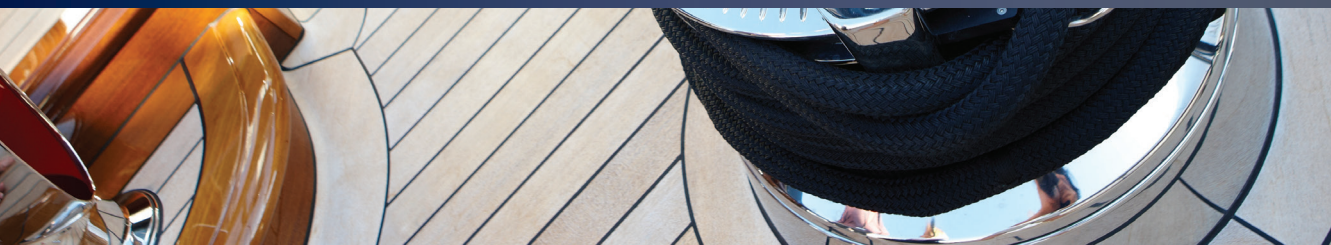


LEWMAR®

New Product Brochure 2016-2017



70 years at Lewmar



Lewmar is celebrating its 70th year

When Len Lewery started making Tufnol dinghy fittings back in 1946, not even his inventive mind could have foreseen that his small business would develop to become one of the leading marine equipment manufacturers in the world.

John Burton acquired Lewmar and embarked on a 20-year career, turning the company into a world leader in modern yacht equipment. Lewmar attacked the high-technology world of America's Cup racing, supplying the first AC winch package to Korura V in c.1966/68.

Through a series of acquisitions and mergers in the latter decades of the twentieth century, the Lewmar Range evolved to include rigging, windlass, steering, hatch and portlight. Innovations included the Wavegrip Jaw, which won the battle for the self-tailing winch market. Lewmar's distribution extended around the globe, and the expertise and success of the company won recognition with the attainment of three Queen's Awards.

Today Lewmar has transformed beyond recognition from the small company established by Len Lewery and Leslie Marsh in 1950. Yet the spirit of innovation and engineering excellence has remained constant. Today, Lewmar is the premier marine equipment supplier, designing, manufacturing, and distributing innovative, high-quality control solutions worldwide.

Manufacturing is located at two sites in the United Kingdom with sales offices in Europe and USA and a worldwide network of agents and distributors. Recent investments in sophisticated, state-of-the-art manufacturing equipment over the last few years has been undertaken to enable Lewmar to offer consistently the highest levels of quality in the industry.



Lewmar Glass & Glazing Division



With 70 years of marine industry experience, Lewmar is recognised World Wide as the leading supplier of hatches and portlights.

Since 2014 Lewmar has invested heavily in the machinery and talent required to launch an entirely new range of glass & glazing products. From flat to curved, monolithic to laminated, fixed to opening and clear to full-colour frit printed; Lewmar can offer the full range of glass products customised to suit power and sail projects of any scale.

- Deck glazing
- Hull Glazing
- Laminate glass
- Curved Glass
- Portlights In Glass
- Glass Openings
- Roof Glazing Solution
- Opening Windows
- Powered Windows
- Patio Door Systems
- Interior Glass
- Commercial Glass



Flat & Curved Glass



Flat Glass

Available in a full range of options. Monolithic or laminated, 4mm to 19mm, clear or European grey. Frit printed on our state of the art 6000dpi printer with black or full colour options. Working alongside the boat builder or designer we can help optimise your glass to suit ISO12216 or Classification Society regulations as required.

Laminated Glass

Lewmar's state of the art laminating oven set up has been optimised to maximise the performance of Bridgestone's EVA safe interlayer. Unlike some other interlayers EVA safe offers a high level of moisture resistance; it also has class leading shear strength. Flat and curved laminated glass is available with end to end processing in house.



Curved Glass

With an increasing market demand for curved glass Lewmar have developed a full range of options for front screens and in hull applications. With press bent, roller or chemically toughened curved glass available we can tailor the glass to suit your specific requirements. Screens can be supplied to RINA / Lloyds / DNV certification as required.



Pressed curved glass

- Max size 2.2m x 2.4m
- Thickness 6mm - 19mm
- Double curved

Roller curved screens

- 3m x 2m max size
- Thickness 4mm to 15mm
- Single curved
- No tooling cost

Laminated screens

- Max dimensions 3m x 2m
- Laminated
- Thickness 4mm to 15mm
- Double curved

Portlights In Glass



Glass in Glass Portlight

Lewmar's new Glass in Glass portlight offers an integrated, flush portlight solution that seamlessly integrates into the vessel's glazing. The port is supplied pre-bonded into a bespoke glass panel tailored to suit the boat hence saving on installation time. With its low profile black anodised or stainless steel frame it offers a minimal interior profile to compliment its flush exterior.

- Sizes: 200, 250 & 300mm diameter as standard
- Custom sizes on request
- Offers a neat ventilation solution
- CE Approved Area 2 and 3
(Dependent on size)



Portlight in Glass Assembly

Lewmar's market leading flush portlight in glass offers an integrated, flush solution. The acrylic port is supplied pre-bonded into a bespoke glass panel that is tailored to suit the boat hence saving on installation time. Frame material is acrylic for Area 2 & 3, black anodised aluminium for Area 1.

- Sizes: 112, 200, 250 & 300mm diameter as standard
- Custom sizes on request
- Offers a neat ventilation solution
- CE Approved Area 1, 2 & 3

Portlight opening examples

Round	Rectangular
• 112mm dia	• 300 x 115mm
• 200mm dia	• 300 x 75mm
• 250mm dia	• 350 x 120mm
• 300mm dia	• 300 x 50mm



Roof Glazing Solutions



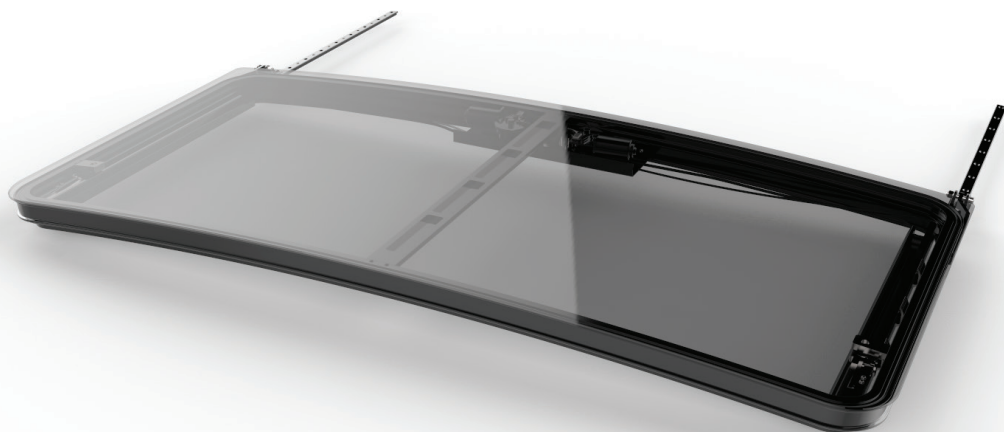
Roof Glazing

Lewmar have launched a new range of opening glass sunroofs designed to be fitted on the wheelhouse or cockpit canopy of any vessel: sail or power.

This new sunroof platform can be custom curved to match the profile of the vessel. Bespoke sizes to suit an OEMs specific requirements ensures maximum ventilation potential from each installation. The glass is fully processed and digitally frit printed in-house.

A multi-position slider system assembled with parts from the renowned Lewmar hardware range guarantees smooth action with minimal friction.

- Standard or Custom sizes
- 12 or 24v Powered options
- Max Size 3x1.5m



Opening Windows



Opening Windows

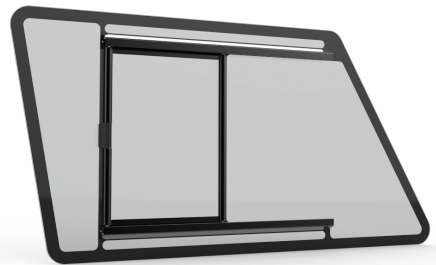
Lewmar can offer the full range of opening window solutions to suit your project's layout and specification. Whether "Pop & Slide" for a completely flush exterior look or a more traditional sliding solution we can provide an integrated opening window assembly ready to bond directly into the vessel.

- Easy installation
- CE Approved Area 3
- Electric operation (12 or 24V)

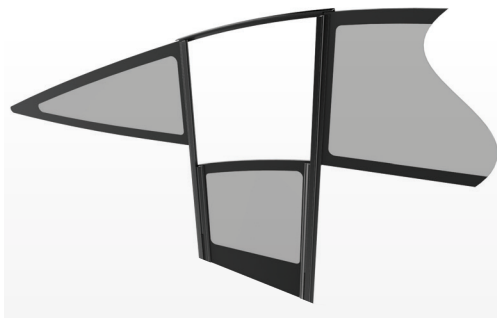
Manual Slide



Flush Manual Pop & Slide



Powered Drop



Flush Powered Pop & Slide



Patio Door Systems



Patio door

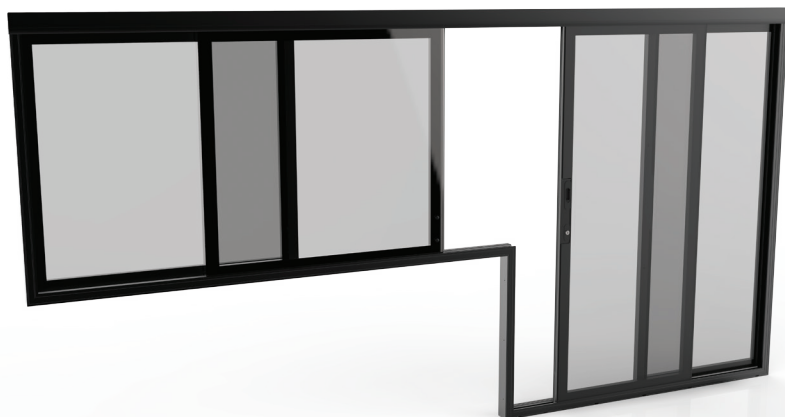
Lewmar's new range of sliding, bi-folding and hinged patio door designs provide a seamless boundary between interior and exterior space. With modern trends for open plan living, the patio door systems on board have become a vital feature in how the yacht can be used. Key market demands include creating an inside / outside entertaining space during the day and a secure vessel during the night.

All Lewmar Patio doors include the following key features:

- Flush bonded exterior glass for sleek aesthetics
- Ceramic border frit printing to custom designs or to enable optional bespoke branding
- Modular door designs for ultimate flexibility
- Range of finishes - polished 316 stainless steel, silver anodising or black powder coating
- Flexible range of furniture available to client specification
- Custom designs and sizes available

Lewmar patio door portfolio includes

1. Stainless steel semi-custom range
2. Simple OEM aluminium platform
3. Structural aluminium catamaran door system



Lewmar Glass & Glazing Division



Companion Way Doors

Lewmar's new companion-way door platform utilises proven recirculating ball car technology from our hardware range. A custom sized curved panel is designed to suit the specific installation in either glass or acrylic.

- Re-circulating cars for smooth operation
- Glass or acrylic panel
- Framed or unframed
- Alloy or stainless frame

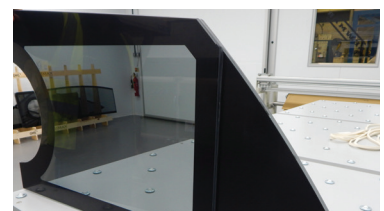
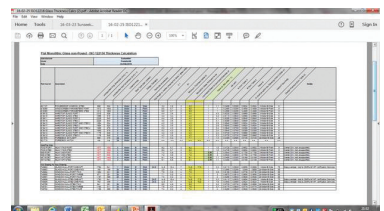


Product Development, Regulatory Compliance and Testing

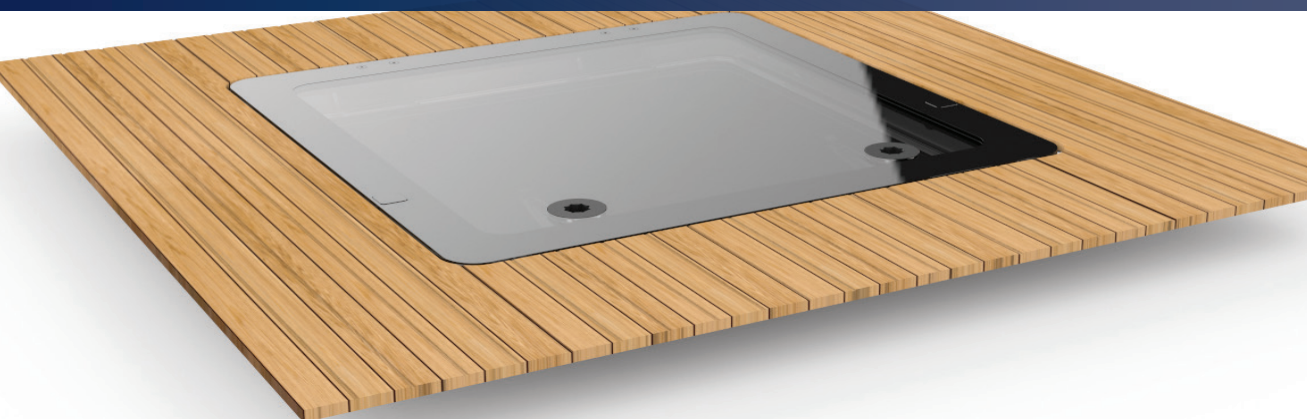
With today's trend towards more and more glazing on vessels from the smallest cruiser to the largest superyacht, optimising the glass package to suit the relevant regulations is more important than ever. At Lewmar we can work with the OEM or designer from initial concept stage to identify the correct specification of glass for your project.

Our technical team will produce a detailed analysis highlighting any areas where weight savings can be made.

Working to ISO:12216 or Classification Society regulations as appropriate, our in-house test facilities enable us to rapidly progress from concept stage, through test and to approval on new product platforms and specifications.



Flush Composite Hatch

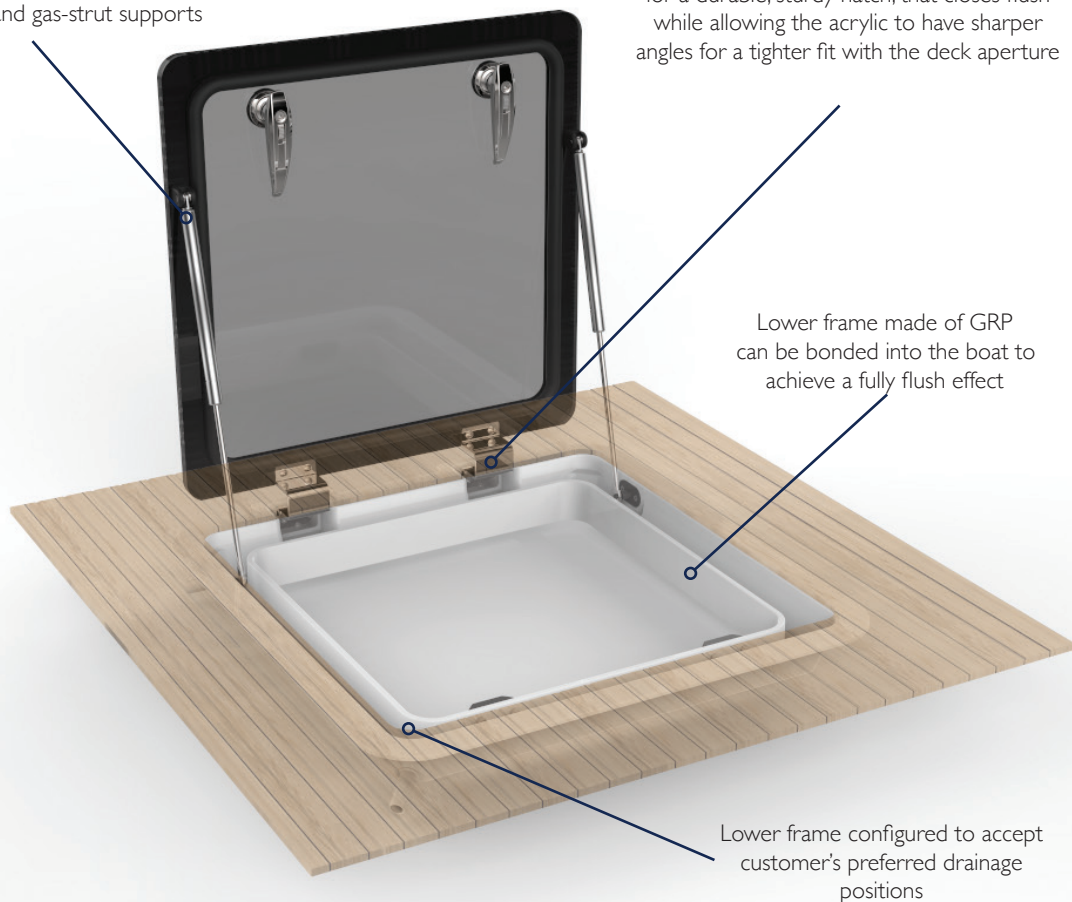


Flush Composite Hatch

Lewmar's premium flush composite hatch offers a flexible solution with sizing to match the customer's requirements, providing the ultimate flush finish from the outside and sleek smooth finish from the inside. The bonded lower frame is available in a variety of materials including GRP and carbon composites.

Fitted with stainless steel handles and gas-strut supports

Concealed heavy duty stainless steel hinges for a durable, sturdy hatch, that closes flush while allowing the acrylic to have sharper angles for a tighter fit with the deck aperture





New Lewmar Blind systems

Designed for the perfect fit to our existing range of hatches, the new modular blind system complements today's stylish interiors.

The new hatch blind is fitted with a blackout solar shade and additional flyscreen mesh as standard.

All components have been specially selected for their suitability in withstanding the harsh marine environment. The chosen polymers and fabrics are easily cleaned and offer excellent resistance to damp conditions. Once installed, the hatch blind can be easily maintained and adjusted via the clip together mouldings. Accessing the fabric rollers is simplified, using cassette-type loading and unloading, making a décor colour change simple and fast.

Frame design

- Simple 4 fastener fixings
- Modular jointing system
- Compatible with all Lewmar hatches
- Standard and custom sizes available

Fabrics

- Moisture and mould resistant fabrics
- Blackout solar shade
- Proven Lewmar flyscreen fabric
- Simple roller system for easy use
- Brush strip edging to stop bug ingress



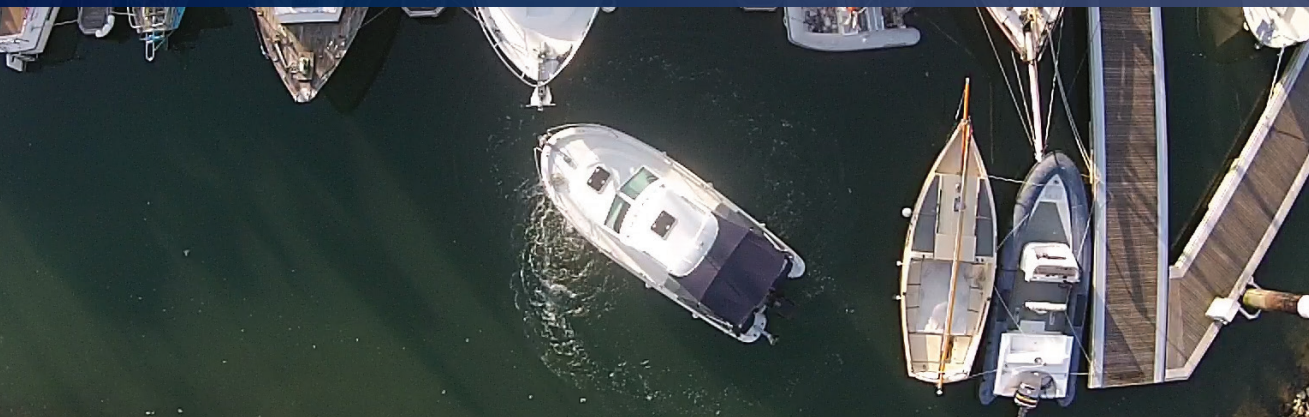
Magnetic connectors

- Tie bar magnets retain slider in open or closed positions
- Blackout / flyscreen can be adjusted to suit shade / ventilation requirement
- Magnetic stowing system for easy operation

Internal trims

- Clip in Internal trim available
- Hides deck to interior trim joints
- Two standard depths of trim available
- Easy to trim to desired height

Lewmar Retractable Thrusters



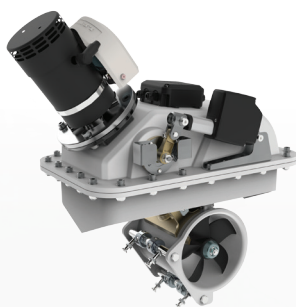
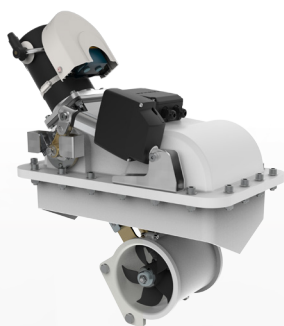
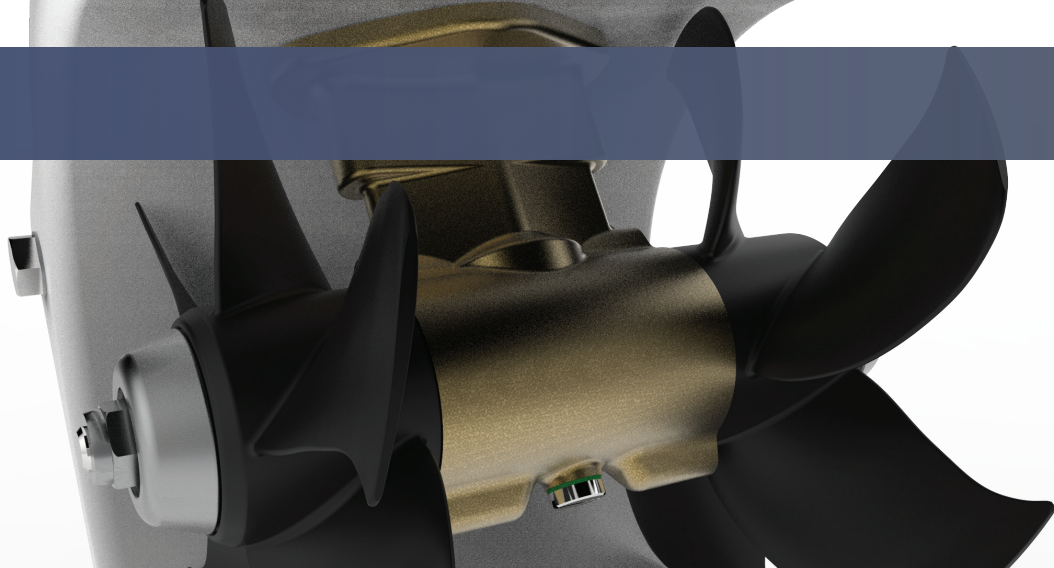
New Lewmar Retractable Thruster Range

Lewmar is launching a new range of retractable thrusters developed from top to bottom with a fresh approach. Particular care and attention to the detail of the installation process was taken into consideration whilst retaining the tried and tested components from the Lewmar TT thruster range. Lewmar thrusters achieve even thrust in both directions for maximum control and manoeuvrability. All Lewmar thrusters have been extensively tested, resulting in a smooth, efficient and quiet operation.

- The unique 'low pivot' mechanism minimises internal space requirements yet permits maximum tunnel immersion
- Flange mounting as standard for easy installation. The universal flange can be adjusted to any given hull shape and the captive nut allows effortless fastening from the top of the unit only.
- Robust GRP construction
- 140, 185 and 250mm tunnel diameters available
- Auto-retract function 5 minutes after use
- Dual propellers (250) increase thrust power



MODEL	59111001	59112001	59112002	5911003	59112004	59112005	59112006	59112007	59112008	59112008	59113001	59113002	59113003
Tunnel Size	140	185	185	185	185	185	185	185	185	185	250	250	250
Motor KW	2.2	3.0	3.0	4.0	4.0	5.0	5.0	6.0	6.0	7.0	8.0	9.6	15.0
Voltage V	12	12	24	12	24	12	24	12	24	HYD	24	48	HYD



140 Retractable Thruster

- 2.2kw Motor
- 12 or 24v options available
- Electric or Hydraulic

185 Retractable Thruster

- 3.0kw - 7.0kw Motor sizes
- 12 or 24v options available
- Electric or Hydraulic

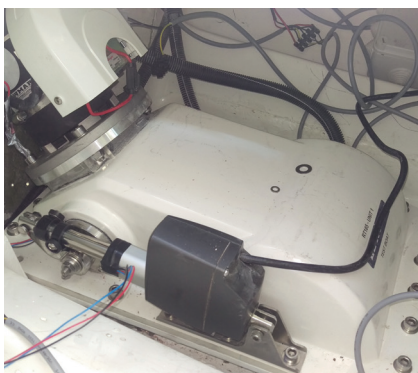
250 Retractable Thruster

- 8.0kw - 15.0kw Motor sizes
- Electric or Hydraulic
- Dual Hub

Testing

For the retractable thruster range, we had to put them through a vigorous testing procedure ensuring all components were reliable and outperformed our competitors. Testing consisted of 1000 operations of the Retractable Thruster to represent 10 years of heavy use over a period of two weeks. This was conducted on our test boat as well as an outside unit in a thruster tank within our test facility at the Lewmar factory.

Action	Operation	Duration (s)
1	Deploy	7
2	Thrust Port	30
3	Break	10
4	Thrust STBD	30
5	Break	10
6	Thrust Port	5
7	Break	2
8	Thrust STBD	5
9	Break	2
10	Thrust Port	5
11	Break	2
12	Thrust STBD	5
13	Retract	7
14	Break (Motor Protection)	120
Total Cycle Time		4 Minutes



Hybrid Gypsy



Hybrid Polymer Gypsy

Lewmar has developed a Patent Pending hybrid gypsy, which uses a metal anchor warp core together with a polymer chain wheel. This combination offers a light-weight and quiet solution that ensures a smooth operation, while still offering the long-life durability of a traditional metal gypsy. The polymer chain wheel allows the anchor rode chain to bed-in, creating a jump free quieter operation, while the metal anchor warp core grips the warping during deployment and retrieval of the anchor rode such as with conventional gypsies.

The Lewmar Patent Pending hybrid gypsy, offers a 15% reduction in weight, is 5% stronger and offers an endurance life comparable to all metal gypsies. The Hybrid Gypsies greatest attribute is the sound! Quieter than any other comparable gypsy on the market, making it our quietest anchoring solution to date.

4 sizes are available in 6/7mm 1/4 inch, 8mm, 10mm DIN and 10mm ISO.

Brass - Nickel Plated Core

Brass - Nickel Plated Core wrap core which is to this day used on all existing gypsies from Lewmar.

Hybrid Polymer Composite

Our engineering team are continually exploring, evaluating and testing new materials to ensure we offer cutting edge products that are lighter, stronger and optimised for best performance. The latest offering is the Hybrid Polymer Composite gypsy.

Chain Counter Magnet

Every patent pending hybrid gypsy is factory fitted with a chain counter magnet, and is available with manual recovery.



Testing

Our endurance life test of the new patent pending hybrid gypsy and existing gypsy consisted of 6000 operations/300KM at varying load to represent five years of use over a test period of three weeks. One hybrid and one traditional gypsy have acted against each other at varying loads and line speeds, using a loop of 8mm chain. Using the test tank, the equipment was subjected to varying weather conditions.

VX Windlass



VX Windlass

Lewmar undertook an aggressive development program to renew its market leading vertical windlass range. Our engineering team is continually exploring, evaluating and testing new materials to ensure we offer cutting edge products that are lighter, stronger and more efficient, whilst offering better performance. Using a new product development team solely working on new ways to design, develop and manufacture, Lewmar has been able to offer new age technologies to refine our windlass design. This makes our VX range lighter, stronger & more efficient than any competitor on the market.

- Manual clutch release
- Drum option
- Stylish stainless steel and composite construction
- Silicone sealant free assembly
- Orientation flexibility
- Self-Certified to Ingress Protection level 67 to EN 60529



Model	Motor power	Voltage	Max pull		Working load limit		Max line speed		Normal current draw Amp	Circuit breaker Amp	Approx weight GO		Approx weight GD	
			kg	lb	kg	lb	m/min	ft/min			kg	lb	kg	lb
VX1	300W	400	882	100	220	25	82	66	50	12.5	12.5	28	13.5	30
VX1	500W	675	1488	169	373	25	82	126	70	12.5	12.5	28	13.5	30
VX2	700W	12V	850	1874	213	470	29	95	120	90	13.9	31	14.9	33
VX2	900W	24V	850	1874	213	470	29	95	60	50	13.9	31	14.9	33
VX2+	1000W	12V	1025	2260	257	567	39	128	131	110	16.1	35	17.1	38
VX2+	1000W	24V	1025	2260	257	567	39	128	74	90	16.1	35	17.1	38
VX3	1500W	12V	1175	2590	294	648	40	131	132	110	16.1	35	17.1	38
VX3	1500W	24V	1175	2590	294	648	40	131	70	90	16.1	35	17.1	38

Windlass performance values are tested using +/- 10% 12 voltage simulating the operation parameters of an installed battery system of a boat

VXIL Vertical Windlass



VXIL Vertical Windlass

VXIL offers the same design features as the rest of the VX range, but in a compact easy to install one piece unit. The VXIL model is fitted with an in-line motor and epicyclical gearbox which combines with a small, compact and efficient motor. The VXIL is a great addition to our vertical windlass range, without compromising performance and freeing up space below decks. The VXIL offers a maximum pull of 920kg, providing strong performance and robust design for boats up to 36ft.

- Manual clutch release
- Drum option
- Stylish stainless steel and composite construction
- Same footprint as V700 model
- 500W & 800W 12v motors available



Model	Max pull		Working load limit		Max line speed		Normal current draw	Circuit breaker	Approx. weight		Approx. weight	
	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	GO	lbs	GD	lb
500W	650	1433	160	352	20	60	75	70	8	18	8.5	19
800W	920	2028	230	507	21	63	105	90	8	18	8.5	19

Windlass performance values are tested using +/-10% 12 voltage simulating the operation parameters of an installed battery system of a boat

HXI Horizontal Windlass



HXI Horizontal Windlass

The HX range combines fresh external and internal design giving you a brand new strong and reliable horizontal windlass range, using the latest inline motors and epicyclical gearboxes. HX also features a strong and durable anodized aluminium chassis designed to withstand years of use. The covers are available in a choice of materials, polymer or anodized aluminium.

2 gypsy options to choose from 6/7mm 1/4" & 8mm 5/16"

The new HXI is available in gypsy only, gypsy drum, and free fall is available with the addition of a conversion kit to the HX gypsy only model.

- Motor range 500W & 800W in 12 V
- High efficiency epicyclical gearbox
- Sealed waterproof unit requires minimum maintenance; (IP67 Rated)
- Anodized aluminium chassis with a choice of polymer or anodized aluminium covers
- IP67 rated as standard
- Quiet operation
- 2 models available to suit calibrated chain
 - 6/7mm, 1/4"
 - 8mm



Model	Max pull		Working load limit		Max line speed		Normal current draw	Circuit breaker	Approx weight		Approx weight	
	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	GO	lbs	GD	lb
500W	700	1543	175	383	20	60	75	70	9	20	9.5	21
800W	1065	2348	266	586	21	63	105	90	9	20	9.5	21

+0.5kg for aluminium covers

Windlass performance values are tested using +/-10% 12 voltage simulating the operation parameters of an installed battery system of a boat

High Performance Winch Range



Evo - High Performance Electric Winch Range

With sailboat market trends focussed on making for easier sail handling and operation, there has been a significant increase in the quantity of electrical winches being used on board.

Modern trends to fit 2:1 main halyards, alongside taller performance masts require a significantly faster hoisting speed.

With many cruising boats now coming with a self tacking jib as standard, the use of code zero, asymetrics & cruising chutes for increased offwind performance has become widespread. These sails demand an increase in winch performance with the requirements for rapid hoisting & trimming.

The latest generation of Lewmar electric deck winches have been developed in three critical areas:

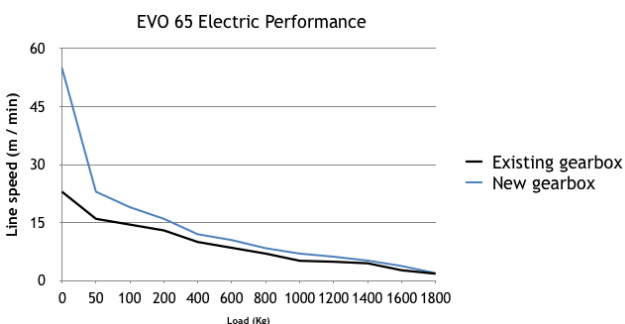
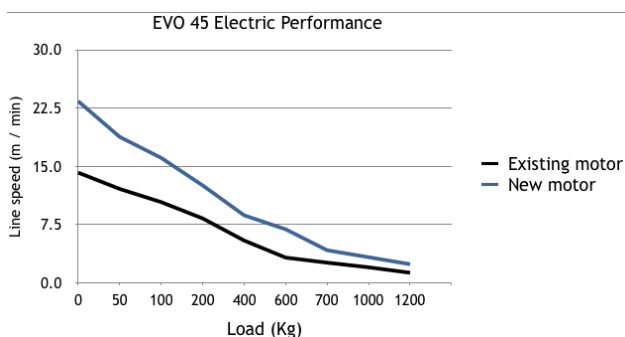
- **Increased line speed**
- **Increased pulling loads**
- **Optional twin button fast sheet and slow trimming controls**

40 - 65 Evo Electric Range

Using Lewmar's proven Evo deck unit, combined with a newly optimised motor gearbox package, Lewmar are able to achieve and increase of up to 43% increase in line speed combined with a 30% more powerful motor.

The winch range is available in range of finishes including aluminium and chrome designs, offering tool free servicing.

The new power train is fully compatible with the existing Evo electric range and is available as an optional upgrade from either manual winch or the conversion of an existing electric Evo.



Fast 40+ / Race Winches



Lewmar Pedestal Systems

Lewmar have designed and manufactured high performance pedestal systems for over 40 years. Our design engineers will develop a bespoke solution tailored to your exact requirement whether for inshore or offshore, fully crewed or short handed, Maxi or Fast 40+.



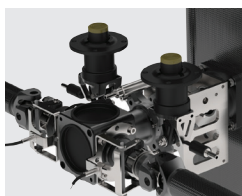
FAST40+ Race Winch

- Market leading performance using the proven 60/3 GPST primary
- Custom two stage drum finish developed with Diverse Yachts
- Optional Keronite coating
- Options for 2 or 3 speed; self tailing or cleat top
- GP or Race+ for runners, mainsheet & pit winches



2017 Grand Prix Pedestal

- Unique carbon I-Beam design complete with rapid access top cartridge
- Gear ratios can be optimised to suit grinder capability and/or courses to be sailed
- Material selection refined using FEA for ultimate combination of strength, durability and light weight
- Ergonomic large diameter handle grips
- Optional elliptical power drive sprocket



Our package includes a full choice of:

- Bevel boxes
- Clutches
- CV Joints
- Universal Joints
- Disconnect Foot Switches
- Drive Shafts
- Overdrive Box

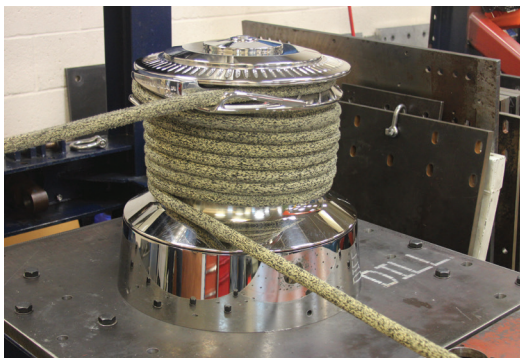
1150/1450 Backwind Winch



1150 Backwind Winch

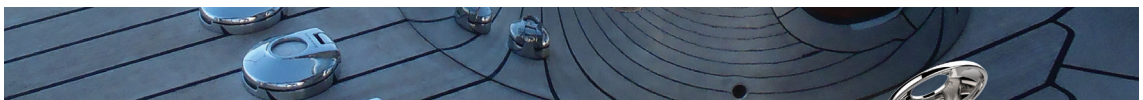
Lewmar was selected to supply the full custom winch and hardware package for the new J-class, "Topaz" the latest 140ft classic sailing yacht built by Holland Jachtbouw. Topaz has the first set of 1150 backwinding winches on the market, she uses to control the runners. The winches are designed with twin output gears, large diameter bearings and a fast 1:1 first gear, boasting over 200m/min of line speed. The winch is also available with a more powerful first gear ratio, for the applications where more load pull is needed at a slightly slower speed in 1st gear. This winch will trim at very high loads effortlessly.

- 11.5T Max pull
- 15T Max hold
- 3 forward speed gears, 1 reverse backwind speed
- Intended Line size: 16 - 24mm



1450 Backwind Winch

Since launching the 1150 last year, Lewmar have been working hard on a "big brother" of this design. The 1450 is capable of pulling 14.5tonne, this winch can trim at high loads with ease. With the loads increasing and the demand to trim sails at high loads, Lewmar feel this new 1450 winch is the best choice as a strong and reliable primary winch on superyachts of this size. The next stage is to bring a smaller backwinding winch into the range, with the size being similar to our existing 88 custom winch. This will be the 950 Backwind.



Custom Deck Switches

- Ideally suited for winch and windlass applications
- Sealed switch with strong rubber button cover
- Stainless main body
- Various finishes available (e.g. polished, blasted)
- New stylish design with strengthened lid hinge

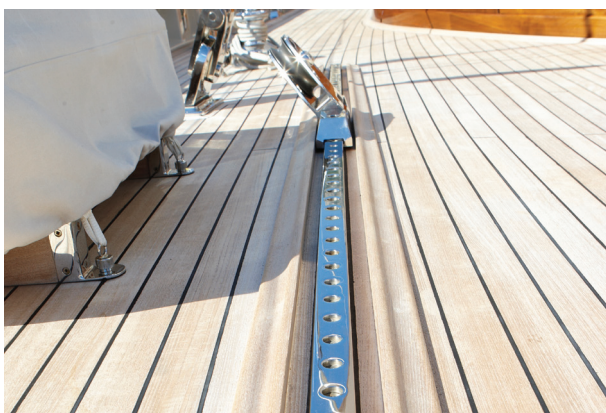


Custom Hardware



Blocks

Drawing upon the latest cutting-edge design and material advances, Lewmar custom blocks offer strength and Grand Prix performance combined with a sleek, on-trend, minimalist look. The structural loads typically found in the head of a block have been re-routed through the cheeks of the Lewmar blocks while any non-load bearing material is sculpted out. An evolution of the Lewmar Racing range, the head is constructed from minimal parts and with no requirement to support load, is super-light. Featured in many configurations, Lewmar blocks are more compact than an equivalent typical block. Available in aluminium, stainless steel, or titanium finish and in a range of sizes.



Track

Each yacht has individual requirements for sail control equipment, from application and loads, to the profile of the deck on which the equipment will be installed. Each Lewmar track is designed with these specific requirements in mind. Recent innovations include track that can be curved to bespoke specifications, including multi-directional compound curves. The high load double ball race (DBR) Profile offers a stronger, deeper section for use with high load cars, while T-track and DBR track now feature machined track ends for a lightweight, low-profile car retention solution.

On Deck Control Systems

Lewmar mainsheet and genoa systems are ideal for yachts from 21m (70ft) to 47m (140ft) in length. Each car is available with a choice of recirculating Torlon balls or the shorter, stronger Double Ball Race (DBR) configuration. Styled with snag-free soft edges, Lewmar cars are machined from solid to individual specifications. A full range of end stops are available, including high-load impact, plunger and control line models.



Overside Working System



Overside Working System

Lewmar's Overside Working System offers users a secure system allowing freedom of movement and the ability to lock into position whilst working on any project.

The system is constructed of lightweight, one-piece machined aluminium cars with Torlon® bearings for handling high loads and reducing friction. The cars run smoothly along an extruded track and can be securely locked in position with the integrated plunger mechanism.

CE standard certification exceeds EN 795

A superior, tougher test specification was developed to cater for the Lewmar Overside WorkTrack System and its intended use. This includes higher load testing of the end stops and also anticipates the increase in loading generated when two persons are suspended from the track in a rescue scenario.

- Exceeds the requirements of EN 795 : 1996/2012
- Torlon® bearings
- Plunger for ease of movement and lock-in position



1. SAFETY HARNESS

- Use a full body safety harness attached to the plunger pin stop car slider.
- Full body harness must meet CE/ANSI support standards.

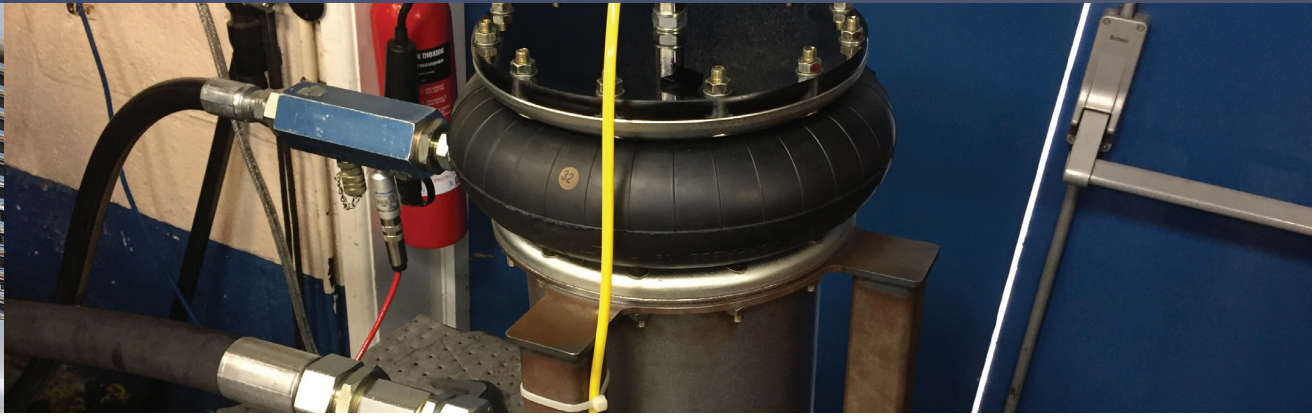
2. WORKING CAR

- Use a working harness or chair attached to access car.
- Working harness or chair must meet CE/ANSI standards.

3. TOOL SERVICE CAR (OPTIONAL)

- Attach an optional car and joiner link for use as a tool carrier

Vortex Reservoir



The variable volume centrifugal hydraulic reservoir is a device designed to completely replace the standard reservoir in a hydraulic system. The device has a number of advantages over standard reservoir designs :

- Reservoir weight reduction of 63% - 93%
- Huge reductions of up to 93% of required oil volume
- Smaller pump and suction lines can be used, significantly reducing installed system weight
- Higher system efficiency leads to increased hydraulic motor performance of up to 20%
- Stronger sheet winch and windlass pulls, and more powerful thrust can be achieved for all boating functions
- Superior pump protection with the removal of entrained air
- Closed systems means no chance of air and oil mixing once the system is primed and commissioned

GREATER EFFICIENCY

The evolution of global superyacht regattas has moved the superyacht sailboat market from a predominantly cruising market to high-performance designs. The revolutionary Vortex powerpack design significantly reduces the amount of air within the oil. Usual systems run at 12% air in the oil, but the patent-pending design can reduce this to less than 3% - leading to increased efficiency in the pulls of sheet winches, vital in race situations

WEIGHT SAVING

Weight reduction is a key in all modern boat design – power and sail - removing excess quantities of heavy stored oil is an efficient way to save weight. The storage tank is only used to cool oil within the system and reduce cavitation. Using Lewmar's Vortex can reduce the hydraulic powerpack weight by as much as 93% while improving running efficiency.



NOMINATED
DAME DESIGN AWARD



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