulley Conversion Kits** support **XT-Series Alternators**.

XT Series Output	Power Take Off	Mounting	Individual Alternator Part Number	Alternator Kit with Max Charge Regulator	Altmount® Pulley Kit Required?
170A	5.2 HP	1-2" Spindle	XT-SF-170-XX	XT-SF-170-XX-KIT	Yes, If DV or Serpentine is Not Present See Page 15
		3.15" Saddle	XT-DF-170-XX	XT-DF-170-XX-KIT	
		3.15" Saddle	XT-CR-170-XX	XT-CR-170-XX-KIT	
		4" Saddle	XT-DF4-170-XX	XT-DF4-170-XX-KIT	
250A	6.6 HP	1-2" Spindle	XT-SF-250-XX	XT-SF-250-XX-KIT	
		3.15" Saddle	XT-DF-250-XX	XT-DF-250-XX-KIT	
		3.15" Saddle	XT-CR-250-XX	XT-CR-250-XX-KIT	
		4" Saddle	XT-DF4-250-XX	XT-DF4-250-XX-KIT	
90A, 24V	4.8 HP	1-2" Spindle	XT-SF-24-90-XX	XT-SF-24-90-XX-KIT	
		3.15" Saddle	XT-DF-24-90-XX	XT-DF-24-90-XX-KIT	
		4" Saddle	XT-DF4-24-90-XX	XT-DF4-24-90-XX-KIT	

- (1) “XX” Pulley Designations: “DV” = 1/2” Dual Vee, “K6” = K6 Serpentine, “J10” = J10 Serpentine.
- (2) Kit Includes XT-Series Alternator, Max Charge Regulator (MC-618-H) and Temperature Sensors (MC-TS-A, MC-TS-B).
- (3) The XT-Series Alternator may require a Tachometer Signal Stabilizer (Part No. 15-TSS) if your current tach is not adjustable.
- (4) All Dual Foot Yanmar Kits include 6-0020 Mounting Kit.
- (5) The “CR” design is provided for Yanmar Common Rail engines



Large Case Alternators
Mid Duty-Cycle, Large Frame Alternators

94-Series

94LY-Series

95-Series

- Extra Heavy Duty Windings, Diodes & Brushes
- Isolated Ground Termination
- Corrosion Resistant Powder Coated Finish
- Bi-Directional Cooling Fans on 94-Series & 95-Series
- Maximum RPM: 7,000
- USCG Title 33 Ignition Protection Compliant

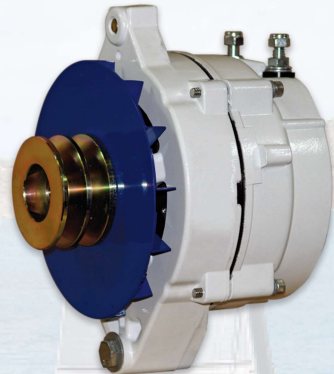
From world class ocean racers to commercial fishers and military patrol vessels, these large-frame alternators have a proven record for supporting large house battery banks and challenging electrical loads under some of the toughest marine conditions imaginable.

94-Series, 94LY-Series and 95-Series Alternators feature extra-large gauge custom wound stators and high amperage diode packs to ensure optimal charging performance. Built to meet USCG Title 33 ignition protection standards, 94-Series alternators deliver excellent low RPM output and terrific response throughout the power band.

All Balmar large case alternators are designed to be used with Balmar’s external, Multi-Stage Regulators.

Part Number	Output		Mounting Style	Minimum Pulley
	Volts	Amps		
94-12-210-IG	12	210	Single Foot 2” (Delco-style)	1/2” Dual Vee or Serpentine ⁽¹⁾
94-24-140-IG	24	140		
94LY-12-210-IG	12	210	Dual Foot 3.15” (Hitachi-style)	
94LY-24-140-IG	24	140		
9504-12-210-IG	12	210	Dual Foot 4” (J180-style)	
9504-24-140-IG	24	140		
94LY-0050	Tensioner & Hardware Kit			

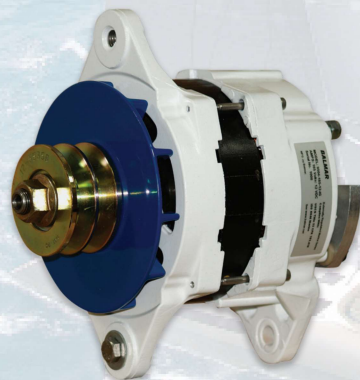
(1) All 94 & 95-Series Alternators can be outfitted with K6 or K8 Serpentine Pulleys.
(2) All 94 & 95-Series Alternators are designed to be used with Balmar Multi-Stage Regulators.



94-Series



94LY-Series



95-Series



**NEW
LOWER
PRICING**

We Know How To Charge Your Batteries

YANMAR SERPENTINE PULLEY KITS	
Engine Models	AltMount Kit #
2GM20	48-YSP-3GM-C
2GM20-F	48-YSP-3GM-B
2YM15	48-YSP-3YM-A
3GM	48-YSP-3GM-C
3GM30	48-YSP-3GM-A
3GM30-F	48-YSP-3GM-B
3GM-F	48-YSP-3GM-B
3HM	48-YSP-3HM-A
3HM35	48-YSP-3HM-A
3HM35-F	48-YSP-3HM-B
3HM-F	48-YSP-3HM-B
3JH2-E	48-YSP-3JH-C
3JH2-TE	48-YSP-3JH-C
3JH3	48-YSP-3JH-E
3JH4-E	48-YSP-3JH-A
3JH5	48-YSP-3JH-A
3YM20	48-YSP-3YM-A
3YM30	48-YSP-3YM-B
4JHE, TE, HTE, DTE, 4JH	48-YSP-4JH-F
4JH2, TE, HTE, DTE, UTE	48-YSP-4JH-E
4JH3, TE, HTE	48-YSP-4JH-D
4JH4HTE, TE, DTE	48-YSP-4JH-B
4JH4-E	48-YSP-3JH-A
4JH5, 4JH5-E	48-YSP-3JH-A
4LH-A	48-YSP-4LH-A
6LY, 6LYA-STP, 6LY2-STP	48-YSP-6LY-A

FORD LEHMAN SERPENTINE KITS	
Engine Models	AltMount Kit #
FL80, FL120	48-FSP-100

NANNI SERPENTINE PULLEY KITS	
Engine Models	AltMount Kit #
N3.30	48-NSP-3.3
N4.38	
N4.4, N4.5	48-NSP-4.6
N4.6	
N4.85	48-NSP-100
N100	

PERKINS SERPENTINE PULLEY KITS	
Engine Models	AltMount Kit #
4107	48-PSP-410-A
4108	
6.354.0	48-PSP-6354
PERAMA	48-VSP-MD-A
M20, M25, M30	
PRIMA	48-VSP-PR-A
M50, M60, M80	

VOLVO SERPENTINE PULLEY KITS	
Engine Models	AltMount Kit #
2001, 2002, 2003(T) 3 Pulleys	48-VSP-2001
2001, 2002, 2003(T) 2 Pulleys	48-VSP-2001R
D2-55A, B, C, D, E, F	48-VSP-D2-A
MD2030	48-VSP-MD-A
MD2040	48-VSP-MD-B
PRIMA	48-VSP-PR-A
TMD-22	

WESTERBEKE SERPENTINE KITS	
Engine Models	AltMount Kit #
12C, 12D	48-WSP-12C
13A	48-WSP-21
18	48-WSP-18
20B	48-WSP-12C
21	48-WSP-21
21A	48-WSP-18
27	48-WSP-21
27A	48-WSP-18
30B	48-WSP-12C
30C, 33	48-WSP-33
35A, 35B, 38B	48-WSP-18
40	48-WSP-40
42B	48-WSP-18
44A, 44B, 44C	48-WSP-44A
46	48-WSP-46
71	48-WSP-71
82	

UNIVERSAL SERPENTINE KITS	
Engine Models	AltMount Kit #
M25, M25XP	48-USP-M25
M25XPB	48-USP-M35B
M35	48-USP-M-B
M35B	48-USP-M35B
M40B	
M50, M50A, M50B	48-USP-M50
5444	

VETUS SERPENTINE PULLEY KITS	
Engine Models	AltMount Kit #
M4.15, M4.17	48-VSP-M4.17
M4.55	

AltMount® Kits are designed to be used with Balmar 6-Series and XT-Series alternators. We cannot guarantee fit with other alternators.



New AltMount® Pulley Kits are constantly under development. If you do not see a kit for your engine, check the Balmar website at www.balmar.net or call our Technical Support line for the latest list of available kits.



Balmar Max Charge and ARS-5 Voltage Regulators

Max Charge MC-618 Voltage Regulator

- 9 Selectable Programs for Marine Batteries
- 15 Amp Maximum Field Current
- Advanced Programming Modes (see page 19)
- Alternator & Battery Temperature Sensing & Control
- Exclusive Belt Load Manager Function
- Integrates with SG200 for Programming and Data Display
- Can be Used in Twin-Engine Applications with Centerfielder II



Max Charge MC-624 Voltage Regulator

- Designed for 24 Volt Applications
- 10 Amp Maximum Field Current
- Optional 15 Amp Unit Available
- Can be Used in Twin-Engine Applications
- All the Same Functions as the MC-618



Max Charge MC-612-Dual Voltage Regulator

- Designed to Control 2 Alternators on a Single Engine
- Dual Alternator & Battery Temperature Sensing
- Twin 54" Wiring Harnesses Provided
- All the Same Programming Functions as the MC-618



ARS-5 Voltage Regulator

- 5 Selectable Programs for Marine Batteries
- 9 Amp Maximum Field Current
- Appropriate for 6-Series Alternators (120A and below)
- Single Engine, Single Alternator Applications Only
- Similar Programming Functions as the MC-618



Preset, Multi-Stage Battery Programs	Balmar Regulators				Digital Duo Charge	Dual Engine Centerfielder
	12 Volt		24 Volt			
	Part Number:	ARS-5	MC-618	MC-612-DUAL	MC-624	DDC-12/24
Universal Factory Program, Deep Cycle Flooded, Gel Cell, Absorbed Glass Mat (AGM) and Spiral Wound Flooded (Optima)	Yes	Yes	Yes	Yes	Yes	Yes
Standard Flooded, Halogen Systems, Lithium (LiFePO ₄), Carbon Foam AGM	-	Yes	Partial	Partial	Partial	Yes
Balmar Alternator Models						
6-Series Alternators (70A-120A)	Yes	Yes	Yes	Yes	Yes	Yes
XT-Series Alternators (90A-250A)	-	Yes	Yes	Yes	Yes	Yes
9-Series Large Case Alternators (140A-310A)	-	Yes	Yes	Yes	Yes	Yes
Multiple Alternator/Engine Configurations						
Dual Engine, One Alternator Each	-	Yes (qty 2)	-	Yes (qty 2)	Yes	Yes
Single Engine, Two Alternators	-	-	Yes	Yes (qty 2)	Yes	Yes

Complete part number listings and dimensional specifications are found on pages 30-38.



We Know How To Charge Your Batteries

Smart Ready® Retrofit For Yanmar Engines Equipped with Valeo Alternators

Now Yanmar Owners can add Balmar Smart Regulation without Disposing of the Valeo Alternator Present on Recent Production Engines.

- Reduce the Cost of Adding Balmar by Half
- Balmar's Patented Smart Ready® Design
- Internal Regulator Provides "Come-Home" Capability
- Perfect for AGM or Lithium Battery Banks
- Kits Come with all Required Conversion Parts

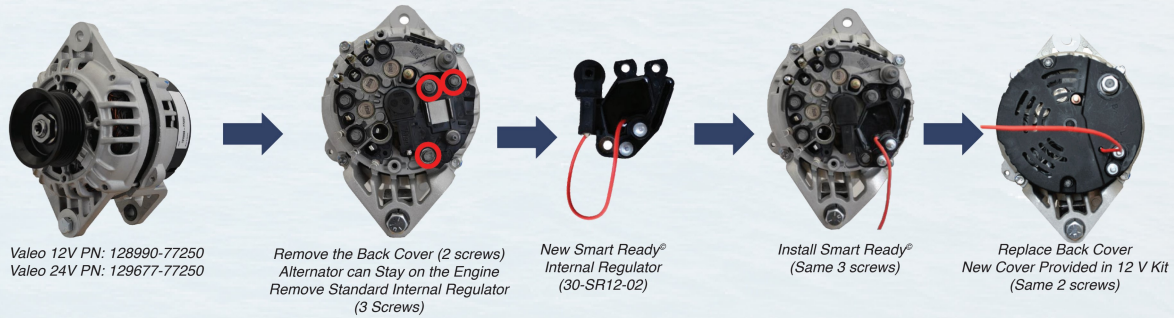


Valeo Retrofit Kits	
Part Number	Kit Includes
30-SR12-02	Internal Regulator Retrofit Kit Only
ARS-5-VL-01	30-SR12-02, ARS-5-H, Temp Cables
MC-618-VL-01	30-SR12-02, MC-618-H, Temp Cables
MC-624-VL-01 ⁽¹⁾	Dummy Regulator, MC-624-H, Temp Cables

(1) MC-624-VL-01 (24V Version) is not Smart Ready®

Easy Installation:

Required Tools: 7mm & 8mm Nut Drivers, 13mm Wrench. Kit includes Tool for Installing Brushes.



Installation of Balmar's Multi-Stage, Smart Regulators delivers the benefits found in shore power charging systems for your on-board, alternator-based charging system including:

- 30% Faster, More Complete Charging
- User-Selectable Preset Battery Programs
- Advanced Programming Modes
- Over-Temperature Protection
- Detuning Capabilities for Belt Load Management and Reducing Alternator Wear
- Longer Battery and Alternator Life
- Less Fuel Consumption

Optimize Your Charging System and Experience the Balmar Difference!

Yanmar Engine Models Equipped with a Valeo 120A/12V Alternator

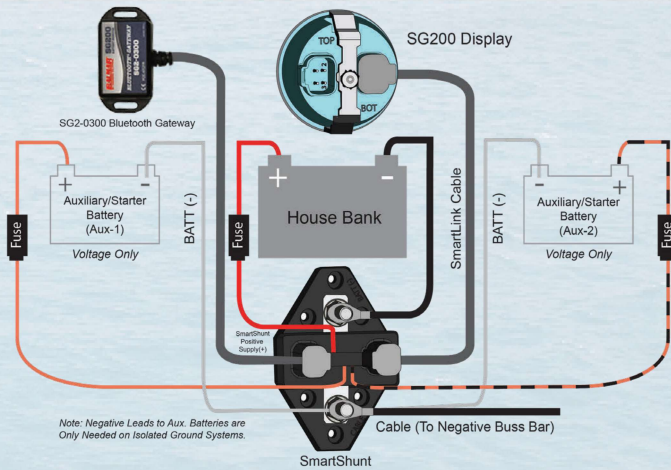
Model #	Serial Number
2YM15	E05891 & after
3YM20	E11910 & after
3YM30E	E20848 & after
3JH5E	E12749 & after
4JH5E	E14236 & after
4JH4-TE	E15602 & after
4JH4-THE	E24940 & after
4JH4-HTE1	E40232 & after
4JH3-DTE	E35417 & after

We Know How To Charge Your Batteries

SG200 Battery Monitor



State of Charge (SoC%)	State of Health (SoH%)	Charge/Discharge Amps	Time Remaining
97% accurate display of your battery's State of Charge after learning batteries.	Proprietary self-calibrating algorithm determines how your battery has aged from its original capacity.	Displays the real-time current flowing in or out of your house battery.	Time remaining until empty when discharging, or time remaining until full when charging.



- Shown here is the standard SG200 configuration wiring, including connections for two Aux/Start batteries.
- The SG210 includes the optional Bluetooth® Gateway in one package
- The SG205 includes the Bluetooth® Gateway, but does not include the 2" Color Display and is appropriate for users who want to monitor their batteries exclusively from the Balmar App.

Note: Negative Leads to Aux. Batteries are Only Needed on Isolated Ground Systems.

Part Number	Description	Explanation / Includes
SG200		Standard Unit for Initial Purchase: Includes Color Display, SmartShunt, SmartLink Com Cable
SG205	Battery Monitor Kit, 12V-48V	Includes SmartShunt & Bluetooth Gateway Only (No Color Display)
SG210		Includes Color Display, SmartShunt, Smartlink Com Cable, Bluetooth® Gateway
SG230	Battery Monitor Kit, 12V-48V, NMEA 2000	Includes N2K SmartShunt & Adapter Cable, Color Display, Com Cable, Bluetooth® Gateway
SG235		Includes N2K SmartShunt & Adapter Cable, Bluetooth® Gateway Only (No Color Display)
SG2-0100	SmartShunt, SG200, 350A, 12V-48V	Add a SmartShunt for Additional Bank: Includes SmartShunt and SmartLink Com Cable
SG2-0130	SmartShunt, SG230, 350A, 12V-48V	Add a N2K SmartShunt & Adapter Cable to Upgrade an Existing SG200 System
SG2-0200	Color Display, SG200, 2 1/16"	Add a Color Display to an existing SmartLink Network
SG2-0300	Gateway, SG200, Bluetooth®	Optional 39" Bluetooth® Gateway for Smartphone App
SG2-0400	Com Cable, SG200, 10m	Optional SmartLink Com Cable (10 meter) for Extensions and MC-618 Connection
SG2-0402	Mounting Plate, SG200	Mounting Adapter from SmartGauge™ to SG200 Display
SG2-0403	Com Cable, SG200, 5m	Optional SmartLink™ Com Cable (5 meter) for Extensions and MC-618 Regulator Connection
SG2-0404	Com Cable, SG200 & MC-618	Optional SmartLink™ Com Cable for MC-618 Regulator Connection, 12"
SG2-0405	Com Cable, SG230, NMEA 2000, 12"	Com Cable, SG230 (N2K) & SG240 (RV-C), M12 (DeviceNet), 12"
SG2-0408	Com Cable, 3-Way Adapter	Com Cable, SmartLink™ Connection Extender

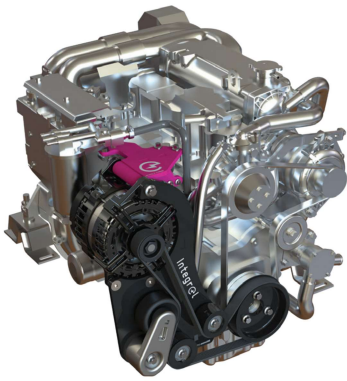


Integral

solutions

ENERGY GENERATION MADE EASY

MORE COMFORT | LOWER COSTS | REDUCED CARBON FOOTPRINT



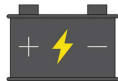
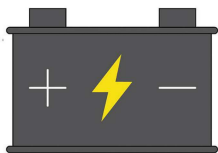
1. Integrel's "on engine generator" produces variable frequency 3 phase power using the main engine



2. Integrel controller converts 3 phase power to 48v DC



3. Energy production is monitored by a sensor on each battery bank



4. Energy is stored at 48v in lead acid or lithium ion battery banks before distribution at multiple voltages to consumers

www.integrelsolutions.com



HATCHES

- CE Approved. According to ISO/DIS 12216 Deck Hatches are approved for Area II, III, IV, designs for craft type "any".
- Low profile elegant appearance.
- 316 stainless steel frames, hatch, hatch arms and hinges. Hand polished, electro-polished to protect against corrosion. Frames and hatches are made from machine rolled stock to ensure strength and low weight.
- Positive easy to operate stainless arms allowing full 180 degree opening with pull-turn knobs to hold hatch open.
- Adjustable injection molded Nylon 66 handles.
- Set screw adjustment in each hinge to avoid hinge pins coming out.
- Tough, glare resistant acrylic tops.
- Inside opening, inside/outside opening and double opening available.
- Inside /outside models with 100% Stainless Steel snag free handle.



PORTS

- CE Approved. According to ISO/DIS 12216. LS type are approved for Area III, IV, designs for craft type "any". - CLS type approved for Area I, II, III, and IV, designs for craft type "any".
- 316 stainless steel machined rolled frames hand polished and electro polished to provide long lasting protection against corrosion.
- Cast 316 stainless steel hinges with set screw to adjust gasket pressure.
- Weather resistant thermo-plastic NEOPRENE gasket.
- High Strength tempered glass.



PLASTIC AND ALUMINIUM HATCHES

The hinges on our 4000 Series Hatches open 180°, the lid completely covers the mounting flange, concealing the fastenings and deflecting water away from the hatch seal. The seal ensures weatherproofing when the hatch is mounted on horizontal and vertical surfaces. Contoured handles provide a positive twist lock action and easy lift grip (even with gloves). Low profile (13mm above deck), injection moulded UV stable plastic hatches designed for installation on any internal or external flat surface. Reinforced lid with non skid surface.

Intrusion below deck 18mm. Screw holes are 5mm countersunk. Available in a choice of white, grey or dark grey or black (for large only) with or without key security lock. CE Approved.

CODE WHITE	CODE GREY	CODE DARK GREY	CODE BLACK	KEY LOCK	OUTSIDE FRAME MM	CLEAR OPENING MM	CUT OUT MM
SPA-40105	SPA-40106	SPA-40106-DG	SPA-40107	NO	375 X 285	292 X 192	305 X 205
SPA-40155	SPA-40156	SPA-40156-DG	SPA-40157	NO	395 X 335	312 X 242	325 X 255
SPA-40205	SPA-40206	SPA-40206-DG	SPA-40207	NO	595 X 355	512 X 262	525 X 275
SPA-40205L	SPA-40206L	SPA-40206-DGL	SPA-40207L	YES	595 X 355	512 X 262	525 X 275



FREEMAN
MARINE EQUIPMENT, INC.
An Advantec Company

Freeman Cast Aluminium Hatches

FREEMAN MARINE'S patented 2400 Series Cast Aluminium Hatches are available in a variety of sizes and shapes. Standard models have a cast aluminium cover, aluminium dogging mechanism and your choice of cast aluminium, steel, galvanized steel or stainless steel rings.

FREEMAN MARINE'S uniformly spaced dogs are superior to the 'yoke' or "strongback' type seal mechanisms which cause inherent cover distortion and sealing problems. Hatches include a stainless steel handle and round bar shaft for trouble free operation.



Square Hatches Flush
Sizes are 18", 20", 22", 24",
30" and 36"



INTRODUCING

MELFI HELM CHAIRS



Siena 1

Melfi Designs have been developing and designing elegant and brilliantly designed Helm Chairs.

- Robust, comfortable, ergonomic seat has reclining backrest & liftable armrests.

Choice of mount:

- Sturdy 125mm dia. SS Pedestal post (Gas or Electric), 200mm height adjust with fore/aft slider.

OR

- Bench/Plinth mount with slider.
- Options for:
 - Backrest/Head rest
 - Electric seat adjustments
 - Electronic engine & helm controls.
- Pedestal height
- Bolster (knee roll)
- Seat width

Upholstery choices:

Innova Brand: Supelle, Hayden or Terra Nova (inside only)



Siena 11



Adjustable Bolster



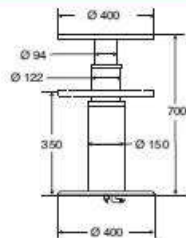
TABLE PEDESTALS



We have a wide range of Barka Marine Table and Chair Pedestals to suit you and your boat. Whether you need an over the floor pedestal, removable or through the floor, we have something for you. Barka Pedestals are manufactured to the highest standards and are available as gas powered, manual or electric operation. See our website for the full range.

ELECTRIC TELESCOPIC TABLE PEDESTALS

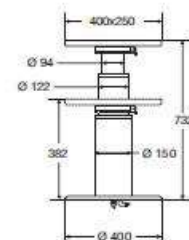
Two Stages



18891/12	12 Volt	chrome	cod. 08.02.03212
18891/24	24 Volt	chrome	cod. 08.02.03224
18898/12	12 Volt	brushed	cod. 08.02.01212
18898/24	24 Volt	brushed	cod. 08.02.01224

Two stages, brushed, anodized and brightened aluminium

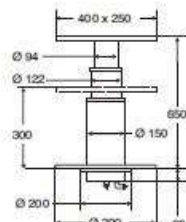
with swivel top



18898/G/12	12 Volt		cod. 08.02.11212
18898/G/24	24 Volt		cod. 08.02.11224

Two stages, brushed, anodized and brightened aluminium

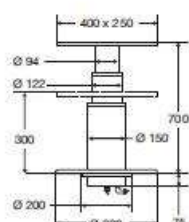
with under floor protrusion



18998/35/30/12	12 Volt		cod. 08.02.21212
18998/35/30/24	24 Volt		cod. 08.02.21224

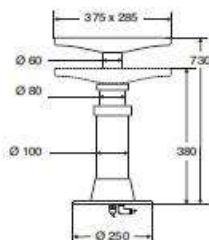
Two stages, brushed, anodized and brightened aluminium

with under floor protrusion



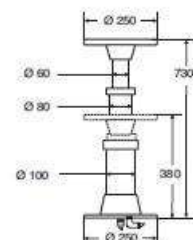
18998/40/30/12	12 Volt		cod. 08.02.21312
18998/40/30/24	24 Volt		cod. 08.02.21324

Two stages, anodized aluminium



12398/12	12 Volt		cod. 08.01.00212
12398/24	24 Volt		cod. 08.01.00224

Two stages, anodized aluminium



12498/12	12 Volt		cod. 08.01.10212
12498/24	24 Volt		cod. 08.01.10224



ELECTRIC TABLE PEDESTALS

For Really Big Tables up to 200 kG

- 12V or 24V with Synchronised Encoder
- Height adjustment: 350 to 700mm, no floor protrusion
- Lower heights with under floor protrusion



BATTERY POWERED

For Tables up to 100 kG

- No cabling required
- Re-Chargeable Battery pack, 40 uses per charge
- 150mm Post - 300mm Base - 400 x 400mm Top
- Height adjustment 350mm to 700mm



BATTERY POWERED

For Mid-Size Tables

- 12V or 24V operation
- 100mm Post - 250mm Base - 375 x 285mm Top
- Height adjustment 380mm to 730mm
- Lower heights with under floor protrusion



ELECTRIC STRUTS

- This pair, 1000kG thrust, 300mm stroke
- Singles from 100kG to 500 kG each
- Stroke range from 200mm to 2000mm
- Ask about your custom solution



VyBar® Marine

Rigid Acoustic Laminate Insulation for Marine Applications

Tested and certified to meet the International Maritime Organisation resolution A635 (16) – recommendation on Improved Fire Test Procedures for Surface Flammability as amended by Resolution MSC 61 (67)

Acoustica's VyBar® is a rigid laminate noise barrier which has been specifically engineered to absorb and control noise and vibration in main and auxiliary engine enclosures and to line partition walls and bulkheads in marine vessels.

VyBar® has a unique material construction which unlike many other insulation materials results in high sound absorption coupled with resilience and compression loading capability.



VyBar® 848F

VyBar® Marine has been tested by the CSIRO and certified that it meets the requirements for low flame spread of a bulkhead, wall and ceiling lining as specified by the International Convention for the Safety of Life at Sea, 1974 and the technical requirements of the amended IMO resolution MSC61 (67), Annex2, section 2.2

VyBar® Marine effectively treats the often combined phenomena of vibrations, sound transmission and sound reverberation encountered with most noise problems.



VyBar® Marine is an extremely robust aluminium faced insulation with an indefinite life. VyBar® Marine does not shed fibres and will not delaminate; it is unaffected by vibration, oil, water and hydrolysis.

With an indefinite life, VyBar® Marine is an extremely economical material that effectively reduces sound radiation and sound transmission in the critical frequency region of rigid panels such as steel, fibreglass, aluminium, etc.

Service Temperature : -50 to 120C

Supply:

VyBar® Marine is available in sheets with standard sizes:

- 1200 x 1200 x 8 mm (VyBar® 48F)
- 1200 x 1200 x 16 mm (VyBar® 848F)

Other sizes available on request.

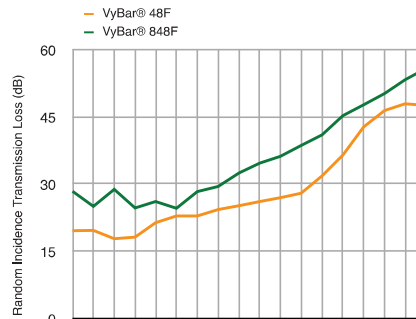
Glue with CRAFT BOND 2300.

Flammability:

VyBar® Marine is fire rated according to AS1530.3.

- Ignitability Index (0-20) = 0
- Spread of Flame (0-10) = 0
- Heat Evolved Index (0-10) = 0
- Smoke Developed Index (0-10) = 0-1

Sound Transmission Loss		
Frequency (Hz)	Random Incidence Transmission Loss (dB)	
1/3 Octave Centre Frequency	VyBar® 48F	VyBar® 848F
100	19.6	28.4
125	19.67	25.0
160	17.8	28.8
200	18.2	24.7
250	21.4	26.1
315	22.9	24.6
400	22.9	28.3
500	24.3	29.5
630	25.2	32.5
800	26.1	34.7
1000	27.0	36.2
1250	28.0	38.6
1600	31.8	41.0
2000	36.5	45.3
2500	42.8	47.7
3150	46.4	50.2
4000	47.9	53.3
5000	47.6	55.8
STC	28	35



GROCO®

Quality Marine Products Since 1918

ARG SERIES Engine Inlet Strainer with magnifying cap for easy inspection



GROCO®

Quality Marine Products Since 1918

Seacocks and Ball Valves (1/2" – 5") NPT & BSP



BV SBV FBV IBV IBV-S IBVF

Engine Inlet Strainers (1/2" – 6") NPT & BSP



ARG Series SE Series Hydromatic Series

Hull Strainers (Aluminium and Bronze for up to 4" T-Hull) NPT & BSP



APHS BRONZE APHS ALUMINUM ASC SC

Pipe to Hose Fittings (1/2 – 3" / T-Hull to 5") NPT & BSP



FF FFC TH THXL PTH PTHC

Pumps and Pressure Pumps



SPO PJR + PST Tank PSR

hydraulic reversing pumps

THE BENEFITS OF AN OCTOPUS REVERSING PUMP

- RELIABLE** - Patented piston pump technology with only three moving parts
- TWICE THE POWER** - Delivers over twice the hydraulic output per watt of input
- HALF THE CONSUMPTION** - Accurate ram positioning means fewer course corrections
- ADJUSTABLE FLOW RATE** - Configure performance to suit your vessel
- EASY SERVICING** - Shut off valves allow removal without draining steering system

ONLY THREE MOVING PARTS!

pinpoint accuracy...
...maximum performance

GETTING THE BEST STEERING PERFORMANCE FOR THE BOAT

The flow rate of the pump can be set to get the best 'hard over time (cylinder ram speed) for the particular boat. There is a simple equation to calculate the hard over time:

$$\text{HARDOVER TIME} = \frac{\text{CYLINDER (RAM) CAPACITY} \times 60}{\text{FLOW RATE}}$$

EXAMPLE

A boat has a 200cc steering cylinder (ram) and a 12 volt system. So either the OCTAF1012 or the OCTAFI212 would be suitable (see table below left). For this example we are using the OCTAFI212 which has a minimum flow rate of 600cc/min and a maximum flow rate of 1200cc/min:

$$\text{MIN HARDOVER TIME: } \frac{200 \times 60}{600} = 20 \text{ sec}$$

$$\text{MAX HARDOVER TIME: } \frac{200 \times 60}{1200} = 10 \text{ sec}$$

The flow rate of the pump can be adjusted so that the hard over time is between 10 & 20 seconds - select which is most suitable for this particular boat.

HYDRAULIC REVERSING PUMPS

PROFESSIONAL SOLUTIONS FOR HYDRAULICALLY STEERED BOATS

TWICE THE POWER

The unique Octopus piston pump delivers over twice the hydraulic output per watt of input than a standard hydraulic gear pump.

HALF THE CONSUMPTION

Gear pumps leak oil between the gears, while a piston (such as us. in car engines) does not. This means the piston pump will place the cylinder ram exactly where it is required, positioning the rudder accurately. This gives far sharper steering, reducing unnecessary course corrections meaning battery consumption on Octopus pumps is up to half that of other pumps.

PINPOINT ACCURACY

Leading autopilot manufacturers choose Octopus pumps for their non RFB pilot systems which do not have a Rudder Feedback unit. Previously, slop in the system caused by gear leakage meant that a Rudder Feedback unit was necessary to tell the pilot the exact rudder position. As Octopus pumps will always bring the ram back to the required position the Rudder Feedback it is not required, which also greatly simplifies installation.

SAVE ON INSTALLATION COSTS

A professional installation should always have a method of isolating the pump from the steering system - Octopus pumps feature inbuilt shut off valves in the pump manifold.

ADJUSTABLE FLOW RATE

A pump that does not have variable flow (unless dedicated to a range of cylinders such as our fixed 0.8L pump) will be operating too fast or too slow in 80% of cases. Autopilot manufacturers get around this problem by adjusting the output to the pump to compensate, which either forces the pump to operate for longer periods of time which increases power consumption and wear on the parts, or it will operate at high pressure for short periods of time - also putting unnecessary strain and wear on the system.

Octopus Variable Flow Reversing Pumps precisely control the speed of the ram, reducing unnecessary battery consumption, pressure, strain and wear on the hydraulic system.

SELECTION GUIDE

PART No.	FLOW RATE (Adjustable)	CYLINDER RANGE	VOLTAGE	MAX CURRENT	AVERAGE CURRENT
1012	500cc -1L/min	150-300cc (9-18in ³)	12v	19A	4-6A
1024	500cc -1L/min	150-300cc (9-18in ³)	24v	10A	2-3A
1212	600cc -1.2L/min	180-360cc (11-22in ³)	12v	19A	4-6A
1224	600cc -1.2L/min	180-360cc (11-22in ³)	24v	10A	2-3A
2012	1.0 - 2.0L/min	245-500cc (15-30in ³)	12v	22A	6-8A
2024	1.0 - 2.0L/min	245-500cc (15-30in ³)	24v	11A	3-4A

ACCESSORIES



OC17SUK01 #8 Bypass Valve Manifold 12v DC
OC17SUK02 #8 Bypass Valve Manifold 24v DC



OC17SUK03 Unbalanced Valve



OC17SUK34 Verado Hydraulic Hose Kit



So-Pac
marine

09 448 5900 | info@sopac.co.nz | www.sopac.co.nz

HYDRAULIC CONSTANT RUNNING PUMPS

HIGH PERFORMANCE, LOW POWER CONSUMPTION



POWERFUL - Suitable for steering cylinders up to 200cu in (3500cc)

ECONOMICAL - High performance, low power consumption, compact design

FULLY INTEGRATED DESIGN - No complicated external pipes or fittings to break or leak

POWER AND CONTROL - FULLY INTEGRATED

Octopus Constant Running pumps are used in larger, heavy duty hydraulic steering systems where normal reversing pumps cannot be used. The precision pump includes an inbuilt hydraulic fluid reservoir and a tandem center solenoid control valve. Available with AC or DC motors.

CRA PUMPSETS



- For steering cylinders up to 60cu in (1000cc)
- CRA pumps deliver over 500psi (35 bar) and are very economical, typically drawing under 150 watts
- DC models: 12v, 24v or 32v
- Wide flow range - units available with max flow rates from 0.5gpm (2000 cc/ min) up to 1gpm (4,000 cc/min), adjustable flow control & dual speed options
- As the solenoids only draw 12watts, pump can be driven directly from the autopilot course computer without a relay, reducing installation costs
- Inbuilt shut off valves mean the pump can be removed for servicing without draining the steering system

CRB PUMPSETS



- For steering cylinders up to 200cu in (3500cc)
- Available as a simple pump unit, a motor & reservoir combination to replace an engine driven pump or fitted with a direction solenoid valve
- DC models: 12v, 24v or 32v
- AC models: 1. or 220v single phase / 220, 460v or 575v three phase
- Wide flow range
- units available w/ max flow rates from 1gpm (4000 cc/min) up to 3.5gpm (13,000 cc/min), adjustable flow control, dual speed options
- Adjustable pressure relief valve (100 - 1200psi)
- Inbuilt pressure gauge
- Heavy-duty ball bearing electric motors
- Long life mechanical seal between motor and pump instead of a lip seal, which wears a groove in the shaft
- Large capacity reservoir for cool running in all climates

Jastram

Model B Steering Gear

Jastram B Model Actuators are double-acting equal displacement cylinders, which are directly connected to a tiller. When the B Model is actuated it moves the tiller, which in turn moves the rudder.

The actuator sizing is primarily dependent on the maximum rudder torque required. Once the required rudder torque is known the appropriate actuator size can be selected.

Calculating the rudder torque is complex. An incorrect calculation can result in failure of the steering system. Torque calculations should be confirmed by a naval architect or designer.



Jastram Model H Helm Pumps

This high quality, precision axial piston pump features proven designs and marine grade materials.

The H pumps are designed to operate in 'non-pressurized' hydraulic systems requiring only two lines from the helm pump to the cylinder. The Model H helm pumps include the following standard features:

- An external lockvalve to isolate with helm and prevent rudder feedback
- A pressure rating for the lockvalve of 1,875 PSI
- A powder coated, high strength cast aluminum housing which provides corrosion and abrasion resistance
- A flexible mounting pattern allowing any angle between the vertical and horizontal axis
- An internal capacity to act as a small vented oil reservoir

Recommended Wheel Sizes for the Model H helm pumps

MODEL	STEERING WHEEL SIZE	
	min diameter	max diameter
H20	14"	24"
H26, H36	20"	30"
H58	30"	36"
H60, H90, H110	36"	60"



Engineered For Life At Sea



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marine

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HYDRAULIC STEERING CYLINDERS

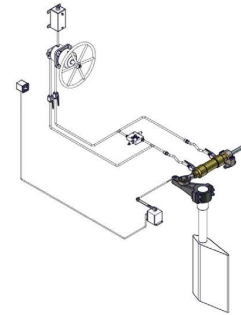


Jastram Model B Steering Gear

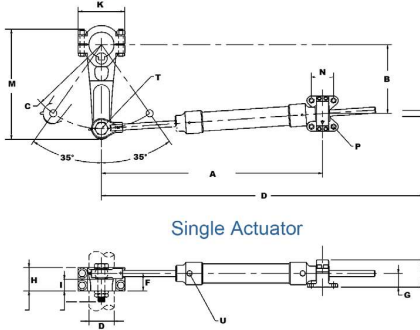
Jastram B Model Actuators are exceptionally durable and extremely reliable. They provide virtually maintenance-free performance. B Model Actuators are double-acting balanced displacement cylinders, which are directly connected to the tiller.

Model B Steering Gear Code
Example: B2 - 76 - 300 - 1 - 35

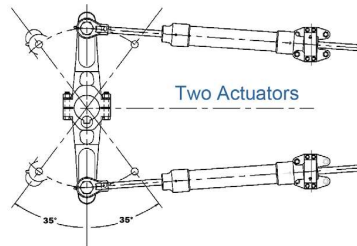
No. of Actuators _____ Rudder Angle _____
Cylinder Bore _____ No. of Rudders _____
Cylinder Stroke _____



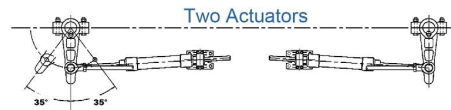
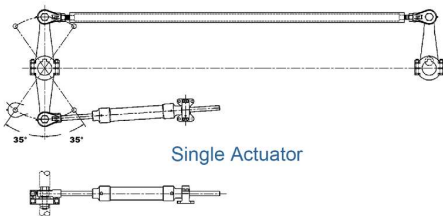
Steering Gear Arrangements



Single Rudder



Twin Rudder



Steering System Specification

The actuator sizing is primarily dependent on the maximum rudder torque required. Torque calculations should be confirmed by a naval architect or designer. For more information on actuator sizing please contact your local Jastram distributor.

STEERING SYSTEM SPECIFICATIONS (METRIC)																									
STEERING GEAR MODEL	RATED TORQUE 1 CYLINDER		RATED TORQUE 2 CYLINDERS		DISPLACEMENT (cm ³)	CYLINDER MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	T	U	
	Nm	LBF.FT.	Nm	LBF.FT.																					
Bx-38-120-x-37	530	391	1062	783	113	B-38-120	404	80	100	545	75	32	46	37	21	17	140	48	257	82	50	10	16		SAE-04
Bx-38-190-x-37	841	620	1680	1239	179	B-38-190	509	126	158	723	75	32	46	37	21	17	140	48	257	82	50	10	16		
Bx-50-190-x-37	1552	1145	3106	2291	331	B-50-190	541	126	158	746	86	55	47.5	76	37	25.4	148	79	360	90	62	13	22.2		SAE-06
Bx-50-300-x-37	2451	1808	4904	3617	523	B-50-300	699	199	249	1020	86	55	47.5	76	37	25.4	148	79	360	90	62	13	22.2		
Bx-76-190-x-37	3360	2478	6719	4956	716	B-76-190	644	126	158	878	126	75	72	76	37	38.1	148	79	360	115	95	16.3	31.8		
Bx-76-230-x-37	4069	3001	8139	6003	867	B-76-230	695	154	191	972	126	75	72	76	37	38.1	148	79	360	115	95	16.3	31.8		
Bx-76-300-x-37	5305	3913	10611	7826	1129	B-76-300	808	199	249	1160	126	75	72	76	37	38.1	148	79	360	115	95	16.3	31.8		SAE-08
Bx-76-300-x-37*	5305	3913	10611	7826	1129	B-76-300	808	199	249	1160	126	75	72	102	49	38.1	198	105	475	115	95	16.3	31.8		
Bx-76-400-x-37	7187	5301	14373	10601	1531	B-76-400	961	270	338	1416	126	75	72	102	49	38.1	198	105	475	115	95	16.3	31.8		

TORQUE RATING IS DETERMINED AT 1000 PSI (69 BAR) AND 35°, MAXIMUM R-ANGLE 37°
*ACHIEVABLE UP TO A RUDDER STOCK DIAMETER OF 4-1.6" (105mm)

- Items to note on small steering systems:
- Double Acting Relief and Bypass (DARBs) valves are suggested to protect the steering gear
 - Header tanks or autofill valves are suggested to prevent the introduction of air or the loss of steering due to low oil levels
 - A system pressure of around 500 PSI (35 BAR) is suggested for manual steering systems
 - Shut off valves are suggested at each component in the hydraulic circuit
 - Tube or pipe sizing is based on the helm pump information, see Jastram H Model Helm Pump Cutsheet for details

- Jastram Actuators require the following items for installation:
- Tiller bolts
 - Hoses
- Jastram Actuators are serviceable. Standard seal kits are available and should be changed regularly:
- JA-950002-1, B-38 seal kit
 - JA-950003-1, B-50 seal kit
 - JA-950004-1, B-76 seal kit

Recommended Tubing Size

HELM PUMP MODEL	DISPLACEMENT (in ³)	Distance between Helm and Cylinder			Min. Wall Thickness	
		50FT	65FT	95FT	Tube Dia.	Wall
H20/H26/H36	2.0/2.6/3.6	1/2"	5/8"	5/8"	1/2"	0.035"
H58	5.8	5/8"	5/8"	3/4"	5/8"	0.049"
H60/H90	6.0/9.0	5/8"	5/8"	3/4"	3/4"	0.049"
H110	11.0	3/4"	3/4"	1"	1"	0.065"

- Seamless hydraulic steel, or copper tubing (minimum working pressure of 1000 PSI (69 BAR) is recommended. The following table can be used as a guideline for sizing tubing.
- Nominal tube outside diameter and wall thickness based on SAE standards
- DO NOT USE PLASTIC TUBING.

Engineered For Life At Sea





High Performance Yacht Equipment

Steelhead Marine’s elegantly designed, high-tech cranes are renowned across the yachting industry, but their ambitions stretch even higher. Through persistence, innovation, and hard work they are aiming to become the leader in advancing hydraulic solutions for the yachting world.

With strong leadership and a dynamic workforce, Steelhead is working to take their innovative products to the next level of sophistication. A diligent sales, engineering, design and build process combined with a close working relationship with their clients ensures Steelhead products will be at the forefront of innovation in the global yacht market.

Benefits of Steelhead Marine

Engineered for Performance

- Greater lift capacity with less crane weight
- Superior engineering and advanced materials
- Durability, strength and reliability
- Compact and attractive design that puts less space and weight demands on your yacht
- Easy to use

Yacht Cranes



Compact design uses less deck space



Whisper quiet linear winches use composite rope which is quieter and stronger than steel cable



Cranes are proof tested to 110% of capacity



Easy to use proportional controls on all cranes above 1500 lbs (680 kg)

Steelhead Marine’s High Performance Yacht Crane Line

Series	Hydraulic Functions	Options	Model	Capacity		Reach		Hoist		Retracted Length		Weight		Ideally suited for vessels	
				lbs	kg	ft	m	ft	m	ft	m	lbs	kg	ft	m
Whisper Davits	Hoisting	Power Luffing Pedestal Base 12 or 24V DC power	WD800	800	363	8	2.4	17	5.2	NA	NA	215	98	< 50	< 15
			WD1000	1000	454	8	2.4	17	5.2	NA	NA	235	107	< 50	< 15
E Series	Hoisting Luffing	Rotation Extension Pedestal Base	E1000	1000	454	10	3.0	16	4.9	6	1.8	384	174	<55	<17
ES Series	Hoisting Luffing Rotation Extension	Radio Controlled Pedestal Base	ES1000	1000	454	10	3.0	16	4.9	6	1.8	384	174	< 55	< 17
			ES1500	1500	680	12	3.7	20	6.1	7	2.1	602	273	55 - 70	17 - 21
			ES1750	1750	794	12	3.6	20	6	7	2.1	630	285	> 70	> 21.3
SM Series - Mid Size 360 Rotation	Hoisting Luffing Rotation	Radio Controlled Reach 10.5 or 12' (3.2 or 3.7 m) Pedestal Base Standpipe Mount	SM1500	1500	680	9	2.7	20	6.1	6.5	2.0	380	172	55 - 75	17 - 23
			SM2000	2000	907	9	2.7	20	6.1	6.5	2.0	394	179	55 - 75	17 - 23

Steelhead manufactures the LDC Crane series with five function hydraulics, live telescoping boom extension and second luffing function. For more information on any of our crane models including our custom Beam Crane series please contact our sales department.



SWIMMING TERRACE LIFTING PLATFORM

THE SIMPLEST SYSTEM TO STORE YOUR DINGHY



Lagoon Seventy 7 - Nicolas Claris

« The largest platform to enjoy the sea proximity... »

ZAC du pôle nautique 66140 Canet-en-Roussillon Phone: +33 (0)4 68 73 59 12
Email: tenderlift@tenderlift.net Web: <http://www.tenderlift.net>



MADE IN ITALY



The Artic Series is one of the most versatile in the Planus range, offering five different sizes to suit any installation. The toilet is available in 12-24 VDC or 230 VAC. State of the art touch control panels come in many options and all toilets are available with an integrated bidet.

Main Technical Advantage of the Planus Marine Toilets



Thanks to a patent solution, PLANUS toilets are the only ones able to run in completely absence of cavitation. This fact eliminates noise and vibrations, and increase significantly the performances



PLANUS supplies its electro valve with Integrated Water Hammer Arrestor. This device is really effective in avoiding noise and vibrations spreading along the inlet pipeline



PLANUS makes its ceramic bowl with dripping water system. This system, absolutely reliable and silent, does not require any ugly and noisy plastic nozzle inside the bowl.



PLANUS One Way valve has a STAINLESS STEEL AISI 316 shutter. It ensures a perfectly level, hard-wearing surface that keeps the valve tight.



Family friendly control panels come in a range of colours
Flush Switch with a homely design and intuitive operation suitable for any user.
Stylish and intuitive touch screen controls are also available

PLANUS ARTIC



World's quietest marine toilets

ARTIC (check www.planus.eu to view other models)

- Quiet powerful vortex pump
- 9.0 meter head lift
- 80 meter horizontal
- Includes air aspirator removal of odours
- Bidet option controlled by side mounted mixer

Average water consumption	1.5 litres per flush
Seat	Thermosetting with stainless steel hinges
Available voltages	12VDC, 24VDC, 230VAC

PLANUS – RELAX-R



IN COLLABORATION WITH



RELAX-R

Geberit's absolutely luxurious 6 star toilet and bidet with heated seat, warm water douche, warm air dry, all the home comforts. Modified by PLANUS with pump suitable for marine installations.

TECHNICAL DATA RS 140 UNDERWAY STABILIZER

Electrical requirements

Power supply:	230 VAC / 50 Hz
Max. Power consumption (per unit*):	1500 W
Average power consumption (per unit):	1000 W
Peak consumption (+/- 0,5 sec):	12,5 Amp
Protection:	C 16 / 0,03 A (one unit) C 25 / 0,1 A (two units)
Inverter recommendation:	Victron Phoenix 1600 Va (one unit) Victron Phoenix 3000 Va (two units)

Mechanical requirements

Reinforcement:	Structure reinforcement to withstand at least 9000 Nm dynamic loads
	Steel & Aluminium hull: box shaped Reinforcement
	GRP & Wooden hull: (wooden) Reinforcement laminated to hull & frame. Trough hull bushing installed with stainless steel 316 doubler plates an hollex filler (or equivalent)

Placement

Stabilizer units:	From amidships to 1,5 metr (5 ft) before aft, as far outside as possible.
Control box:	Close to stabilizer units, horizontal or vertical placement possible.
Display:	Near main helm / ships controls

* One unit : 1 rotor stabilizer positioned at SB or PS

Construction

Welding Bushing:	Steel with stainless steel 316 insert Stainless steel AlMg 4,5 Mn (Aluminium)
Elbow:	Nodular cast iron (epoxy coated)
Shaft:	Hardened stainless 17/4 PH
Rotor:	Carboc / epoxy with stainless steel insert 1000 1250 mm long, Ø 140 mm
Bearings:	Shaft: maintenance free roller bearings Bushing: sleeve bearing
Seals:	Multiple seals / O-rings
Gears:	Hardened steel
Gear housing & inside structure:	Machined aluminium
Swivel motor:	400 W industrial grade 3 phase motor
Rotation motor:	1900 W industrial grade servo drive
Drive belt:	Multi V-belt (automotive grade)
Safety:	Break away bolts in case of heavy impact swivel mechanism Multiple seals shaft / bushing / inside structure Manual retraction mechanism



ROTORSWING
YACHT STABILITY CONTROL

Industriestraat 7c | 6361 HD Nuth | +31 (0) 6 25442572
info@rotorswing.com | www.rotorswing.com



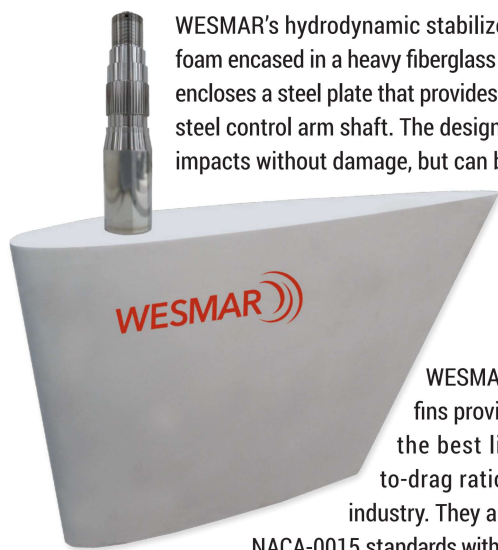
WESMAR DSP5000 STABILIZER

CONTINUOUS FEEDBACK
 DIGITAL CONTROL



- ⦿ Smooth quiet ride with minimal noise
- ⦿ Easy-to-Use settings menu
- ⦿ Convenient USB diagnostic port for system troubleshooting
- ⦿ Complete digital control provides rapid response of hydraulics and highly accurate fin position
- ⦿ Advanced electronic gyro has built-in accelerometer providing extensive roll and heave control
- ⦿ Water resistant LCD Display viewable in direct sunlight
- ⦿ NEMA 2000 interface and CANBUS compatible

WESMAR stabilizers provide quiet, precise stabilization in all sea states and at all speeds. Its Wave-Smart® Continuous Feedback Digital Controller, proprietary technology developed by WESMAR, has changed the way comfort is measured underway and at anchor. The electronic gyro senses the horizon and provides excellent stabilization while your vessel is pushed downhill in quartering seas. Available fin sizes range from 2.5 to 34 square feet to accommodate smaller to large size work or pleasure vessels.



WESMAR's hydrodynamic stabilizer fins are made with a high density closed-cell foam encased in a heavy fiberglass shell. This neutrally buoyant durable structure encloses a steel plate that provides high strength to the fin and its 17-4 PH stainless steel control arm shaft. The design makes it 'sacrificial' in that it will absorb slight impacts without damage, but can break away if necessary to help protect your hull.

WESMAR fins provide the best lift-to-drag ratio in the industry. They are built to NACA-0015 standards with excellent corrosion and foul resistant characteristics. They are also compatible with a wide variety of hull materials, and because they are neutrally buoyant do not add to the weight of your vessel.





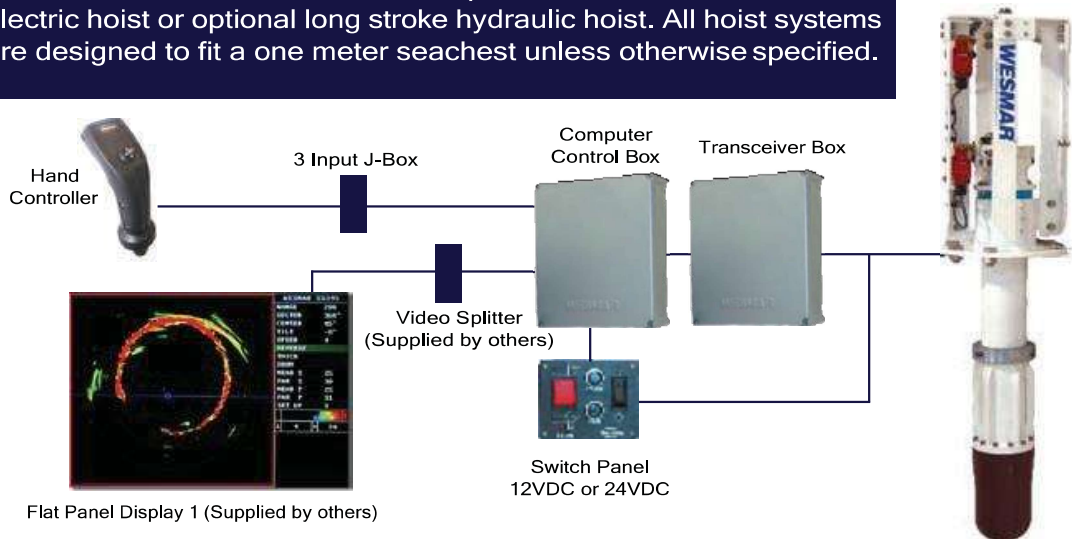
SEARCHLIGHT SONAR SPORT

This low cost simple sonar is perfect for the avid sports fisherman or medium to large size yachts. Used for avoiding obstacles that could potentially damage your boat. Also finding that perfect trophy fish that all your friends will admire.

The SS395 Sonar is the combination of navigational sonar and fish detection technology used for specialized commercial fishing, game fishing, and navigation in ports around the world.

The SS395 is available in three frequencies, each with a standard electric hoist or optional long stroke hydraulic hoist. All hoist systems are designed to fit a one meter seachest unless otherwise specified.

Hydraulic Hoist & Soundome Assembly



Auxiliary Propulsion Systems

System Features

- Provides continuous propulsion in the event of a main engine failure.
- Low shift RPM for trolling, maneuvering, and sight-seeing.
- Quiet operation for late night and early morning departures resulting in minimal disturbances to guests and neighbours.
- Quiet trolling speeds for fishing.
- The APU can be a dedicated hydraulic unit, and also fits perfectly with WESMAR's other hydraulically driven products, which are uniquely designed to improve comfort and control for boaters around the world.
- Operates with a helm-mounted safety key lock



V2-7M DC Pro Thruster

Bow & Stern Thrusters

- 28 Models, hydraulic and electric dual prop counter rotating and single prop systems for commercial applications, from 5 to 40HP up to 975 Lbs of Thrust
- Tested for power, prop size and pitch, clearance and configuration in WESMAR's one-of-a-kind world-class testing lab.
- Designed and built of top quality materials to withstand rugged ocean conditions.
- Tested by skilled technical specialists using advanced computerized and automated equipment.



EDSON YACHT STEERING



The Classic Series

- Classic Yacht Design increases Usable Cockpit Space.
- Convenient Thru-Shaft Wheel Brake
- Available in Chain & Wire or Geared Rack and Pinion.
- For sailboats 10 meters and up
- Durable Glossy White Baked-on Urethane finish
- Stainless Wheel Shafts, Needle Bearing and Sprockets
- Three Guard Styles available
- Large selection of Edson accessories such as pedestal guards, instrument housings, drink holders and tables
- All Non-Magnetic Construction.
- Hex head recesses in base hold Edson's Aluminium bolts for easy one-person installation.
- Pedestal top pre-drilled for compass and pedestal guard top plates



The Vision Series

- Three styles to choose from.
- Allows Mounting of Engine Controls, Instrumentation and many Electronics Right in the Console.
- Fibreglass Console Head with Extruded Aluminium Column.
- Available in CD-i Geared or Chain & Wire.
- Convenient Thru-Shaft Wheel Brake
- Removable Head with Waterproof Gasket for Easy Service.
- Durable White Urethane Coating on Aluminium Column.
- Integral 20" Guard Pipe.
- Optional Compass Bowl available.
- Single-Lever Engine Control included.



The new Vision II Pedestal* (10.5" x 8.5" base) Optional Compass & Bowl shown

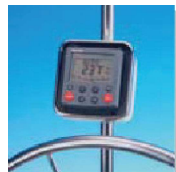
www.edsonmarine.com

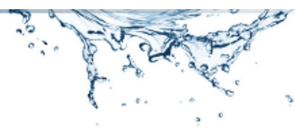
INSTRUMENT HOUSING

The Vision Series™

Edson's new Vision Series™ Instrument Housings look great, are strong and durable and will keep your sailing and engine instruments, autopilot controls, radar and chart displays and other important instruments within easy reach and viewing distance of the helmsman.

- Easily mounts to Pedestal Guards or Consoles.
- Angled For Easy Viewing
- Stainless Trim Ring for Protection
- White High-Gloss Thermoformed ABS Housing
- Instruments mount to removable faceplate for easy service.
- UV resistant - won't fade or crack.
- Mounts to 1", 1-1/8" or 1-1/4" Pedestal Guards
- Weatherproof
- Fits Straight, Angled and Offset Guards.
- Conceals and protects instrument wiring.
- Multiple mounting options for maximum versatility.
- Bevelled housing design allows for additional room for plug and wiring.





3-blade Flexofold Classic



For saildrive:

Diameter: 14-20"
 Pitch: 4-7 different per diameter
 100% fit with all saildrives



For shaft:

Diameter: 14-26"
 Pitch: 4-7 different per diameter
 100% fit on ISO/IMP/SAE



4-blade Flexofold Classic

For saildrive:

Diameter: 15-20"
 Pitch: 4-7 different per diameter
 100% fit on all common saildrives



For shaft:

Diameter: 15-27"
 Pitch: 4-7 different per diameter
 100% fit on ISO/IMP/SAE



MAX PROP

AUTOMATIC FEATHERING PROPELLERS

Max-Prop is the leading low drag propeller on the market today. Since starting production in the 1970's Max-Prop has proven itself on racing and cruising boats around the world. With over 50,000 propellers in the water, the Max-Prop is tested daily in the harshest conditions and has established itself as the most efficient and reliable low drag propeller. The combination of low drag, outstanding reverse power, efficient forward performance and fail safe design makes Max-Prop the ideal Sailboat propeller.

Available in 'CLASSIC' 2 & 3 blade, 'EASY' 3 & 4 blade and 'WHISPER' 5 blade

LOW DRAG

Under sail the MAX PROP will increase sailing speed by about 15%, the largest difference being noticed when sailing in light air. When sailing with a fixed propeller the vessel has to overcome the fixed blade drag, installing a MAX PROP maximizes sailing performance.



RELIABILITY

MAX PROP uses a "differential" type design so all blades open in unison in forward or reverse. The extraordinary reliability of MAX PROP has made it an overwhelming choice for long range cruisers.



GREAT REVERSE

The MAX PROP provides 80% greater reverse power than a comparable fixed blade propeller. In reverse the blades rotate 180° in ¼ turn of shaft giving the MAX PROP the same efficiency in reverse as in forward.



ADJUSTABILITY

The pitch is adjustable on all Max Props. This allows you to optimize the propeller pitch to the engine to achieve maximum efficiency.

