LEWMAR®

Anchor | Hatch & Portlight | NAVTEC® Rigging | Sail Control | Steering | Thruster | Winch | Windlass

Marine Equipment Guide

Edition 12


LEWMAR®

Welcome to the Lewmar Marine Equipment Guide. Lewmar has been designing and manufacturing innovative control solutions for sail and motor boats since 1946. With a portfolio that includes hardware, winches, hydraulics, windlasses, thrusters, hatch and portlight, steering, and Navtec rigging, Lewmar can supply a complete control solution tailored to your specific applications and functional requirements.

Drawing upon a wealth of experience and strong relationships with customers, naval architects, and boat yards, our Design Engineers are constantly developing the Lewmar Range. The latest design concepts showcased in this catalogue integrate seamlessly with existing products, offering you the peace of mind of a complete solution from one manufacturer.

From quotation through to delivery and after sales support, our focus remains on quality and performance, in both the equipment that we supply and the service that you receive, leaving you free to enjoy your time afloat.

In Design

The Lewmar Design Team is constantly innovating and developing new products, as well as supporting existing lines. Customer feedback and market demands are translated into a comprehensive programme of new product development. The following pages showcase a few of the current concepts which are in design.

Solar Hatch

With concerns about the environmental impact of being afloat at the forefront of their minds, the Lewmar Design Engineers have focused on how to generate sustainable energy on board. The Solar Hatch draws on a wealth of hatch design and in-house production experience to produce an attractive source of solar power.

- Keeps deck and coach roof clear of unsightly solar panel units
- Two Size 44 Solar Hatches will fully recharge 25% of a yacht's battery in 5 days. A weekend afloat typically uses 25% of a yacht's battery reserve
- One Size 44 Solar Hatch will fully recharge a flat smartphone battery in 5 hours – plug directly into the USB port on the hatch
- Trickle charge the boat's batteries
- A Solar Hatch acrylic lens can be effortlessly retrofitted to any model in the Lewmar Hatch Range
- Simple, intuitive hatch opening with the turn of a handle
- Simple, easy installation
- Delivered in packaging made from recycled cardboard

Technical Specification

HATCH SIZE	ESTIMATED WATTAGE
30	5.0
44	10.0
60	12.5
70	15.0

Example Installation

- Solar Hatch Installation on 37 foot boat in a parallel wiring layout
- 3 x Size 70 (697 x 697mm) Lewmar Solar Hatches
- 2 x Size 30 (527 x 397mm) Lewmar Solar Hatches
- Total Output: 55 Watts

NB Installation of Solar Hatches in a series wiring layout will increase the voltage output

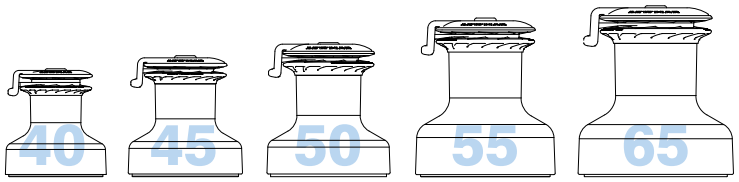
REVO™ Backwinding Winch

Lewmar introduces a complete range of electrically-operated, backwinding winches. With the touch of a button, sailors are able to trim sails both in and out. Push one button and the winch sheets in quickly to the Working Load Limit. A well-specified motor removes the added complication of switching between slow and fast forward gears. Simply push another button to electrically backwind the winch, while the insertion of a winch handle automatically changes to a familiar two-speed manual operation.

Available in Sizes 40 to 65, the versatile REVO™ winch is an effortless revolution in sail control!

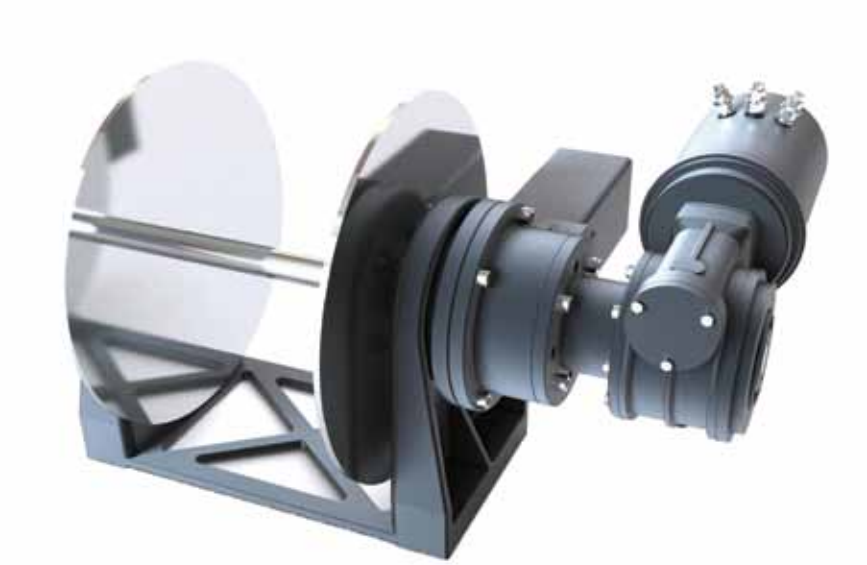
Features

- Available in five sizes (40, 45, 50, 55,65)
- No modification to the standard bolting pattern and deck cut-outs
- Direct size for size upgrade from a standard electric EVO® winch to a REVO™ winch
- Uses proven winch internals so retains all the benefits of the EVO® Winch
- Simple two button operation, one to pull rope in and another to pay rope out
- Operates as a normal two speed manual winch when a winch handle is inserted
- Four patents pending



Captive Reel Windlass

The Captive Reel Windlass is designed to provide a full anchoring solution for vessels ranging in size from 5.5-10.5m (18-35') in one compact and simple to operate package.



Features

- Rode stowage without the need for a locker
- Self locking – no need for cleat or chain stopper
- Fully remote operation – can be deployed and retrieved from the helm
- High quality materials and construction
- Free fall deployment of anchor (currently planned for higher tier options)

Navtec TFC™ Rigging

NAVTEC®
The Rigging Solution of Lewmar

Navtec Thermo Fused Carbon Rigging is the latest innovation in carbon fibre rigging. Fabricated from an advanced, flexible, high-modulus carbon composite material with a thermoplastic base, Navtec TFC™ allows new options and enhancements that are currently unavailable with other rigid and flexible, thermo-set, carbon-fibre, composite rigging products.

Navtec TFC™ can be used with existing rod rigging deck, mast and spreader interfaces, making conversion from rod rigging easy. Equipment upgrades using titanium fittings can further optimize the existing rigging package.

- Advanced high modulus thermoplastic carbon fibre composite material
- Discontinuous components for easy re-fit to existing rod setups - Flexible or rigid components available
- High strength, interlocking termination geometry moulded and fused of 100% carbon fibre thermoplastic composite
- NO glue, adhesives or other added materials
- One third the weight of equivalent rod rigging
- Extended life span and increased durability
- Compact, optimized terminations to reduce weight and windage
- Patent pending

The TFC™ shroud is fabricated using a unique process to form a method of termination using 100% carbon fibre composite material. The same high modulus thermoplastic carbon fibre composite material that forms the structural rigging mid-span is moulded and fused into a configuration that physically interlocks into the titanium end fittings. This high strength termination requires no addition of epoxy or other adhesive materials permitting the use of smaller fitting to minimise weight and optimise shape to reduce windage.

Navtec TFC™ weighs approximately one third the weight of equivalent rod rigging and offers a long life span, as well as improved durability. Shrouds can be covered with a choice of protective covers to prevent sail damage and chafe at deck level, or can be loosely compacted at higher locations to reduce weight and windage.

Anchoring & Docking

At Lewmar, we think about what makes boaters' lives easier, and bring those ideas to life in our products. We aim to relieve the aching muscles that often come with anchoring and give you more confidence when docking. That's why each anchor and windlass we bring to the market is made of the finest quality materials and engineered for excellence.

The Lewmar Anchoring and Docking Range

Page 12

CPX Vertical Windlass
- 15% lighter than comparable all-stainless windlass
- Sleek styling complements Lewmar V-Series Range
- Minimum parts enhances reliability
- Available in Size 1-3 and Size 4-5

Page 15

V-Series Vertical Windlass
- Suitable for boats up to 50m (160ft)
- V6 to V12 feature Lloyd's Type Approval
- Innovative features include Fall Safe, optional Fast Fit, and water-resistant IP68 motor gearbox
- Complete range of V-Series accessories available

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Horizontal Windlass
- Suitable for boats up to 12m (38ft)
- Compact unit ideal where space is limited
- Complete deck mounting allows maximum space for line storage
- Pro-Sport, Pro-Series, and Pro-Fish supplied DIY Ready

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C-Series Capstan
- Suitable for boats up to 55m (180ft)
- Beautifully polished stainless steel provides strength, anti-corrosion, and performance
- Unique WARP® (Wear & Abrasion Resistant Pattern) drum finish reduces rope wear by 30%
- C3 features effortless, on deck, single-handed installation

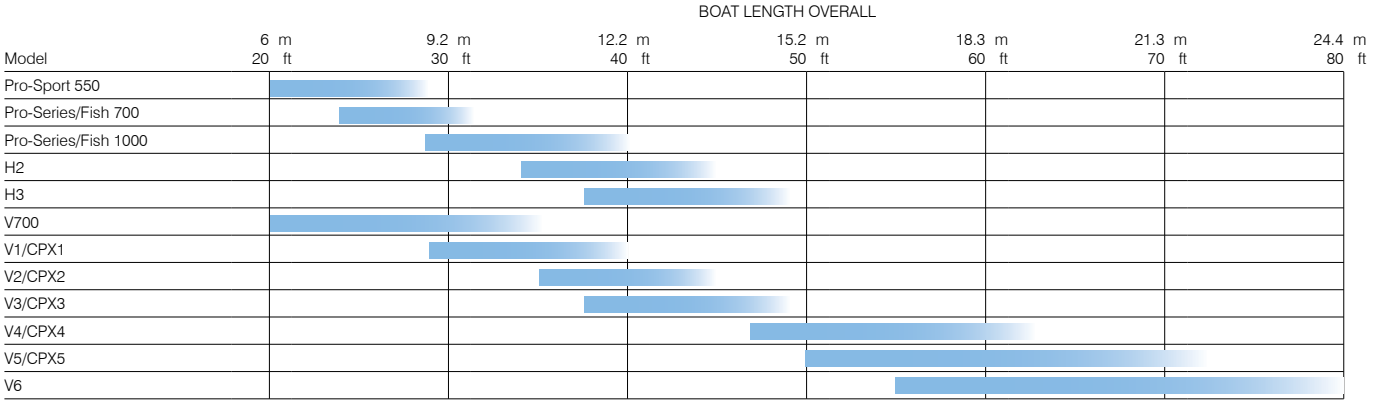
Page 37

Anchors
- Delta® - the world's most popular anchor
- C.Q.R.® - strong and reliable under load
- Claw – high-grade steel cast in a single piece
- Complete range of anchoring accessories available

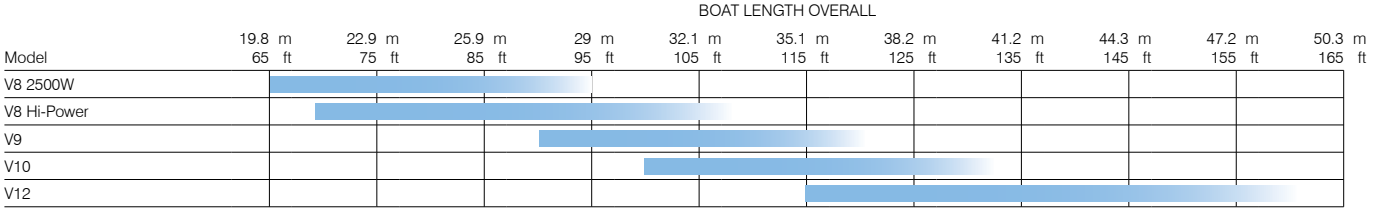
Easy anchoring starts with a Lewmar windlass

Whether you own a small fishing boat, a 100-foot cruiser or a mid-size sailboat, Lewmar has a windlass designed to fit your exact needs. Each one is crafted with durability, convenience and affordability in mind. Both our vertical and horizontal designs are sleek and attractive to complement your boat.

Windlass selection guide

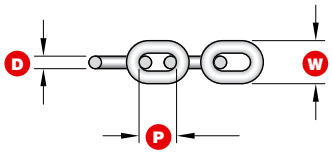


Windlass selection guide



Many parameters have to be taken into account when selecting a windlass, such as displacement, windage, anchor weight etc. In the above chart the boat length corresponds to a vessel with average displacement. If your vessel is of heavy displacement, please consider using a larger windlass model. Lighter shading represents the upper limit of the model. If in doubt, move up a model.

Chain guide



		6 mm ISO 4565	1/4" ISO G4	7mm DIN 766	1/4" BBB	1/4" BBB	1/4" ACCO G43	1/4" ACCO G43	8mm Din 766	8mm ISO 4565	5/16" ISO G4	Lewmar 9.5mm G40	3/8" Cambell S4	10mm ISO 4565	3/8" Campbell S3	10mm DIN 766	3/8" ISO G4	11mm Short Link	7/16" ISO G4	Lewmar 12mm G30/G40 12mm Short Link	13mm DIN 766	1/2" ISO G4	Lewmar 14mm G30/G40 14mm Short Link	14mm DIN 766	14mm Studlink	16mm Short Link	16mm DIN 766
D	mm	6	7.0	7	7.1	7.1	7.3	7.3	8	8	8.4	9.5	10	10	10	10	10	11	11.8	12	13	13.2	14	14	14	16	16
	inch	0.236	0.276	0.276	0.28	0.28	0.287	0.287	0.315	0.315	0.329	0.374	0.394	0.394	0.394	0.394	0.394	0.433	0.465	0.472	0.512	0.520	0.551	0.551	0.551	0.630	0.630
P	mm	18	21.3	22	22.5	22.5	21.1	21.1	24	24	26.2	31.5	29	30	34.5	28	31	33	35.5	36	36	40.4	42	41	56	48	45
	inch	0.709	0.840	0.866	0.886	0.886	0.831	0.831	0.945	0.945	1.030	1.240	1.142	1.181	1.358	1.102	1.220	1.299	1.398	1.417	1.417	1.591	1.654	1.614	2.205	1.890	1.772
W	mm	21.6	24.4	23.3	25.2	25.2	24	24	27.2	28.8	29.7	31.6	35	36	34.5	36	35	39	40.1	40.5	47	45.7	49	50	50.4	56	58
	inch	0.85	0.962	0.917	0.992	0.992	0.945	0.945	1.07	1.134	1.168	1.244	1.378	1.417	1.358	1.417	1.378	1.535	1.579	1.594	1.850	1.799	1.929	1.969	1.984	2.205	2.283

How to choose the right windlass for your boat

In order to select the correct windlass for your boat, three questions should be answered:

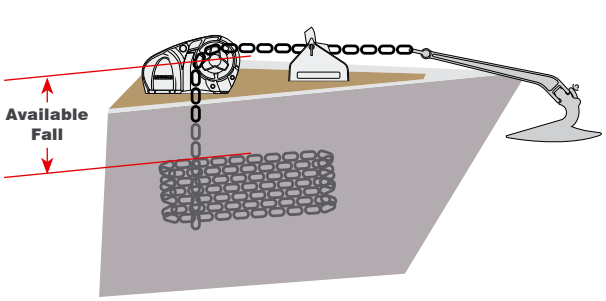
1. What size windlass would best suit my boat?

- Use our windlass selection chart found on Page 9 to determine the general size of the windlass to be fitted to your boat by using length and displacement.

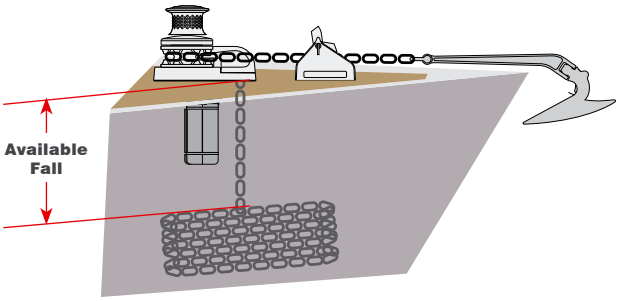
2. How long is the anchor rode I wish to use, and will the windlass put the entire rode into my locker?

- Examine the depth of the anchor locker to determine the fall that is available.
- The fall is the vertical distance between the top of the anchor locker and the top of the anchor rode when the entire rode is completely stored inside.
- The windlass is a retrieval device. The windlass retrieves the anchor and rode.
- The windlass does not stow the rode inside the anchor locker; gravity stows the rode.
- You must know how much rode will fit into your locker by gravity. There has to be a free and clear area under the hawse pipe for the incoming rode. Otherwise, you will have to comb the rode back, keeping a clear and free space under the hawse pipe while retrieving the anchor.
- A windlass is not a high-load bearing device. When at anchor your rode should be secured to a chain stopper, a cleat or other mooring point on the bow.

Horizontal Windlass



Vertical Windlass



Horizontal Windlass Key Features

- Most of the windlass unit is on the deck
- Easy installation
- Good for boats with small anchor lockers
- Anchor rode enters the gypsy, makes a 90° turn and feeds into the anchor locker
- Minimum fall of 304mm (12") is recommended in order to have enough gravity to pull the rode down into the locker

Vertical Windlass Key Features

- More of the unit is hidden below deck
- Suitable for large anchor lockers
- Anchor rode makes a 180° wrap around the gypsy providing more security
- Minimum fall of 406mm (18") is recommended in order to have enough gravity to pull the rode down into the locker

3. How much pulling power should my windlass have?

Having selected a vertical or horizontal windlass and determined the size required using the chart on page 9, you can cross-check by using the following formula:

Total weight of ground tackle (anchor and rode) **x4**[1] **= Pulling power required by the windlass**

- Working Load, designed to allow prolonged anchor laying and retrieving
- Please note this is an indication only. If in doubt please contact your Lewmar representative.

[1]Use x4 for all Horizontal windlass and Vertical windlass up to V5
[1]Use x2 for V6 Vertical Windlass and above

Windlass and anchor operation basic safety

Always

- Always tie off anchor rode to a strong point while at anchor
- Always secure anchor rode/anchor when underway
- Always look before deploying your anchor
- Always motor up to anchor while retrieving
- Always shut off circuit breaker when working on windlass
- Always shut off circuit breaker when windlass is not in use
- Always read the manual and follow safety instructions and warnings.

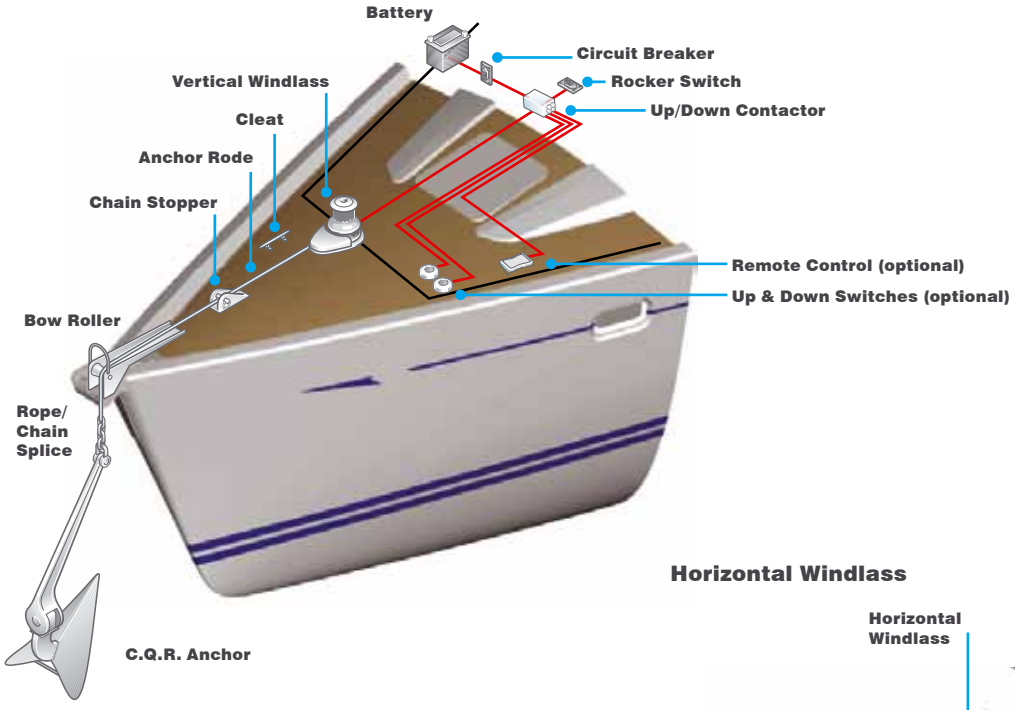
Never

- Never allow your windlass to hold the boat while at anchor
- Never use your windlass to pull or tow boat
- Never use your windlass to lift a person
- Never stick fingers in or around gypsy while operating
- Never allow loose clothing and hair to come close to windlass when operating

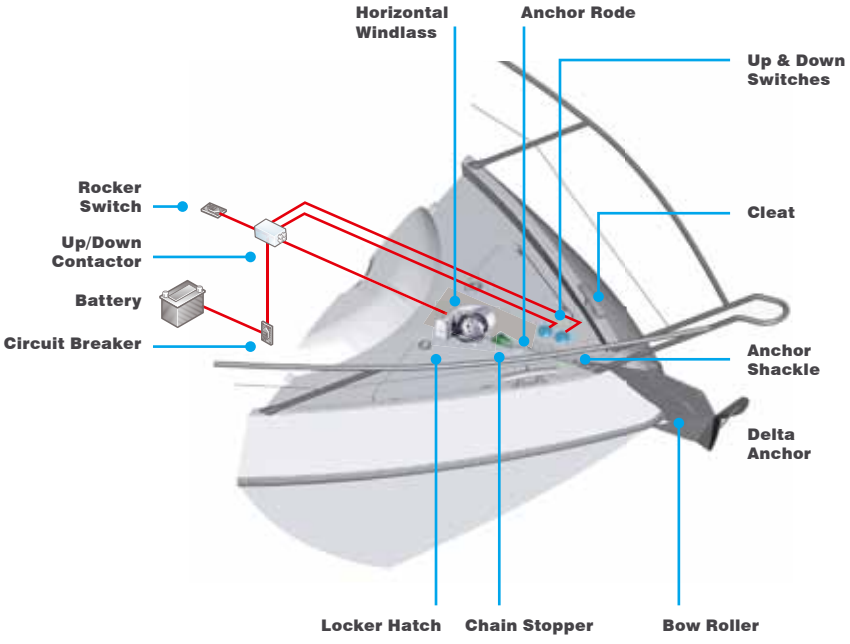
Windlass & Anchoring Know-How

Vertical Windlass

Please see your owner's manual for complete installation diagrams.

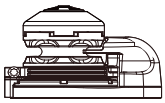


Horizontal Windlass

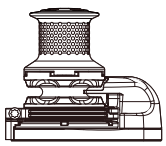


Specify your Windlass

1 Deck Unit



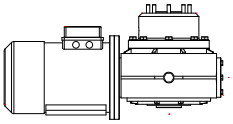
Gypsy only



Gypsy and drum

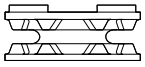
2 Motor Gearbox

- Electric/hydraulic specification



3 Gypsy

- Chain specification



CPX Vertical Windlass

Lewmar has developed a new range of lightweight vertical windlass to compliment the current V Range. Windlass is one of the largest divisions of Lewmar and we are in constant contact with boat designers, boat builders, and owner's associations to ensure that our products remain at the forefront of development. In response, Lewmar has developed the new CPX Range.

- 15% lighter than comparable all-stainless windlass
- New architecture with reduced parts
- Easier to service
- Alloy base
- New styling
- Customer-focused design
- Highly reliable, light weight, high performance windlass
- IP68 motor gearbox available on request

CPX Gypsy Only

CPX Gypsy/Drum

CPX1/2/3 Complete Kit

PART NUMBER				
GYPSY ONLY	GYPSY DRUM	MODEL	GYPSY NO	VOLTAGE
6671011006	-	CPX1	006	12V
6671011000	-	CPX1	000	12V
6671011001	-	CPX1	001	12V
6672011006	6672021006	CPX2	006	12V
6672011000	6672021000	CPX2	000	12V
6672011001	6672021001	CPX2	001	12V
6672011002	6672021002	CPX2	002	12V
6672011003	6672021003	CPX2	003	12V
6672012001	6672022001	CPX2	001	24V
6672012002	6672022002	CPX2	002	24V
6672211000	6672221000	CPX3	000	12V
6672211001	6672221001	CPX3	001	12V
6672211002	6672221002	CPX3	002	12V
6672211003	6672221003	CPX3	003	12V
6672212001	6672222001	CPX3	001	24V
6672212002	6672222002	CPX3	002	24V
6672212003	6672222003	CPX3	003	24V

See next page for chain fit
Kit includes windlass, rocker switch, circuit breaker and contactor

CPX Vertical Windlass

Refer to page 34 for switch kit and accessories

CPX1/2/3/4/5 Specifications

MODEL	MOTOR POWER	MAX PULL		WORKING LOAD LIMIT		MAX LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	APP WEIGHT GYPSY ONLY		APP WEIGHT GYPSY/DRUM	
	Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb	kg	lb
CPX1 12v	700	454	1000	113	250	19	65	80	90	17.5	38.5	20.0	44.0
CPX2 12v	700	650	1433	163	358	21	69	80	90	17.5	38.5	20.5	45.1
CPX2 24v	900	760	1675	180	396	24	79	45	50	17.5	38.5	20.5	45.1
CPX3 12v	1000	890	1962	215	473	28	92	85	110	20.0	44.0	23.0	50.6
CPX3 24v	1000	1020	2248	243	535	30	98	60	90	20.0	44.0	23.0	50.6
CPX4 12v	1600	1250	2750	313	688	25	82	125	150	26.5	58.3	33.5	73.7
CPX4 24v	2000	1500	3300	375	825	27	90	70	110	26.5	58.3	33.5	73.7
CPX5 12v	2000	1450	3190	363	798	27	90	120	150	28.5	62.7	35.5	78.1
CPX5 24v	2000	1600	3520	400	880	29	97	60	110	28.5	62.7	35.5	78.1

CPX1/2/3/4/5 Vertical Windlass

1

Deck unit

PART NO.	DESCRIPTION
69000493	CPX1 Gypsy only
69000480	CPX2/3 Gypsy only
69000483	CPX2/3 Gypsy Drum
69000494	CPX4/5 Gypsy only
69000495	CPX4/5 Gypsy Drum

2

Motor gearbox (including contactor)

PART NO.	DESCRIPTION
68001042	CPX1 – 12V
68001043	CPX2 – 12V
68001044	CPX2 – 24V
68001045	CPX3 – 12V
68001046	CPX3 – 24V
68001081	CPX4 - 12V
68001082	CPX4 - 24V

IP68 motor gearbox available on request for CPX2 & 3

- Water resistant unit won't be damaged even if submerged under water
- Robust composite case
- Compression cable clamps included
- No maintenance required
- Provide best motor protection against the elements

PART NO.	DESCRIPTION
68001073	CPX2 12v IP68 Motor Gearbox Assy - No Cables
68001074	CPX2 24v IP68 Motor Gearbox Assy - No Cables
68001075	CPX3 12v IP68 Motor Gearbox Assy - No Cables
68001076	CPX3 24v IP68 Motor Gearbox Assy - No Cables

3

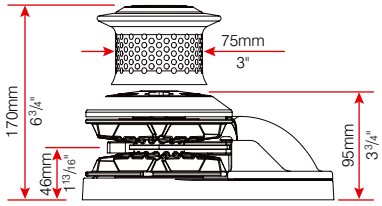
Gypsy

PART NO.	GYPSY NUMBER	CHAIN DESCRIPTION	ROPE DESCRIPTION		
			mm	in	
68001047	006	6mm ISO 4565, 1/4" G40*, 1/4" BBB	12–14	1/2	3-strand and 8-plait
68001048	000	7mm ISO 4565, 1/4" G40*, 1/4" BBB	12–14	1/2	3-strand and 8-plait
68001049	001	8mm DIN 766, 8mm ISO 4565, 5/16" G40	12–16	1/2–5/8	3-strand and 8-plait (5/8 only)
68001050	002	10mm DIN 766, Campbell 3/8" S4	12–16	1/2–5/8	3-strand and 8-plait (5/8 only)
68001051	003	10mm ISO, Campbell 3/8" S3, Lewmar 9.5mm G40	16	5/8	3-strand and 8-plait
68001063	201	8mm DIN 766, 8mm ISO 4565, 5/16" G40, 5/16" Campbell S4	12–14	1/2	3 strand hard lay up
68001064	202	10mm DIN 766, 5/16" Campbell S3, 3/8" Campbell S4, 9.5mm G30	16	5/8	3 strand hard lay up
68001065	203	10mm ISO 4565, 3/8" Campbell S3, Lewmar 9.5mm G40	16	5/8	3 strand hard lay up
68001066	204	12mm ISO 4565, 13mm DIN 766	18–20	3/4	3 strand hard lay up

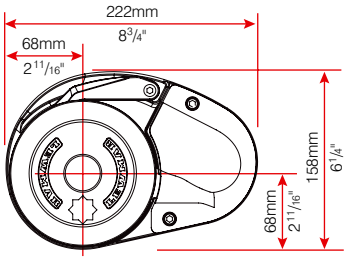
*G40 = Grade 40 Short Link Chain

CPX Vertical Windlass

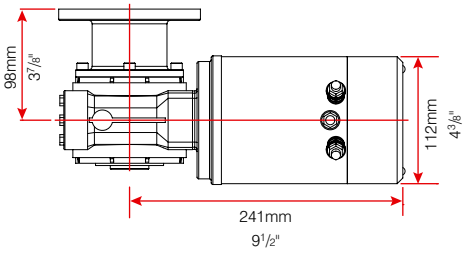
Dimensions Diagram CPX1/2/3



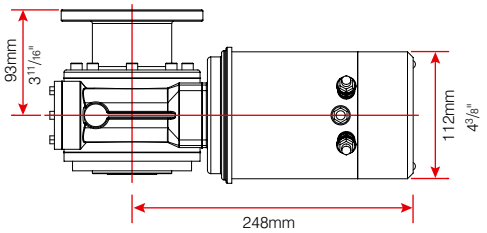
CPX1/2/3



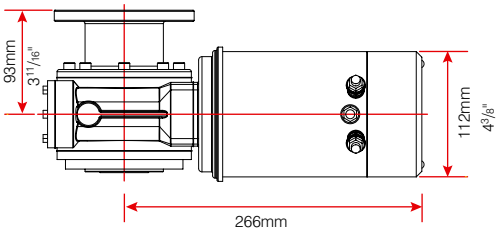
CPX1/2/3



CPX1 Motor Gearbox

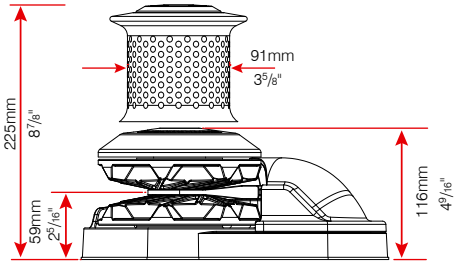


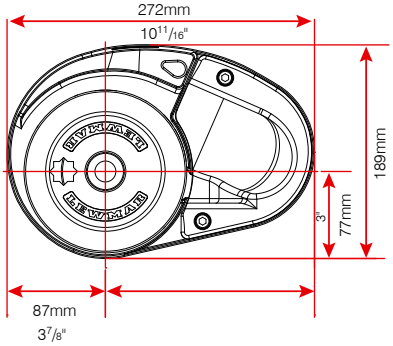
CPX2 Motor Gearbox

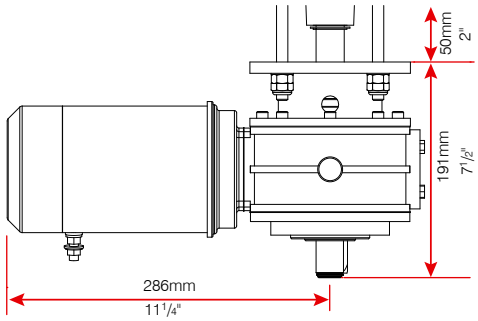


CPX3 Motor Gearbox

Dimensions Diagram CPX4/5







Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN			SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'	15-22m / 50'-73'	15-22m / 50-73'	Amp
CPX1	12	10mm² / 6 AWG	25mm² / 4 AWG		1.5mm² / 16 AWG	5
CPX2	12	10mm² / 6 AWG	25mm² / 4 AWG		1.5mm² / 16 AWG	5
CPX2	24	6mm² / 10 AWG	6mm² / 8 AWG		1.5mm² / 16 AWG	5
CPX3	12	16mm² / 6 AWG	25mm² / 2 AWG		1.5mm² / 16 AWG	5
CPX3	24	10mm² / 8 AWG	16mm² / 6 AWG		1.5mm² / 16 AWG	5
CPX4	12	25mm² / 2 AWG	35mm² / 0 AWG	50mm²/ 0 AWG	1.5mm² / 16 AWG	5
CPX4	24	10mm² / 3 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5
CPX5	12	25mm² / 2 AWG	35mm² / 0 AWG	50mm² / 0 AWG	1.5mm² / 16 AWG	5
CPX5	24	10mm² / 3 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

V700 Vertical Windlass

With 100% 316 stainless steel housing and a sleek flush-mount design that hides the motor down below, the V700 is one of the most attractive and durable windlasses on the market. It works at the push of a button and has two built-in features that make it unique – motor protection and anchor lock.

- 100% 316 stainless steel deck unit
- IP67 Rated (Water resistant to 1 meter)
- Fall Safe anchor lock
- Fast line speed
- Impact-resistant motor cover
- 5-year warranty
- For boats up to 10.5m (35 ft)

Dual Chain Gypsy

The V700 now comes with a gypsy able to accept both 6mm and 7mm (1/4) inch chains.

- Fits calibrated chains: 6mm DIN766, 1/4" G4 or BBB, 7mm DIN766
- Minimal parts for enhanced reliability
- Late configure boat / chain on boatyard assembly line
- Registered Community Design No. 001740531-0001

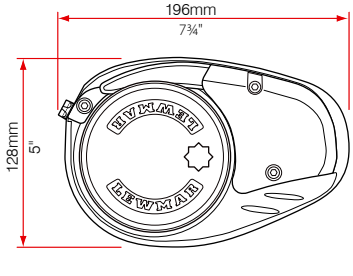
V700 Specifications

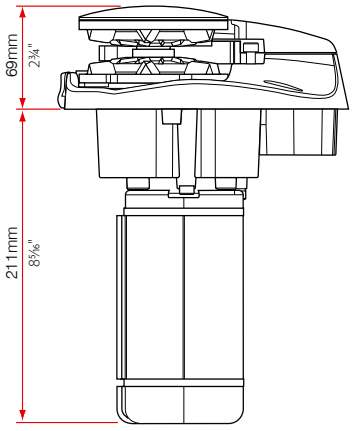
PART NUMBER	DESCRIPTION	GYPSY NO.	MOTOR SUPPLY	MOTOR POWER	MAX PULL		WORKING LOAD LIMIT		MAX LINE SPEED		TYPICAL LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	WEIGHT GYPSY ONLY	
			Voltage	Watt	kg	lb	kg	lb	m/min.	ft/min.	m/min	ft/min	Amp	Amp	kg	lb
6670011108-312	V700 12V 6/7mm/1/4" kit	603	12	320	320	700	79	175	25	82	15	50	45	35	6.5	14

Kit includes Contactor and Circuit Breaker.

Refer to page 34 for switch kit and accessories

Dimensions Diagram





V700 models come DIY ready

Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN		SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'		Amp
V700	12V	10mm² / 8 AWG	10mm² / 8 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

V1/V2/V3 Vertical Windlasses

- Rope-chain gypsy
- Manual chain release (Free Fall)
- Cone clutch for smooth, easy control
- Optional manual override motor gearbox
- W.A.R.P Drum
- Fall safe anchor lock
- Robust/reliable worm gearbox
- FastFit™ option for quicker installation and less hassle
- Emergency recovery kit available
- Water resistant IP68 kits available
- For boats up to 14m (48ft)

V1/V2/V3 Complete Kit

PART NUMBER				
GYPSY ONLY	GYPSY DRUM	MODEL	GYPSY NO	VOLTAGE
6671011107-138 (USA Only)	–	V1	000	12
6671011108-138 (USA Only)	–	V1	002	12
6671011196-138	–	V1	006	12
6671011197-138	–	V1	000	12
6671011198-138	–	V1	001	12
6671011697-138	–	V1 MO	000	12
6671011698-138	–	V1 MO	001	12
6672011196-138	6672021196-138	V2	006	12
6672011197-138	6672021197-138	V2	000	12
6672011198-138	6672021198-138	V2	001	12
6672011108-138	6672021108-138	V2	002	12
6672011110-138	6672021110-138	V2	003	12
6672012198-140	6672022198-140	V2	001	24
6672012108-140	6672022108-140	V2	002	24
6672211197-139	6672221197-139	V3	000	12
6672211198-139	6672221198-139	V3	001	12
6672211108-139	6672221108-139	V3	002	12
6672211110-139	6672221110-139	V3	003	12
6672212198-142	6672222198-142	V3	001	24
6672212108-142	6672222108-142	V3	002	24
6672212110-142	6672222110-142	V3	003	24

Kit includes windlass, rocker switch, circuit breaker and contactor

Illustrated with FastFit™ option for quick and easy installation

V1/V2/V3 Specifications

MODEL	MOTOR POWER	MAX PULL		WORKING LOAD		MAX LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	APP WEIGHT GYPSY ONLY		APP WEIGHT GYPSY/DRUM	
	Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb	kg	lb
V1	700	454	1000	113	250	19	65	80	90	19	42	–	–
V2 12v	700	650	1433	163	358	21	69	80	90	19	42	22	48.5
V2 24v	900	760	1675	180	396	24	79	45	50	19	42	22	48.5
V3 12v	1000	890	1962	215	473	28	92	85	110	21.5	47	24.5	54
V3 24v	1000	1020	2248	243	535	30	98	60	90	21.5	47	24.5	54

V1/V2/V3 Vertical Windlasses

V1/V2/V3 Vertical Windlass

1

Deck Unit

PART NO.	DESCRIPTION
69000481	V1 Gypsy only
69000484	V2/3 Gypsy only
69000485	V2/3 Gypsy Drum

2

Motor Gearbox (Including contactor)

PART NO.	DESCRIPTION
68001042	V1-12V
68001043	V2 - 12V
68001044	V2 - 24V
68001045	V3 - 12V
68001046	V3 - 24V

Standard motor/gearbox fittings. Fast Fit can be ordered as a complete kit – see page 16

IP68 Motor Gearbox (non Fastfit)

PART NO.	DESCRIPTION
68001052	V2 12V IP68 Motor Gearbox Assy - No Cables
68001053	V2 24V IP68 Motor Gearbox Assy - No Cables
66810037	V3 12V IP68 Motor Gearbox Assy - No Cables
68001054	V3 24V IP68 Motor Gearbox Assy - No Cables

IP68 motor gearbox available on request

- Water resistant unit won't be damaged even if submerged under water
- Robust composite case
- Compression cable clamps included
- No maintenance required
- Provide best motor protection against the elements

3

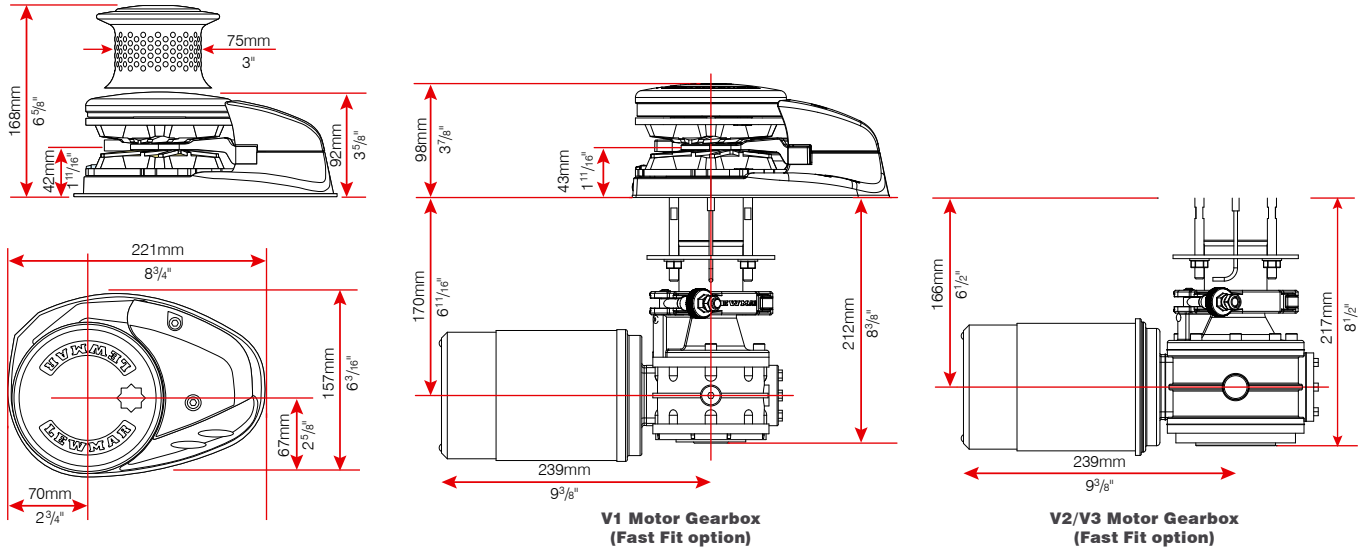
Gypsy Specifications

PART NO.	GYPSY NUMBER	CHAIN DESCRIPTION	ROPE DESCRIPTION mm	ROPE DESCRIPTION in	
68000840	006	6mm ISO 4565, 1/4" G40*, 1/4" BBB	12–14	1/2	3-strand and 8-plait
68000360	000	7mm ISO 4565, 1/4" G40*, 1/4" BBB	12–14	1/2	3-strand and 8-plait
68000361	001	8mm DIN 766, 8mm ISO 4565, 5/16" G40	12–16	1/2–5/8	3-strand and 8-plait (5/8 only)
68000362	002	10mm DIN 766, Campbell 3/8" S4	12–16	1/2–5/8	3-strand and 8-plait (5/8 only)
68000363	003	10mm ISO, Campbell 3/8" S3, Lewmar 9.5mm G40	16	5/8	3-strand and 8-plait

*G40 = Grade 40 Short Link Chain

Refer to "Switch Kits" on page 34 for switch kit and accessories.

Dimensions Diagram



V1 Motor Gearbox (Fast Fit option)

V2/V3 Motor Gearbox (Fast Fit option)

Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN 0–7m / 0'–23'	LENGTH OF CABLE RUN 7–15m / 23'–50'	SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE Amp
V1	12	10mm² / 6 AWG	25mm² / 4 AWG	1.5mm² / 16 AWG	5
V2	12	10mm² / 6 AWG	25mm² / 4 AWG	1.5mm² / 16 AWG	5
V2	24	6mm² / 10 AWG	6mm² / 8 AWG	1.5mm² / 16 AWG	5
V3	12	16mm² / 6 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5
V3	24	10mm² / 8 AWG	16mm² / 6 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

V4/V5 Vertical Windlasses

- Rope-chain gypsy
- Cone clutch for smooth, easy control
- Manual Free Fall
- W.A.R.P Drum
- Robust and reliable drive train
- Manual override (optional)
- The largest rope chain windlass in the range
- For boats up to 22m (72ft)

V4/V5 Gypsy Only

V4/V5 Gypsy/ Drum

V4/V5 Electric Specifications

MODEL	MOTOR POWER	MAX PULL		WORKING LOAD LIMIT		MAX LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	APP WEIGHT GYPSY ONLY		APP WEIGHT GYPSY/DRUM	
	Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb	kg	lb
V4 12V	1600	1250	2750	313	688	25	82	125	150	29	64	36	79
V4 24V	2000	1500	3300	375	825	27	90	70	110	29	64	36	79
V5 12V	2000	1450	3190	363	798	27	90	120	150	31	68	38	84
V5 24V	2000	1600	3520	400	880	29	97	60	110	31	68	38	84

V4/V5 Hydraulic Specifications

PRODUCT	NORMAL PRESSURE	FLOW RATE	MAX. PULL		MAX. LINE SPEED	
			kg	lb	m/min	ft/min
V4/5 Hyd	175 bar 2537 psi (cont)	10-40 l/min 2.6-10.6 US gal/min	1100 at 140 bar	2400 at 203 psi	21 at 40 l/min	69 at 10.6 US gal/min

Hydraulic motor gearboxes are suitable for use with both V4/V5 and C4/C5.

V4/V5 Vertical Windlasses

V4/V5 Vertical Windlass

1

Deck Unit

PART NO.	DESCRIPTION
66810024	V4/5 Gypsy Only
66810025	V4/5 Gypsy Drum

2

Motor Gearbox (Including contactor)

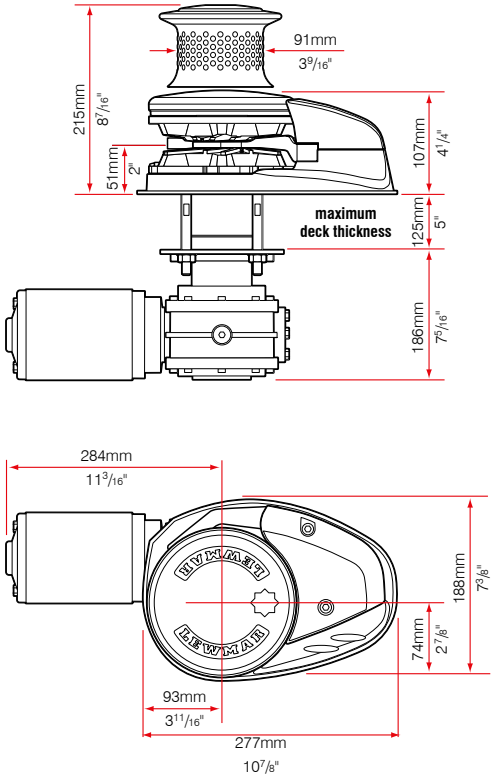
PART NO.	DESCRIPTION
68001081	V4 - 12V
68001082	V4 - 24V
68000961	V5 - 12V
68000962	V5 - 24V
68000294	V4/5 Hydraulic

3

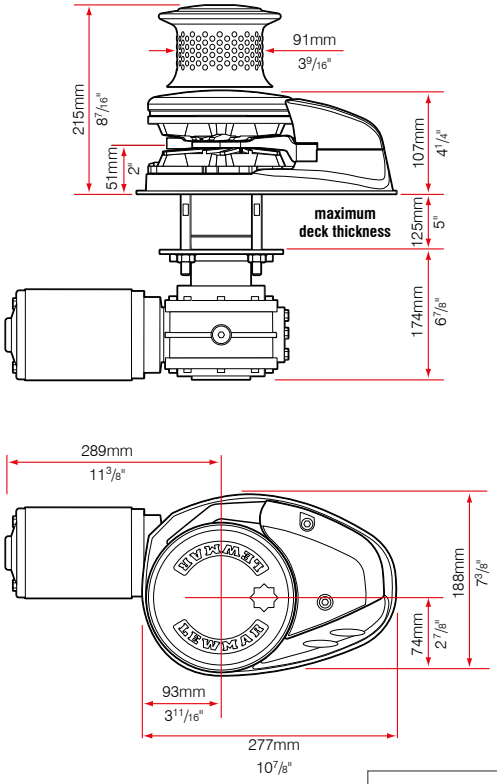
Gypsy Specifications

PART NO.	GYPSY NUMBER	CHAIN DESCRIPTION	ROPE DESCRIPTION mm	ROPE DESCRIPTION in	
68000356	201	8mm DIN 766, 8mm ISO 4565, 5⁄16" G40, 5⁄16" Campbell S4	12–14	1⁄2	3 strand medium lay up
68000357	202	10mm DIN 766, 5⁄16" Campbell S3, 3⁄8" Campbell S4, 9.5mm G30	16	5⁄8	3 strand medium lay up
68000358	203	10mm ISO 4565, 3⁄8" Campbell S3, Lewmar 9.5mm G40	16	5⁄8	3 strand medium lay up
68000359	204	12mm ISO 4565, 13mm DIN 766	18–20	3⁄4	3 strand medium lay up

V4 Dimensions Diagram



V5 Dimensions Diagram



Refer to page 34 for switch kit and accessories

Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN 0–7m / 0'–23'	7–15m / 23'–50'	15-22m / 50-73'	SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE Amp
V4	12	25mm² / 2 AWG	35mm² / 0 AWG	50mm²/ 0 AWG	1.5mm² / 16 AWG	5
V4	24	10mm² / 3 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5
V5	12	25mm² / 2 AWG	35mm² / 0 AWG	50mm² / 0 AWG	1.5mm² / 16 AWG	5
V5	24	10mm² / 3 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

V6 Vertical Windlass

- All stainless steel deck unit
- Powered and manual chain release
- W.A.R.P. Drum (Wear and Abrasion Resistant Pattern)
- Cone Clutch for smooth, easy control
- Left- and right-hand versions
- Available in 24v and Hydraulic power options
- Remote chain-pipe version – For use with 14mm chain
- For boats up to 24m (80ft)
- Lloyd's Type Approval

© 2011 Discovery. V6 installed on Discovery 67 sailboat

V6 Gypsy/Drum
(model shown is left-hand)

V6 Gypsy Only
(model shown is left-hand)

V6 Specifications

MODEL	MOTOR POWER	MAX PULL		WORKING LOAD LIMIT		MAX LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	WEIGHT	
	Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb
V6 24V	2000	1818	4000	606	1333	18	59	90	150	63	139

V6 Specifications

PRODUCT	NORMAL PRESSURE	FLOW RATE	MAX. PULL		MAX. LINE SPEED		WEIGHT	
			kg	lb	m/min	ft/min	kg	lb
V6 Hyd	60 bar 882 psi (cont)	20-60 l/min 5.2-15.8 US gal/min	1450 at 190 bar	3190 at 2793 psi	34 at 60 l/min	110 at 15.9 US gal/min	52	114

V6 Vertical Windlasses

V6 Vertical Windlass

1

Deck Unit

PART NO.	DESCRIPTION
69000400	V6 Deck Unit LH Gypsy Drum
69000401	V6 Deck Unit RH Gypsy Drum
69000402	V6 Deck Unit LH Gypsy Only
69000403	V6 Deck Unit RH Gypsy Only

LH = Left Hand, RH = Right Hand

2

Motor Gearbox (Including contactor)

PART NO.	DESCRIPTION
69000407	V6 - 24V Motor/Gearbox Assy
69000408	V6 - Hyd Motor/Gearbox

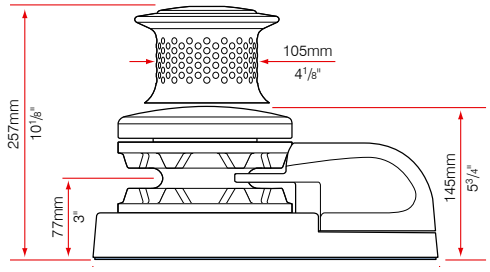
Refer to page 34 for switch kit and accessories

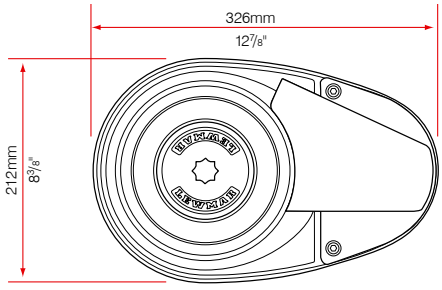
3

Gypsy Specifications

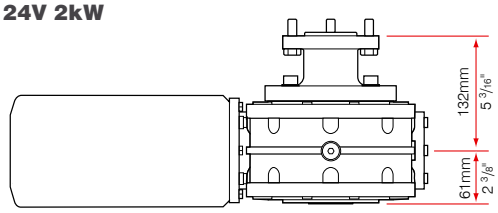
PART NO.	GYPSY KIT	CHAIN DESCRIPTION
68000903	10mm	10mm DIN 766, 3⁄8" ISO G4, Lewmar 9.5mm G40
68000904	12mm/13mm	11mm Short Link, Lewmar 12mm G30/G40, 13mm DIN 766
68000905[1]	14mm	Lewmar 14mm G30/G40, 14mm DIN 766, 7/16" G40 Recommend remote chain pipe version
68000906	1/2"	1/2" ISO G4, Lewmar 12mm G30/G40, Lewmar 1/2" G30/G40

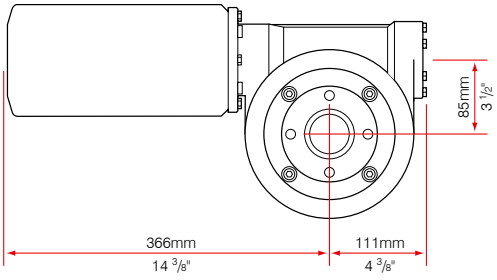
Dimensions Diagram



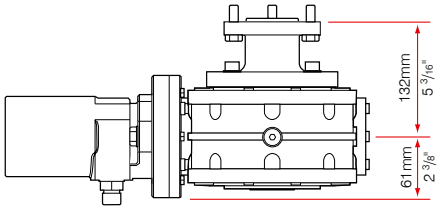


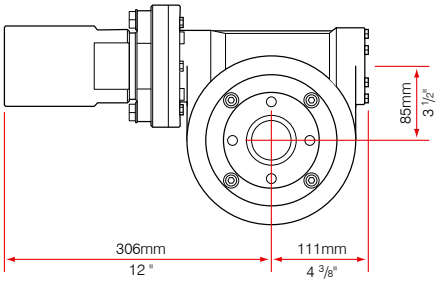
24V 2kW





Hydraulic





Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN			SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'	15-22m / 50-73'		Amp
V6	24	25mm² / 2 AWG	35mm² / 0 AWG	50mm² / 0 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

V8 Vertical Windlass

- All stainless steel deck unit
- Dog Clutch
- Close-coupled band brake option
- Two remote hand wheel options
- Full range of power options including AC, DC and hydraulic
- Independent capstan operation
- Powered or manual chain release
- W.A.R.P. Drum (Wear and Abrasion Resistant Pattern)
- A wide range of metric and imperial chain gypsies are available
- Left-and right-hand versions
- Remote chain pipe version
- For Boats up to 33m (108ft)

Lloyd's Register TYPE APPROVAL

V8 installed on a Princess Yacht

V8 Gypsy Only Close Brake (model shown is left-hand)

V8 Gypsy/Drum/Remote Brake (model shown is left-hand)

V8 Specifications

MODEL	VOLTAGE	MOTOR POWER	MAX PULL		WORKING LOAD LIMIT		MAX LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	WEIGHT	
		Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb
V8 2500W	24	2500	2273	5000	1137	2500	24	79	150	200	101	222
V8 3500W	24	3500	2727	6000	1364	3000	23	75	200	250	103	227
V8 AC	208		2200	4840	1100	2420	15.5	51	12	16	105	231
V8 AC	400		2500	5500	1250	2750	19	62	9	10	105	231

V8 Hydraulic Specifications

MODEL	NORMAL PRESSURE		FLOW RATE		MAX. PULL		MAX. LINE SPEED		WEIGHT	
	bar	psi	l/min	US gal/min	kg	lb	m/min	ft/min	kg	lb
V8 Hyd (165cc/rev)	50	735	20-55	5.2-14.3	1818 @ 155 bar	4000 @ 2278 psi	18 @ 43 l/min	59 @ 11.3 US gal/min	84	185
V8 Hyd (230cc/rev)	50	735	20-55	5.2-14.3	2727 @ 155 bar	6000 @ 2278 psi	14 @ 40 l/min	46 @ 10.6 US gal/min	84	185
V8 Hi-P Hyd (in-line)	50	735	20-55	5.2-14.3	2727 @ 175 bar	6000 @ 2572 psi	21 @ 56 l/min	69 @ 14.7 US gal/min	95	209

V8 Vertical Windlass

1

Deck Unit

PART NO. Left Hand	PART NO. Right Hand	DESCRIPTION
69000377	69000378	V8 Deck Unit GD, CB
69000379	69000380	V8 Deck Unit GD, HI-P CB
69000381	69000382	V8 Deck Unit GO, CB
69000387	69000388	V8 Deck Unit GO, HI-P CB
69000390	69000391	V8 Deck Unit GD, RB
69000392	69000393	V8 Deck Unit GD, HI-P RB
69000394	69000395	V8 Deck Unit GO, RB
69000396	69000397	V8 Deck Unit GO, HI-P RB

2

Motor Gearbox (Including contactor)

PART NO.	DESCRIPTION
69000383	V8 24V 2.5kW Motor/Gearbox
69000383M	V8 24V 2.5kW M/Gearbox Type M
69000384	V8 24V 3.5kW Motor/Gearbox
69000384M	V8 24V 3.5kW M/Gearbox Type M
69000385	V8 Hyd Motor/Gearbox TE230
69000386	V8 Hyd HP Motor gearbox HiP Adan 200
69000416	V8 165cc/rev Hyd Motor/Gearbox TE165
69000444	V8 4kW 400V 3 ph AC braked M/Gearbox
69000444M	V8 4kW 400V AC braked M/Gearbox Type M
69000445	V8 4kW 208V 3 Ph AC braked M/Gearbox
69000445M	V8 4kW 208V 3 Ph AC braked M/Gearbox Type M

Description Abbreviations & Explanations

LH	Left Hand are mainly for single installs	Type M	Mirror image to allow motor to be on opposite side of gearbox
HI-P	High-Power deck unit can only be used with HP hydraulic motor gearbox	HP	High-performance inline hydraulic drive
CB	Close coupled band brake included. It is operated with a winch handle	GD	Gypsy drum
RB	Remote band brake version ready to accept the brake cable	GO	Gypsy only

3

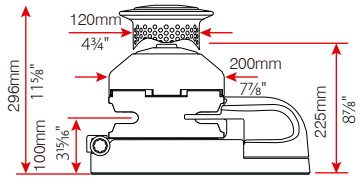
Gypsy Specifications

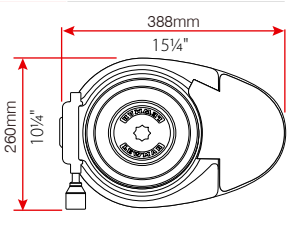
PART NO.	GYPSY KIT	CHAIN DESCRIPTION
68000900	11mm	11 mm DIN 766
68000877	12-13mm	12 mm Short Link, 13 mm DIN 766, 7/16" ISO G4
68000878	14mm	14 mm Short Link, 14 mm DIN 766
68000879	16mm	16 mm Short Link, 16 mm DIN 766
68000880	1/2"	1/2" ISO G4
68000881	14mm Studlink	14mm Studlink

Refer to page 34 for switch kit and accessories

Brake Control and Accessories available. Refer to page 26

Dimensions Diagram





lewmar.com Motor/gearbox dimensions can be found on the website.

Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN			SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'	15-22m / 50-73'		Amp
V8 2500W	24	35mm² / 0 AWG	35mm²/ 0 AWG	50mm²/ 00 AWG	1.5mm² / 16 AWG	5
V8 3500W	24	35mm² / 0 AWG	35mm²/ 0 AWG	50mm² / 00 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

V9/V10/V12 Vertical Windlasses

- All stainless steel deck unit
- All sizes are available as gypsy only and gypsy drum in left hand, right hand and remote chain pipe configurations
- Full range of power options including AC, DC and hydraulic
- Independent capstan operation
- Powered or manual chain release
- W.A.R.P. Drum (Wear and Abrasion Resistant Pattern)
- A wide range of metric and imperial chain gypsies are available including 22mm Studlink
- For boats up to 50m (160ft)

Lloyd's Register TYPE APPROVAL

BUREAU VERITAS V10 Only

V9/V10/V12 Gypsy Only

V9/V10/V12 Gypsy/Drum

V9/V10/V12 Specifications

MODEL	MOTOR POWER	MAX PULL		WORKING LOAD LIMIT		MAX LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	WEIGHT	
	Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb
V9 400V AC	4000	3182	7000	1591	3500	18	59	11	12	105	231
V9 208V AC	4000	3182	7000	1591	3500	18	59	13	14	105	231
V10 400V AC	5500	4000	8800	2000	4400	18	59	12	13	301	662
V10 208V AC	5500	4000	8800	2000	4400	18	59	16	20	301	662
V12 400V AC	7500	5000	11000	2500	5500	20	66	15	16	357	785
V12 208V AC	7500	5000	11000	2500	5500	20	66	24	32	357	785

V9/V10/V12 Hydraulic Specifications

MODEL	GEARBOX	MAX PRESSURE		FLOW RATE		MAX. PULL		WORKING LOAD		MAX. LINE SPEED		WEIGHT	
		bar	psi	l/min	US gal/min	kg	lb	kg	lb	m/min	ft/min	kg	lb
V9 – 300 cc/rev		175	2573	20-60	5.2-15.6	3182	7000	1591	3500	8-22	26-72	153	337
V9 – 230 cc/rev		175	2573		5.2-15.6	3182	7000	1591	3500	8-22	26-72	150	330
V10 – 500 cc/rev	5:1	155	2279	30–60	7.8–15.6	4000	8800	2000	4400	8–16	26–52	187	411
V12 – 250 cc/rev	13.5:1	155	2279	30–80	7.8–20.8	5000	11000	2500	5500	6–17	20–56	204	449

V9/V10/V12 Vertical Windlasses

1

Deck Unit

PART NO.	DESCRIPTION
69000460	V9 Deck Unit LH GD
69000461	V9 Deck Unit RH GD
69000462	V9 Deck Unit UNI GD
69000463	V9 Deck Unit LH GO
69000464	V9 Deck Unit RH GO
69000465	V9 Deck Unit UNI GO
69000418	V10/12 GD LH DECK UNIT
69000419	V10/12 GD RH DECK UNIT
69000421	V10/12 GD UNI PIPE DECK UNIT
69000422	V10/12 GO LH DECK UNIT
69000423	V10/12 GO RH DECK UNIT
69000424	V10/12 GO UNI PIPE DECK UNIT

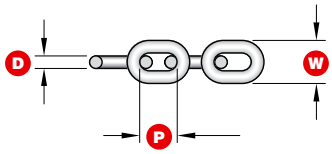
Refer to page 34 for switch kit and accessories

2

Motor Gearbox (Including contactor)

PART NO.	DESCRIPTION
69000466	V9 400V AC 4kW DRIVE WITH BRAKE
69000466M	V9 400V AC 4kW DRIVE WITH BRAKE (mirrored version)
69000467	V9 208V AC 4kW DRIVE WITH BRAKE
69000467M	V9 208V AC 4kW DRIVE WITH BRAKE (mirrored version)
69000468	V9 HYDRAULIC MOTOR / GEARBOX
69000469	V9 HYDRAULIC MOTOR / GEARBOX (TE 0230)
69000427	V10 HYDRAULIC DRIVE + BRAKE
69000428	V12 HYDRAULIC DRIVE + BRAKE
69000446	V10 HYDRAULIC DRIVE NO BRAKE
69000447	V10 400V 5,5 kW DRIVE + BRAKE
69000448	V10 208V 5,5 kW DRIVE + BRAKE
69000449	V12 400V 7,5 kW DRIVE + BRAKE
69000450	V12 208V 7,5 kW DRIVE + BRAKE
69000451	V10 400V 4,0 kW DRIVE + BRAKE

Chain Guide

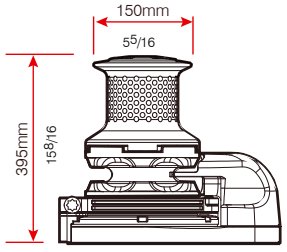


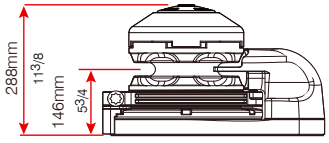
3

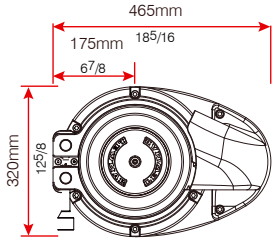
Gypsy Specifications

PART NO.	DESCRIPTION	CHAIN DESCRIPTION	D mm	D in	P mm	P in	W mm	W in
V9								
66000721	14mm Studlink Gypsy Kit	14mm Studlink	14	0.551	56	2.205	50.4	1.984
66000722	16mm Studlink Gypsy Kit	16mm Studlink	16	0.630	64	2.520	57.6	2.268
66000723	16mm Shortlink Gypsy Kit	16mm Shortlink/DIN766	16	0.630	48	1.890	56	2.205
66000724	17.5mm Studlink Gypsy Kit	17.5mm Studlink	17.5	0.689	70	2.756	63	2.480
66000725	18mm Shortlink Gypsy Kit	18mm DIN 766	18	0.709	50	1.969	65	2.559
V10/12								
68000944	16mm Studlink Gypsy Kit	16mm Studlink	16	0.630	64	2.520	57.6	2.268
68000946	17.5mm Studlink Gypsy Kit	17.5mm Studlink	17.5	0.689	70	2.756	63	2.480
68000943	19mm Studlink Gypsy Kit	19mm Studlink	19	0.748	76	2.992	68.4	2.693
68000932	20.5mm Studlink Gypsy Kit	20.5mm Studlink	20.5	0.807	82	3.228	73.8	2.906
68000945	22mm Studlink Gypsy Kit	22mm Studlink – V12 remote hawse only	22	0.866	88	3.465	79.2	3.118

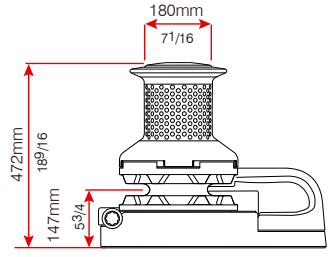
V9 Dimensions Diagram

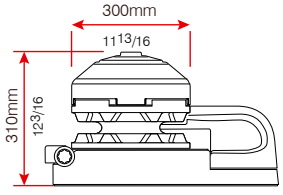


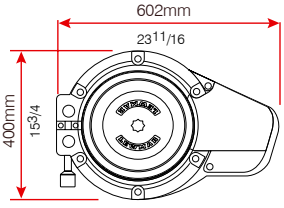


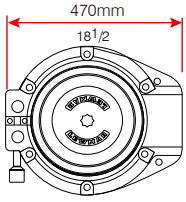


V10/12 Dimensions Diagram









lewmar.com Motor/gearbox dimensions can be found on the website.

V-Series Accessories

Control Arm Kit

PART NO.	DESCRIPTION
66810030	V1/2/3 Control arm kit
66810031	V4/5 control arm kit

66810030
V1/2/3 Control arm kit

66810031
V4/5 control arm kit

Manual Recovery Kit

PART NO.	DESCRIPTION
66840054	V1/2/3 Gypsy Only emergency manual recovery kit
66840056	V1/2/3 Gypsy Drum emergency manual recovery kit
66840003	V4/5 Gypsy Only emergency manual recovery kit
66840005	V4/5 Gypsy Drum emergency manual recovery kit

66840054
V1/2/3 Gypsy Only manual recovery kit

66840003
V4/5 Gypsy Only manual recovery kit

Bulkhead Fitting (suitable for V1/2/3/4/5)

PART NO.	DESCRIPTION
68000866	3 gland bulkhead fitting
68000867	4 gland bulkhead fitting

68000866
3 gland bulkhead fitting

Remote Chain Pipe Option (suitable for V6/V8)

PART NO.	DESCRIPTION
66000691	Blank Cover & Stripper Kit V8
66000692	Blank Cover & Stripper kit V6
68000024	8-13mm Remote Chain Pipe
68000037	14-16mm Remote Chain Pipe

68000037
14-16mm Remote Chain Pipe

66000692
Blank cover and stripper kit

Band Brake Controls

PART NO.	DESCRIPTION
68000897	V8 Horizontal Remote Brake
68000876	V8 Remote Brake Assy
68001023	V8 Closed Coupled Handwheel Assy
68001025	V9 Remote Handwheel

68000897
Brake Control

68000876
Brake Control

Brake Cables

PART NO.	DESCRIPTION
65001687	V8 Brake cable 800mm (4mm wire)
65001688	V8 Brake cable 1000mm (4mm wire)

Devil's Claw Chain Stoppers

The Devil's Claw chain stoppers are designed to be used with Lewmar V8 to V12 windlass range.

- Paddle holds the load of the anchor and chain when at anchor, taking the load off the windlass
- Devil's Claw is used for tensioning the anchor chain when the anchor is stowed, preventing it from moving when under way.
- As required by classification societies, the breaking load of these units is calculated at 125% of the breaking load of the chain.
- Stopper paddles made from high tensile 17-4PH Stainless Steel, and the main bodies are made from 316 Stainless Steel, combined with an integral high tensile FV520B Stainless Steel stopper block.
- Available in horizontal & vertical configurations and a wide range of chain size from 14 to 22mm Studlink Chain
- Vertical units have the Devil's Claw operating vertically, while horizontal units have the Devil's Claw operating horizontally.
- Chain size based on U2 studlink chain although shortlink chain will operate in the same size studlink chain unit.
- The height of chain operation is designated by windlass size. For example, it is possible to use a V8 size unit with a V9 windlass if the Devil's Claw is mounted on a plinth to raise it to the correct height.

Devil's Claw Horizontal

Devil's Claw Vertical

PART NO.	DESCRIPTION
69000507	14mm Vertical DCRS (V8)
69000508	14mm Vertical DCRS (V9)
69000500	16mm Vertical DCRS (V8)
69000506	16mm Vertical DCRS (V9)
69000504	17,5mm Horizontal DCRS (V9 / V10 / V12)
69000510	19mm Horizontal DCRS (V10 / V12)
69000509	22mm Horizontal DCRS (V12)

Pro-Sport Horizontal Windlass

Lewmar's Pro-Sport windlass is designed as an economical package for rope and chain applications, without compromise to quality or performance. Pro-Sport is designed around a highly efficient spur gearbox, using smaller, more powerful permanent magnet motors. Its rugged aluminium centre case and durable composite side covers make Pro-Sport the perfect choice. Complete with push-button control, anchoring has never been easier.

- Powerful motor providing superior line speed
- Low power consumption / current draw
- Dual direction powered operation
- Choice of two gypsy sizes, 6mm & 7mm (1/4") chain
- Maximum pulling power: 250kg (550lb)
- Convenient above deck installation
- 3 year warranty
- For boats up to 9m (28ft)
- Manual freefall
- DIY ready

Pro-Sport 550 Specifications

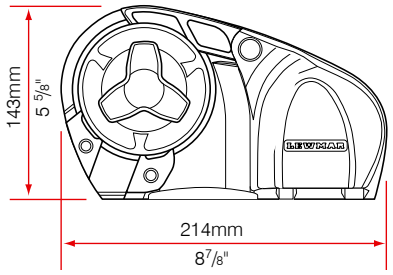
PART NUMBER	DESCRIPTION	GYPSY NO.	MOTOR SUPPLY	MOTOR POWER	MAXIMUM PULL		MAXIMUM LINE SPEED		WORKING LOAD LIMIT		NORMAL CURRENT DRAW	WEIGHT		CIRCUIT BREAKER
			Voltage	Watt	kg	lb	m/min.	ft/min.	kg	lb	Amp	kg	lb	
6656811196-312	Pro-Sport 550 G 6mm Kit*	502	12	150	250	550	30	98	62.5	137.5	20	6.5	14	25
6656811197-312	Pro-Sport 550 G 7mm/ 1/4" Kit*	503	12	150	250	550	30	98	62.5	137.5	20	6.5	14	25

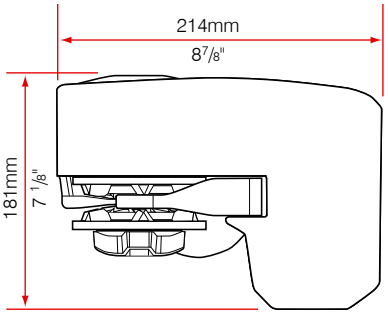
Kits include: windlass, base gasket seal, fast mounting studs, installation wrench, contactor (68000939), guarded rocker switch (68000593) and circuit breaker.

Pro-Sport Gypsy Specifications

GYPSY NUMBER	CHAIN DESCRIPTION	ROPE DESCRIPTION		
		mm	in	
502	6mm DIN766	12mm	1/2	3-strand and 8-plait
503	1/4" ISO G4, 1/4" BBB, 7mm DIN 766	12mm	1/2	3-strand and 8-plait

Dimensions Diagram





Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN		SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'		Amps
Pro-Sport	12	6mm² / 10 AWG	6mm² / 8 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

Pro-Series + Pro-Fish Horizontal Windlasses

Praised by professionals worldwide, the horizontal Pro-Series is a shining example of Lewmar's commitment to provide quality products for boats from 6m-11.5m (20-38ft). It's DIY-ready, easy to install and housed in 100% 316 stainless steel, making it well protected and durable. And with push-button control and a built-in manual emergency recovery system, anchoring has never been easier.

Our Pro-Fish model is the ultimate windlass for fishermen. The Pro-Fish has an automatic freefall that allows you to pull right up over a wreck or ledge, and drop anchor with speed and precision. No more running your motor or wasting fuel while you "hover fish". And you can retrieve your anchor just as easily, with the push of a button. Plus, the Pro-Fish is DIY-ready and made of durable 100% 316 stainless steel.

- Automatic freefall (Pro-Fish only)
- Powerful motor providing fast line speed
- Manual emergency recovery equipped – all you need is a common 1/2" socket wrench
- Strong 100% 316 stainless steel, including control arm and stripper
- Maximum pulling power: 320kg (700 lb) for the 700 and 454kg (1,000 lb) for the 1000
- Convenient above-deck installation
- 5-year warranty
- For boats up to 12m (38ft)
- Free Fall conversion kits
- DIY ready

Pro-Series
Horizontal Windlass

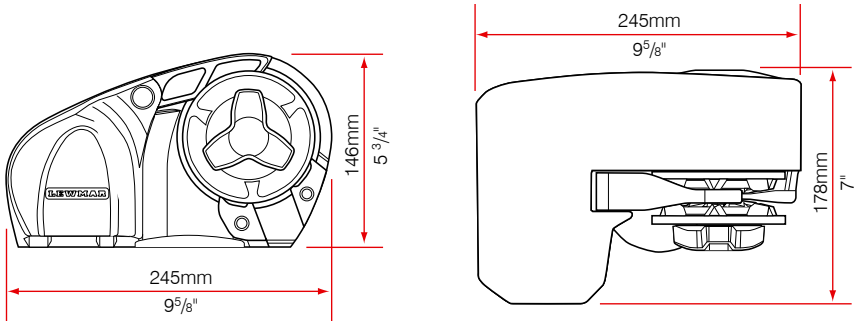
Pro-Fish
Horizontal Windlass

Pro-Series + Pro-Fish Horizontal Windlasses

Pro-Sport 550 Specifications

MODEL	MAX.CHAIN		MOTOR SUPPLY	MOTOR POWER	MAXIMUM PULL		MAXIMUM LINE SPEED		WORKING LOAD LIMIT		NORMAL CURRENT DRAW	CIRCUIT BREAKER	WEIGHT	
	mm	in	Voltage	Watt	kg	lb	m/min.	ft/min.	kg	lb	Amp	Amp	kg	lb
Pro-Series 700	7	1/4	12	500	320	700	79	175	32	105	35	50	8.5	19
Pro-Series 1000	8	5/16	12	700	454	1000	114	250	32	105	50	70	9.5	21
Pro-Fish 700	7	1/4	12	500	320	700	79	175	32	105	35	50	8.5	19
Pro-Fish 1000	8	5/16	12	700	454	1000	114	250	32	105	50	70	9.5	21

Dimensions Diagram



Pro-Series/Pro-Fish Windlass Kit

PART NO.	DESCRIPTION	GYPSY NO.
6656011196-310	Pro-Series 700 Kit	502
6656011107-310	Pro-Series 700 Kit	503
6657011196-311	Pro-Series 1000 Kit	502
6657011108-311	Pro-Series 1000 Kit (USA only)	516
6657011198-311	Pro-Series 1000 Kit	504

PART NO.	DESCRIPTION	GYPSY NO.
6656211196-310	Pro-Fish 700 Kit	502
6656211107-310	Pro-Fish 700 Kit	503
6656411198-311	Pro-Fish 1000 Kit	504
6656411108-311	Pro-Fish 1000 Kit (USA only)	516

Kits include: Windlass, base gasket seal, fast-mounting studs, installation wrench, circuit breaker, dual-direction solenoid and rocker switch.

Pro-Series/Pro-Fish Gypsy Specifications

GYPSY NUMBER	CHAIN DESCRIPTION	ROPE DESCRIPTION		
		mm	in	
502	6mm DIN 766	12	1/2	3-strand and 8-plait
503	1/4" ISO G4, 1/4" BBB, 7mm DIN 766	12	1/2	3-strand and 8-plait
516	5/16" ISO G4	14–16	9/16–5/8	3-strand and 8-plait (5/8 only)
504	8mm DIN 766, 5⁄16" BBB, 8mm ISO 4565	14–16	9/16–5/8	3-strand and 8-plait (5/8 only)

Pro-Fish Conversion Kit

Converts Pro-Series to Pro-Fish

PART NO.	DESCRIPTION
66000616	Conversion Kit

Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN		SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'		Amp
Pro-Series/Pro-Fish 700	12	10mm² / 10 AWG	16mm² / 6 AWG	1.5mm² / 16 AWG	5
Pro-Series/Pro-Fish 1000	12	10mm² / 8 AWG	16mm² / 4 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

H-Series

The stylish, horizontal H-Series Windlasses use the reliable worm gearbox technology. The integral contactor simplifies wiring and is protected by a durable maincase. The unit's waterproof seal requires minimum maintenance, and since you can install it in one piece, getting started is quick and easy.

- Quick, easy, one-piece installation
- Robust horizontal worm motor-gearbox for reliable performance
- Integral contactor protected by maincase
- Sealed waterproof unit requires minimum maintenance
- Aluminium and composite maincase for reduced weight
- Stainless steel warping drum and unique W.A.R.P. (Wear and Abrasion Reduction Pattern) finish
- For boats up to 14m (48ft)

H2 & H3 Specifications

PART NUMBER	PART NUMBER	MODEL	MOTOR SUPPLY	GYPSY NO.	MOTOR POWER	MAXIMUM PULL		MAXIMUM LINE SPEED		WORKING LOAD LIMIT		NORMAL CURRENT DRAW	NORMAL LINE SPEED		WEIGHT GYPSY ONLY		WEIGHT GYPSY/DRUM		CIRCUIT BREAKER
Gypsy only	Gypsy/Drum		Voltage		Watt	kg	lb	m/min	ft/min	kg	lb	Amp	m	ft	kg	lb	kg	lb	Amp
69600533	69600537	H2	12	505	700	650	1433	21	69	163	358	80	17	56	21.5	47	23.5	52	90
69600534	69600538	H2	12	506	700	650	1433	21	69	163	358	80	17	56	21.5	47	23.5	52	90
	69600545	H3	12	505	1000	890	1962	28	92	215	475	85	18	59	23.5	52	25.5	56	110
69600542	69600546	H3	12	506	1000	890	1962	28	92	215	475	85	18	59	23.5	52	25.5	56	110
	69600548	H3	24	506	1000	1020	2248	30	98	243	535	60	20	66	23.5	52	25.5	56	90

Kits include: Built-in-dual-direction contactor, breaker and rocker switch

H2 & H3 Gypsy Specifications

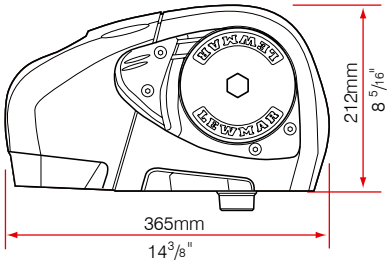
GYPSY NUMBER	SIZE	CHAIN DESCRIPTION	ROPE DESCRIPTION		
	mm		mm	in	
505	8	5/16" BB, 5/16" ISO G4, 8mm DIN 766, 8mm ISO 4565	14-16	9/16-5/8	3-strand and 8-plait (5/8 only)
506	10	3/8" BBB, 10mm DIN 766, Lewmar 9.5 G40	14-16	9/16-5/8	3-strand and 8-plait (5/8 only)

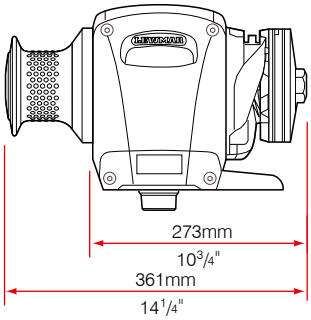
Manual Recovery Kit

Available on the H2/H3 as an optional extra, it remains fitted to the unit for user convenience

PART NO.	DESCRIPTION
66840045	M/R Kit H2/H3

Dimensions Diagram





Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN		SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'		Amp
H2	12	10mm² / 6 AWG	25mm² / 4 AWG	1.5mm² / 16 AWG	5
H2	24	6mm² / 10 AWG	6mm² / 8 AWG	1.5mm² / 16 AWG	5
H3	12	16mm² / 6 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5
H3	24	10mm² / 8 AWG	16mm² / 6 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

C Series Capstans

Lewmar's C Series Capstans provide almost effortless rope control at the press of a footswitch. The WARP™ (Wear and Abrasion Resistant Pattern) finished drum optimizes performance and reduces rope wear by up to 30%. Stainless steel components combine strength, anti-corrosion and durability with a beautiful, polished finish. Installation of the C3 is quick and simple, as it is fastened entirely from above deck.

- Beautifully crafted stainless steel components ensure enduring strength and performance
- WARP™ finish drum - unique Wear and Abrasion Resistant Pattern reduces rope wear by 30%
- C3 offers quick, easy on-deck installation requiring only one person
- C4–C10s have worm gearbox-inherent anti-runback characteristics acting as a mechanical brake

Capstan selection guide

BOAT LENGTH OVERALL

Model	6 m 20 ft	12.2 m 40 ft	18.3 m 60 ft	24.4 m 80 ft	30.5 m 100 ft	36.6 m 120 ft	42.7 m 140 ft	48.8 m 160 ft	55 m 180 ft
C3									
C4									
C5									
C6									
C10									
C12									

Lighter shading represents the upper limit of model. If in doubt, move up a model.

C-Series Capstans

Refer to page 34 for switch kit and accessories

C Series Capstan Electric Specifications

DESCRIPTION	MOTOR POWER	MAXIMUM PULL		WORKING LOAD LIMIT		MAXIMUM LINE SPEED		NORMAL CURRENT DRAW	CIRCUIT BREAKER	WEIGHT	
	Watt	kg	lb	kg	lb	m/min	ft/min	Amp	Amp	kg	lb
C3 – 12V	1000	750	1650	188	414	12	39	65	70	12	26
C3 – 24V	1000	850	1870	213	470	12	39	40	50	12	26
C4 – 12V	1600	1250	2750	313	690	25	82	125	150	25	55
C4 – 24V	2000	1500	3300	375	827	27	89	70	110	25	55
C5 – 12V	2000	1450	3190	363	800	27	89	120	150	27.5	60
C5 – 24V	2000	1600	3520	400	882	29	97	60	110	27.5	60
C6 – 24V	2000	1540	3388	770	1698	40	131	90	–	30	66
C4 – 400V AC											
C10 – 400V AC	4000	2400	5280	1200	2640	20	66	9	10		

C Series Capstan Hydraulic Specifications

MODEL	NORMAL PRESSURE		FLOW RATE		MAX. PULL		MAX. LINE SPEED	
	bar	psi	l/min	US gal/min	kg	lb	m/min	ft/min
C4/5 Hydraulic	175	2537	10–40	2.6–10.6	1100 at 14 bar	2400 at 203 psi	21 at 40l/min	69 at 10.6 US gal/min
C10 (200 cc/rev)	175	2573	20–55	5.2–14.3	2420	5324	8–23	26–75
C12 (250 cc/rev) 13.5:1 G/Box	155	2279	30–80	7.8–20.8	5000	11000	6–17	20–56

C Series Capstan

C3 Capstan Kits

PART NO.	DESCRIPTION
6630331312	C3 - 12V integrated deck unit & motor gearbox
6630332312	C3 - 24V integrated deck unit & motor gearbox

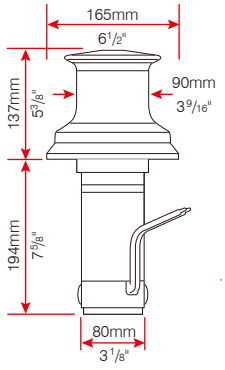
1 Deck Unit

PART NO.	DESCRIPTION
66810032	C4/5 Deck Unit
69000411	C6 Deck Unit
69000453	C10/12 Deck unit

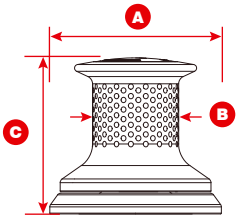
2 Motor/Gearbox

PART NO.	DESCRIPTION
68000534	C4 - 12V Motor Gearbox
68000535	C4 - 24V Motor Gearbox
68000901	C4 - 400V AC
66810011	C5 - 12V Motor Gearbox
66810012	C5 - 24V Motor Gearbox
68000294	C4/5 Hydraulics
69000414	C6 - 24V Motor Gearbox
69000491	C10 4kW, 400V AC
69000456	C10 Hydraulics
69000458	C12 Hydraulics

Dimensions Diagram



C3 Integrated Deck Unit and Motor Gearbox



C4/5 & 6 Deck Unit

Dimensions

	A		B		C	
	mm	in	mm	in	mm	in
C4/5	215	8 1/2	108	4 1/4	196	7 3/4
C6	230	9 1/16	130	5 7/16	219	8 5/8

Cable Sizes

PRODUCT	VOLTAGE	LENGTH OF CABLE RUN			SWITCH WIRING	CURRENT RATING FOR SWITCH WIRE
		0–7m / 0'–23'	7–15m / 23'–50'	15-22m / 50'- 73'		Amps
C3	12	10mm² / 8 AWG	16mm² / 4 AWG		1.5mm² / 16 AWG	5
C3	24	6mm² / 10 AWG	6mm² / 8 AWG		1.5mm² / 16 AWG	5
C4	12	25mm² / 3 AWG	35mm² / 0 AWG	50mm² / 0 AWG	1.5mm² / 16 AWG	5
C4	24	10mm² / 8 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5
C5	12	25mm² / 3 AWG	35mm² / 0 AWG	50mm² / 0 AWG	1.5mm² / 16 AWG	5
C5	24	10mm² / 8 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5
C6	24	10mm² / 8 AWG	16mm² / 4 AWG	25mm² / 2 AWG	1.5mm² / 16 AWG	5

The above cable sizes are recommendations only.

Switch Kits

Switch Kit Selection Guide

1 Circuit Breakers

2 Contactor

3 Switches & Accessories

1 Circuit Breakers

PART NO.	DESCRIPTION
68000603	Circuit Breaker (Slow Blow) 25A
68000604	Circuit Breaker (Slow Blow) 35A
68000348	Circuit Breaker (Slow Blow) 50A
68000240	Circuit Breaker (Slow Blow) 70A
68000349	Circuit Breaker (Slow Blow) 90A
68000350	Circuit Breaker (Slow Blow) 110A
68000351	Circuit Breaker (Slow Blow) 150A
68000627	Circuit Breaker (Slow Blow) 160A
68000894	Circuit Breaker (Slow Blow) 200A
68000628	Circuit Breaker (Slow Blow) 225A
68000895	Circuit Breaker (Slow Blow) 250A

2 Contactors

PART NO.	DESCRIPTION	Capstans C3 to C6	Pro-Sport	Pro-Series Fish 700	Pro-Series Fish 1000	V700	V1 CPX1	V2/V3 CPX2/3	V4	V5	V6	V8 2500	V8 3500
	Sealed Contactors												
68000933	Single 12V	•											
68000934	Single 24V	•											
68000937	Compact Dual 12V (SF)						•	•					
68000938	Compact Dual 24V (SF)							•					
68000318	Dual 12V (SF)						•	•		•			
68000319	Dual 24V (SF)							•		•		•	
68000939	Compact Dual 12V (PM)		•	•	•	•							
68000320	Dual 12V (SW)								•				
68000321	Dual 24V (SW)								•		•		•
	Contactors in Boxes												
18000301	Single 12V	•											
18000302	Single 24V	•											
68000129	Dual 12V (SF)						•	•		•			
68000130	Dual 24V (SF)							•		•		•	
68000965	Dual 12V (SW,PM)		•	•	•	•			•				
68000966	Dual 24V (SW,PM)								•		•		•
	Pre-wired Contactors in Boxes with Fuse												
68000963	Dual 12V (SW,PM)		•	•	•	•			•				
68000964	Dual 24V (SW,PM)								•		•		•
68000919	Single 12V	•											
68000920	Single 24V	•											

SF – Split Field PM – Permanent Magnet SW – Series Wound

Switches

3

SX Foot Switch

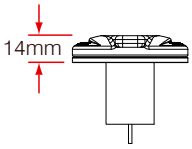
- Suitable for DC electric windlasses running on 12 or 24v
- IP67/5 rated for water resistance
- Twin sealed switch compartment
- Composite plastic body
- Available with polished stainless steel or composite plastic lid
- New lower-profile design with updated styling

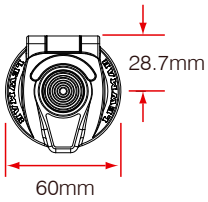
68001027
Black Open Lid

68001030
Stainless Steel Closed Lid

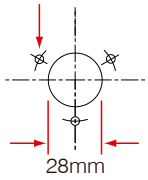
68001026
Stainless Steel Open Lid

SX Dimensions





3 holes 4.5mm diameter equally spaced as shown on a 43.0 PCD



Mounting detail

DESCRIPTION	BLACK Part Number	STAINLESS STEEL Part Number
Open Lid	68001027	68001026
Closed Lid	68001031	68001030

Deck Foot Switch

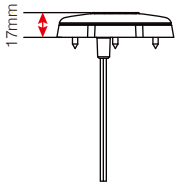
- Suitable for DC electric windlasses running on 12 or 24 v
- Single direction switch
- Hinged cover to prevent accidental operation
- Available in grey, white, or stainless steel
- Normally open contact, 5A (12 & 24v)
- Ready to install
- Must be used with a contactor or control box

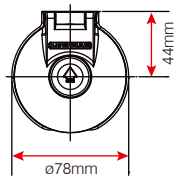
68000883
Grey Foot Switch

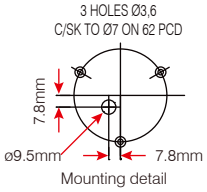
68000930
White Foot Switch

68000888
Stainless Steel Foot Switch

DESCRIPTION	GREY Part Number	WHITE Part Number	STAINLESS STEEL Part Number
Windlass down	68000883	68000918	68000888
Windlass up	68000884	68000917	68000889
Blank	68000928	68000930	68000929







Guarded Rocker Switch

PART NUMBER	DESCRIPTION
68000593	Dual direction switch

Hand held wired remote control

PART NUMBER	DESCRIPTION
68000524	Delux remote control
68000599	Hand-held control switch

Deluxe Remote Control

Handheld Control Switch

Wireless RF Remote Control

- 3-Button Windlass Wireless Remote Control allows wireless remote up/down operation of any Lewmar windlass
- 5-Button Windlass & Thruster Remote Control allows wireless port/starboard thrust operations of any Lewmar Thruster, and wireless up/down operation of any Lewmar Windlass
- Easily retrofitted to existing installations
- Kit includes one wireless fob and one receiver that supports up to eight remote key fobs. Additional fobs sold separately.
- Include a replaceable battery
- The fobs float and are waterproof to IP67 (1 meter deep)
- Using over 1 billion individual codes, our proprietary encryption scheme prevents false triggering from any other device or similar fob
- FCC & CE

Most Lewmar products utilise solenoids, although some of our smaller products may not. If in doubt, contact your Lewmar representative.

3-Button Windlass Wireless Remote Kit

PART NUMBER	DESCRIPTION
68000967	3-Button Windlass Wireless Remote Kit

5-Button Windlass & Thruster Wireless Remote Kit

PART NUMBER	DESCRIPTION
68000968	5-Button Windlass & Thruster Wireless Remote Kit

Additional Fobs

PART NUMBER	DESCRIPTION
68001005	3-button spare fob
68001006	5-button spare fob

10m Remote Antenna Kit

PART NUMBER	DESCRIPTION
68000969	10m Remote Antenna Kit

When reception is poor or distance to the windlass/thruster is long, a remote antenna will improve reception.

Chain Counters

AA150 (66830014) – Chain counter

- Displays the length of rode deployed through the windlass.

AA560 (66830015) – Windlass control and chain counter

- Controls the windlass from the helm station and shows at a glance how much anchor rode is deployed.

AA710 (66830011) – Wireless windlass control and chain counter

- Provides complete flexibility in controlling your windlass from anywhere on the boat. Also see at a glance the length of anchor rode deployed.

lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

The Lewmar Anchor Range

Delta® Anchor

The Delta® anchor is constructed of high-grade manganese steel and stainless steel for maximum tensile strength. Its unique shank profile and ballasted tip make it self-launching. And its low center of gravity and self-righting geometry ensure that it will set immediately.

Consistent and reliable in performance, the Delta® anchor is guaranteed for life against breakage[1], has Lloyd's Approval[2] as a High Holding Power anchor and is specified as the primary anchor used by numerous National Lifeboat organizations.

C.Q.R.® Anchor

The C.Q.R.® anchor has gained legendary status for its superior performance. The original drop-forged construction of the C.Q.R.® anchor increases its strength and reliability under load – a genuine C.Q.R.® anchor will not break. Its hinged shank delivers consistent setting and holding even in the very worst conditions. The C.Q.R.® anchor is guaranteed for life against breakage[1] and has Lloyd's Approval[2] as a High Holding Power anchor.

Claw Anchor

Design based on anchors used to secure oil rigs in the North Sea. The Claw anchor is constructed of high-grade steel cast in a single piece. It sets effortlessly, holds in a variety of seabeds and stows easily on the bow roller of most boats.

[1] Damage by deformation or bending is not covered by this guarantee.
[2] Lloyd's Test Certificate is available for individual Delta® anchors by arrangement.

Delta® Anchor

Selection guide

	ANCHOR WEIGHT		BOAT LENGTH OVERALL							
	kg	lb	6 m 20 ft	9.2 m 30 ft	12.2 m 40 ft	15.2 m 50 ft	18.3 m 60 ft	21.3 m 70 ft	24.4 m 80 ft	27.4 m 90 ft
Delta®	4	9								
Delta®	6	14								
Delta®	10	22								
Delta®	16	35								
Delta®	20	44								
Delta®	25	55								
Delta®	32	70								
Delta®	40	88								
Delta®	50	110								
Delta®	63	140								

Lighter shading represents the upper limit of model. If in doubt, move up a model.
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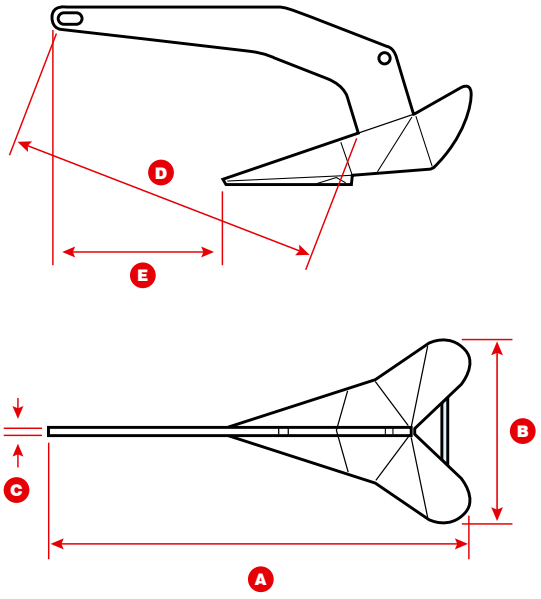
Dimensions Diagram



Lloyd's Register TYPE APPROVAL

Galvanized Delta® Anchor

Stainless Steel Delta® Anchor

Delta® Anchor Stainless and Galvanised Specifications

GALVANIZED	STAINLESS	ANCHOR WEIGHT		RECOMMENDED CHAIN SIZE		A		B		C		D		E	
Part No.	Part No.	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
0057404		4	9	6–7	¼	514	20¼	230	9	8	5⁄16	387	15¼	210	8¼
0057406	0057306	6	14	6–7	¼	593	23⅜	265	10⅜	10	⅜	450	17⅝	243	9½
0057410	0057310	10	22	8	5⁄16	695	27⅜	310	12¼	13	½	526	20⅝	282	11⅛
0057416	0057316	16	35	8	5⁄16	812	32	362	14¼	13	½	614	24⅛	328	13
0057420	0057320	20	44	10	⅜	877	34½	392	15⅜	16	⅝	663	26⅛	357	14
0057425	0057325	25	55	10	⅜	945	37¼	415	16⅜	16	⅝	713	28	387	15¼
0057432	0057332	32	70	10	⅜	1023	40¼	453.5	17⅞	20	¾	775	30½	425	16¾
0057440	0057340	40	88	10	⅜	1103	43½	489	19¼	20	¾	883	32¾	437	17¼
0057450	0057350	50	110	12	½	1175	46¼	523	20½	20	¾	890	35	479	18⅞
0057463	0057363	63	140	12	½	1270	50	567	20⅜	22	⅞	963	38	508	20

CQR® Anchor

Selection guide

	ANCHOR WEIGHT		BOAT LENGTH OVERALL						
	kg	lb	6 m 20 ft	9.2 m 30 ft	12.2 m 40 ft	15.2 m 50 ft	18.3 m 60 ft	21.3 m 70 ft	24.4 m 80 ft
C.Q.R.®	7	15							
C.Q.R.®	9	20							
C.Q.R.®	11	25							
C.Q.R.®	16	35							
C.Q.R.®	20	44							
C.Q.R.®	27	60							
C.Q.R.®	34	75							
C.Q.R.®	48	105							

Lighter shading represents the upper limit of model. If in doubt, move up a model.
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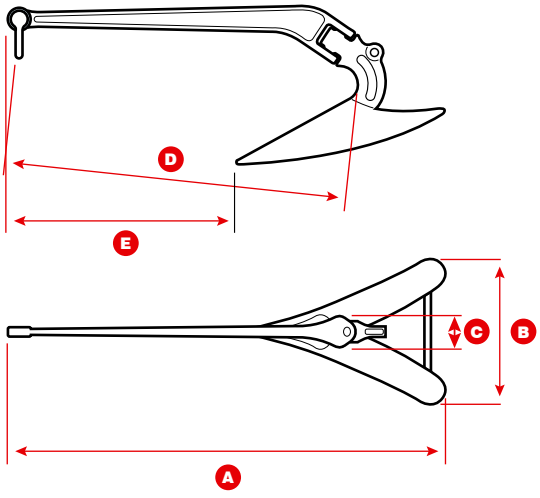
Lloyd's Register TYPE APPROVAL

Dimensions Diagram



C.Q.R.® Anchor Stainless and Galvanised Specifications

GALVANIZED	STAINLESS	ANCHOR WEIGHT		RECOMMENDED CHAIN SIZE		A		B		C		D		E	
Part No.	Part No.	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
0056503		7	15	6	¼	660	26	235	9¼	55	2⅛	552	21¾	330	13
0056504		9	20	8	5⁄16	775	30½	246	9⅝	60	2⅜	647	25½	370	14½
0056505		11	25	8	5⁄16	825	32½	282	11⅛	65	2½	677	26⅝	390	15⅜
0056506		16	35	8	5⁄16	981	38⅝	328	13	76	3	776	30½	513	20⅛
0056507		20	44	10	⅜	1037	40⅝	355	14	83	3¼	828	32½	528	20¾
0056508	0056205	27	60	10	⅜	1117	44	390	15⅜	89	3½	913	36	555	21⅞
0056509	0056206	34	75	11	7⁄16	1190	46⅞	412	16¼	94	3¾	978	38½	570	22½
0056510	0056207	48	105	11	7⁄16	1196	47	485	19	120	4¾	843	33⅛	530	20⅞
0056511	0056208	66	140	12.5	½	1337	52⅝	537	21⅛	128	5	933	36¾	583	23
0056513	0056209	81	180	12.5	½	1450	57	582	23	138	5½	1010	39¾	634	25
0056515	0056210	108	240	14	9⁄16	1560	61½	641	25¼	146	5¾	1105	43½	694	27⅜
0056530	0056211	137	300	14	9⁄16	1682	66¼	693	27¼	154	6	1194	47	746	29⅜
0056540		182	400	16	⅝	1865	73½	763	30	164	6½	1319	52	828	32½
0056550		227	500	17.5	11⁄16	2109	83	825	32½	174	6⅞	1430	56¼	875	34½
0056560		273	600	17.5	11⁄16	2138	84⅛	870	34¼	184	7¼	1511	59½	949	37⅜
	0056217	500	1100	22	⅞	2628	103½	1064	41⅞	216	8½	1847	72¾	1168	46

Claw Anchor

Selection guide

	ANCHOR WEIGHT		BOAT LENGTH OVERALL							
	kg	lb	6 m 20 ft	9.2 m 30 ft	12.2 m 40 ft	15.2 m 50 ft	18.3 m 60 ft	21.3 m 70 ft	24.4 m 80 ft	27.4 m 90 ft
Claw	1	2.2								
Claw	2	4.4								
Claw	5	11								
Claw	7.5	16.5								
Claw	10	22								
Claw	15	33								
Claw	20	44								
Claw	30	66								
Claw	50	110								
Claw	80	176								

Lighter shading represents the upper limit of model. If in doubt, move up a model.
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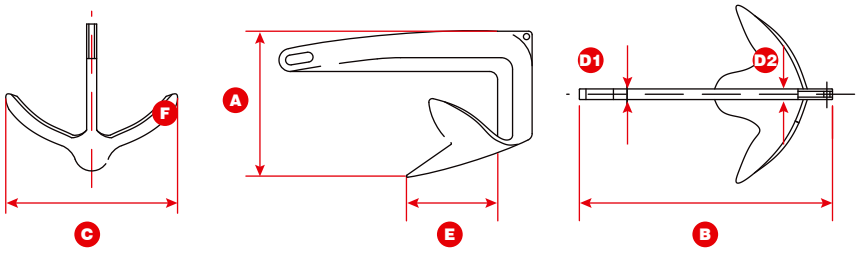
Dimensions Diagram



Claw Anchor Galvanised Specifications

GALVANIZED	ANCHOR WEIGHT		RECOMMENDED CHAIN SIZE		A		B		C		D1		E	
Part No.	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
0057901	1	2.2	5	3/16	133 ±8	5 1/4	295 ±4	11 5/8	182 ±8	7 3/16	7.5 ±2	5/16	95 ±6	3 3/4
0057902	2	4.4	5	3/16	182 ±8	7 3/16	361 ±4	14 3/16	240 ±8	9 7/16	9 ±2	3/8	123 ±6	4 13/16
0057905	5	11	5	3/16	227 ±10	8 15/16	468 ±5	18 7/16	295 ±8	11 5/8	12 ±3	1/2	150 ±6	5 7/8
0057907	7.5	16.5	6	1/4	263 ±10	10 3/8	499 ±5	19 5/8	324 ±10	12 3/4	15 ±3	9/16	151 ±8	5 15/16
0057910	10	22	8	5/16	282 ±10	11 1/8	540 ±6	21 1/4	360 ±10	14 3/16	15 ±4	9/16	182 ±8	7 3/16
0057915	15	33	8	5/16	342 ±12	13 7/16	630 ±6	24 13/16	435 ±10	17 1/8	16.5 ±4	10/16	206 ±12	8 1/8
0057920	20	44	10	3/8	343 ±12	13 1/2	703 ±8	27 11/16	452 ±12	17 13/16	25 ±5	1	238 ±12	9 3/8
0057930	30	66	10	3/8	397 ±12	15 5/8	812 ±8	31 15/16	515 ±12	20 1/4	24 ±5	5/16	283 ±12	11 1/8
0057950	50	110	12	1/2	465 ±12	18 5/16	943 ±10	37 1/8	625 ±12	24 5/8	25.5 ±5	1	313 ±12	12 5/16
0057980	80	176	12	1/2	528 ±12	20 13/16	1074 ±10	42 5/16	699 ±12	27 1/2	26 ±5	1	365 ±12	14 3/8

Claw Anchor Stainless Specifications

GALVANIZED	ANCHOR WEIGHT		RECOMMENDED CHAIN SIZE		A		B		C		D1		D2		E	
Part No.	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
0058901	1	2.2	5	3/16	135 ±8	5 5/16	292 ±4	11 1/2	195 ±8	7 11/16	8 ±2	5/16	10 ±2	1/2	106 ±6	4 3/16
0058902	2	4.4	5	3/16	177 ±8	6 15/16	358 ±4	14	240 ±8	9 7/16	7 ±2	1/4	9.5 ±2	3/8	127 ±6	5
0058905	5	11	5	3/16	230 ±10	9 1/16	453 ±5	17 7/8	305 ±8	12	9 ±3	1/4	14.5 ±3	5/8	146 ±6	5 3/4
0058907	7.5	16.5	6	1/4	267 ±10	10 1/2	481 ±5	18 15/16	345 ±10	13 9/16	12.5 ±3	1/2	18 ±3	11/16	138 ±8	5 7/16
0058910	10	22	8	5/16	288 ±10	11 5/16	540 ±6	21 1/4	377 ±10	14 13/16	13 ±4	1/2	19 ±4	3/4	165 ±8	6 1/2
0058915	15	33	8	5/16	332 ±12	13 1/16	625 ±6	24 5/8	448 ±10	17 3/4	15 ±4	9/16	22 ±4	14/16	203 ±12	8
0058920	20	44	10	3/8	357 ±12	14 1/16	661 ±8	26	465 ±12	18 5/16	17 ±5	3/4	25 ±5	1	220 ±12	8 11/16
0058930	30	66	10	3/8	405 ±12	15 15/16	782 ±8	30 13/16	540 ±12	21 1/4	18 ±5	11/16	26 ±5	1	265 ±12	10 7/16

Anchor Rodes

- Designed to complement the rope-chain gypsies fitted to all Lewmar windlasses
- Calibrated for even pitch
- Hot dip galvanised to minimise corrosion
- Welded for high strength
- Smooth rope-to-chain transition
- Helps your windlass operate smoothly
- Hand-sewn whipping guarantees against unravelling

Premium 3 Strand Rodes (USA only)

PART NUMBER	DESCRIPTION
69000331	5 ¼ G4 X 100 ½ with 5⁄16 shackle
69000332	10 ¼ G4 X 150 ½ with 5⁄16 shackle
69000334	15 ¼ G4 X 200 ½ with 5⁄16 shackle
69000335	15 ¼ G4 X 300 ½ with 5⁄16 shackle
69000339	20 5⁄16 G4 X 200 9⁄16 with 3⁄8 shackle

Premium 8 Plait Rodes (USA only)

PART NUMBER	DESCRIPTION
HM10HT200PX	10 ¼ G4 – 200 ½ 8PLT with Shackle – Sprint 600 & H-600
HM15HT300PX	15 ¼ G4 – 300 ½ 8PLT with Shackle – Sprint 600 & H-600
HM15H300PX	15 5⁄16 G4 – 300 5⁄8 8PLT with Shackle – H-900, (Concept 1, V-2&3 Use 001 gypsy)
HM30B130PX	30 5⁄16 BBB – 130 5⁄8 8PLT with Shackle – H-900 and (H-600 using 504 gypsy)
HM30B200PX	30 5⁄16 BBB – 200 5⁄8 8PLT with Shackle – H-900

Bow Rollers

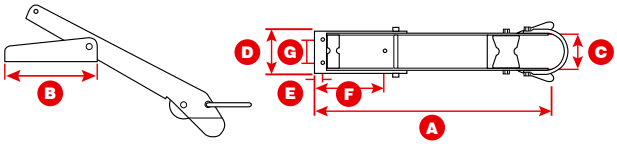
- Friction-free surface to make dropping and weighing anchor easier
- Will not damage the deck or topsides
- Allows you to safely stow anchor while cruising and deploy at short notice
- Constructed of 304 stainless steel
- Range of rollers to fit the most common combinations of anchor, mounting style and boat
- Please visit lewmar.com for the full range of sizes and styles

66840007

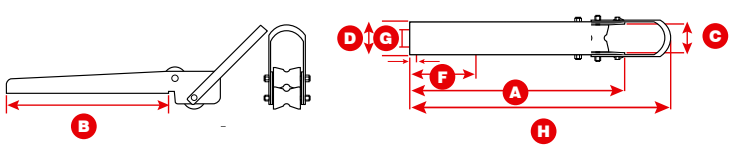
66840009

66840008

Dimension Diagram



66840007



66840008 & 66840009

Bow Rollers Stainless Specification

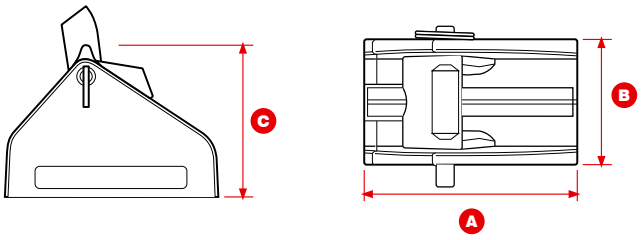
PART NUMBER	WEIGHT		ANCHOR TYPE	A		B		C		D		E		F		G		H	
Part No.	kg	lb		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
66840007	3.6	8	Any Fluke style to 35lb/16kg	524	20	103	8	76	3	99	3⅞	16	5⁄8	153	6	51	2	–	–
66840008	4	9	14, 22 & 35lb (7, 10 & 16kg) Delta® anchors	495	19½	376	14 13⁄16	67	2⅝	80	3⅛	16	5⁄8	153	6	38	1½	602	23 11⁄16
66840009	4.5	10	14, 22 & 35lb (7, 10 & 16kg) Delta® anchors*	597	23½	478	18 13⁄16	67	2⅝	80	3⅛	16	5⁄8	153	6	38	1½	704	27 11⁄16

Chain Stoppers

- A beautiful range of cast stainless chain stoppers
- Made from 316 stainless steel
- Windlasses are not designed to hold high loads while a boat is at anchor
- When the windlass is not in use and the boat is at anchor, the chain should be secured using a chain stopper, or the rope rode should be attached to a load-bearing point such as a cleat
- Perfect for sleep-filled nights and lazy lunches

66840079

Dimensions Diagram



Chain Stopper Specifications

PART NUMBER	CHAIN SIZE		A		B		C	
	mm	in	mm	in	mm	in	mm	in
66840077	8	5/16	110	4 5/16	65	2 1/2	79	3 1/8
66840079	10	3/8	110	4 5/16	65	2 1/2	79	3 1/8
66840080	12–13	1/2	148	5 7/8	88	3 1/2	101	4
66840081	13–14	9/16	160	6 5/16	100	3 15/16	106	4 3/16
66840083	16	5/8	184	7 1/4	116	4 9/16	122	4 13/16
66840069[1]	6–10	1/4–3/8	79	3 1/8	60	2 3/8	57	2 1/4

[1]Stainless Steel Deluxe Anchor Safety Device (USA only)

Devil's Claw Chain Stopper

- A range of Devil's Claw Chain Stopper aimed directly at the large yacht builder
- Incorporates a mechanism (claw) that enables the anchor to be held 'tight' when stowed
- Prevents vibration, knocking, and accidental deployment
- The claw mechanism can be safely stowed when not in use, allowing the chain to run freely
- Available in horizontal and vertical configurations
- Wide range of sizes from 14mm to 22mm studlink chain

Anchor Safety Straps

- Prevents the anchor from deploying if it is unintentionally released or powers out accidentally
- Simply clipped on the chain, shackle, or anchor
- Does not secure the anchor in the bow roller
- Lewmar recommends securing the anchor to the boat when not in use
- The windlass is not designed to hold the anchor to the boat when not in use.

66840028
Minimum 12"/305mm Long PVC Coated Stainless Steel

PART NUMBER	DESCRIPTION	SAFE WORKING LOAD	
		kg	lb
66840027	Anchor Safety Strap 3mm Wire	70	154
66840028	Anchor Safety Strap 4mm Wire	140	309

lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

Thrusters

Manoeuvring around the dock area can be difficult, but Lewmar's TT Thrusters make docking simple. The revolutionary design of the TT propeller – the latest in Lewmar's long history of custom thruster solutions – achieves perfectly even thrust in both directions for maximum control and manoeuvrability. All Lewmar Thrusters have been extensively tested, resulting in a smooth, efficient and quiet performance that will have you docking like a pro in no time.

The Lewmar Thruster Range

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TT Electric Thruster

- Available from 2.0kw (3HP) to 15kw (20HP)
- High performance 5-blade propellers give equal thrust in both directions
- No reservoir to install, no leaks, and low maintenance
- Complete range of TT Electric Thruster accessories available

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Ignition Protected TT Thruster

- Provides reliable and safe installations for boats exposed to gasoline fumes
- Ideal for stern locations where the thruster may get wet
- Manufactured and tested to meet ISO 8846
- Tough and durable composite housing

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TT Hydraulic Thruster

- Complete turn key hydraulic solution
- Enables significant flexibility of vessel movement
- Increases the thrust over appropriate DC Electric version
- 250 and 300 models available with bronze or aluminium hub

Page 54

Custom Thruster

- Provide additional control at the touch of a button
- Ideal for sail or power vessels up to 150 feet
- Unique Swing Retracting Hydraulic Thruster offers a completely fair hull section
- Available with bronze or aluminium legs

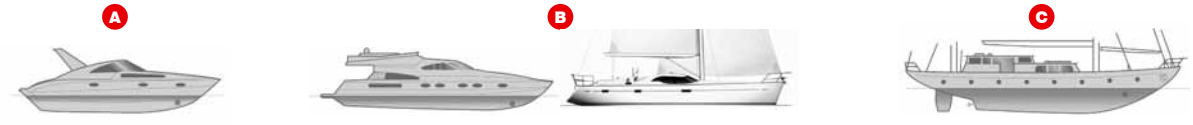
How to choose the right thruster for your boat

The boat's wind area, the 'lateral wind draft area' and the thruster's tunnel position in the hull determine the thruster's performance on a boat. By knowing these factors we can calculate the wind pressure on the boat and the centre point of this wind pressure. From these calculations we can determine what thrust is needed to counter the wind pressure with the given thruster position. To gain total control of your boat, install both a bow and stern thruster, leaving the main engines to propel the boat forward and backward.

To select the right Lewmar thruster:

- Calculate the wind pressure on the boat using the Force Factor Guide
- Locate your vessels length and force factor on the Thruster Selection Guide
- Identify the correct thruster model

Force Factor Guide



	WIND EFFECTS (CONDITIONS)	A LIGHT DISPLACEMENT/ LOW WINDAGE	B MEDIUM DISPLACEMENT/ MEDIUM WINDAGE	C HEAVY DISPLACEMENT/ HIGH WINDAGE
Slight	5-8 m/s, 11–16 Knots, Beaufort F4, 12–18mph	1	2	3
Moderate	8-11 m/s, 17–21 Knots, Beaufort F5, 19–24mph	4	5	6
Rough	11-14 m/s, 21–26 Knots, Beaufort F6, 25–30mph	7	8	9

Thruster selection guide

	BOAT LENGTH OVERALL												
FORCE FACTOR	LOA ft 30 LOA m 9	35 11	40 12	45 14	50 15	55 17	60 18	65 20	70 21	75 23	80 24	85 26	90 27
1	140TT 2.0	140TT 2.0	140TT 2.2	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT 15.0
2	140TT 2.0	140TT 2.0	140TT 2.2	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT 15.0
3	140TT 2.0	140TT 2.2	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT 15.0	300TT Hyd
4	140TT 2.0	140TT 2.2	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT Hyd	300TT Hyd
5	140TT 2.2	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT 15.0	300TT Hyd	300TT Hyd
6	140TT 2.2	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT Hyd	300TT Hyd	300TT Hyd
7	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 10.8	300TT 15.0	300TT Hyd	300TT Hyd	300TT Hyd	300TT Hyd
8	185TT 3.0	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 15.0	300TT Hyd	300TT Hyd	300TT Hyd	300TT Hyd	300TT Hyd
9	185TT 4.0	185TT 5.0	185TT 6.0	250TT 8.0	250TT 9.6	300TT 10.8	300TT 15.0	300TT Hyd	300TT Hyd	300TT Hyd	300TT Hyd	300TT Hyd	300TT Hyd

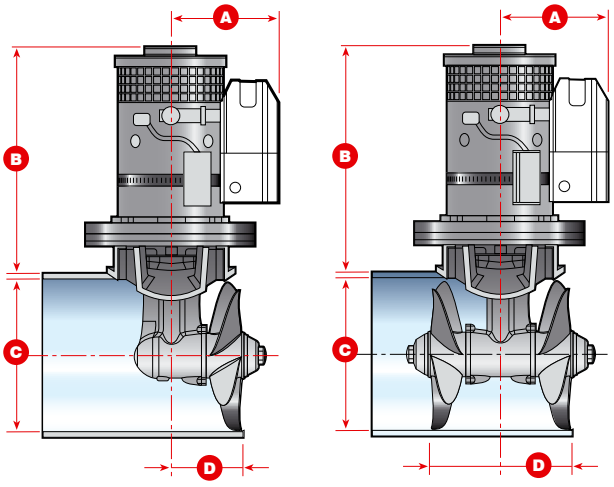
Note: The 250TT Hyd can be used in all areas that the 300TT 10.8 appears.

TT Electric Thruster

As marinas get smaller and berths get tighter, safely docking a boat is more challenging than ever. TT Electric Thrusters give you total control of your boat and allow you to manoeuvre into and out of tight spots with ease.

- Range from 2.0kw (3HP) to 15kw (20HP)
- No reservoir to install, no leaks and no maintenance
- High performance 5 blade propellers give equal thrust in both directions
- High integrity seal
- Spline driven propeller, no drive pin required
- Black box electronics prevents misuse and protects motor
- Hardened and ground spiral bevel gears for maximum efficiency and quiet power transmission
- Self-resetting thermal protection on all motors
- Choice of Joystick or Touch Panel controls
- Easy plug-together switch connections
- Minimum silhouette hub for smooth water flow

Dimensions Diagram



140TT & 185TT **250TT & 300TT**

TT Thruster Specifications

PART NUMBER	MODEL	VOLTAGE	POWER		GEARBOX MATERIAL	TUNNEL	PROPS	THRUST		WEIGHT		A		B		C		D	
			kW	HP		mm		Kgf	lb	kg	lb	mm	in	mm	in	mm	in	mm	in
591482	140TT2.0	12	2	2.7	Composite	140	Single 5-blade	37	81	13	29	123	4 5/8	213	8 3/8	140	5 1/2	71	2 13/16
591481	140TT2.2	12	2.2	3	Composite	140	Single 5-blade	42	92	13	29	123	4 5/8	235	9 1/4	140	5 1/2	71	2 13/16
591801	185TT3.0	12	3	4	Bronze	185	Single 5-blade	58	128	20	43	148	5 7/8	293	11 1/2	185	7 5/16	83	3 1/4
591802	185TT3.0	24	3	4	Bronze	185	Single 5-blade	58	128	20	43	148	5 7/8	293	11 1/2	185	7 5/16	83	3 1/4
591807	185TT4.0	12	4	5.4	Bronze	185	Single 5-blade	65	143	20	43	148	5 7/8	293	11 1/2	185	7 5/16	83	3 1/4
591808	185TT4.0	24	4	5.4	Bronze	185	Single 5-blade	65	143	20	43	148	5 7/8	293	11 1/2	185	7 5/16	83	3 1/4
591803	185TT5.0	12	5	6.7	Bronze	185	Single 5-blade	82	180	27	59	162	6 3/8	315	12 3/8	185	7 5/16	83	3 1/4
591804	185TT5.0	24	5	6.7	Bronze	185	Single 5-blade	82	180	27	59	162	6 3/8	315	12 3/8	185	7 5/16	83	3 1/4
591805	185TT6.0	12	6	8	Bronze	185	Single 5-blade	97	213	27	59	161	6 3/8	343	13 1/2	185	7 5/16	83	3 1/4
591806	185TT6.0	24	6	8	Bronze	185	Single 5-blade	97	213	27	59	161	6 3/8	343	13 1/2	185	7 5/16	83	3 1/4
592501	250TT8.0	24	8	10.8	Bronze	250	Twin CR	160	353	46	102	165	6 1/2	422	16 5/8	250	9 13/16	256	10 1/16
592502	250TT9.6	48	9.6	13	Bronze	250	Twin CR	170	374	50	110	183	7 1/4	427	16 13/16	250	9 13/16	256	10 1/16
592503	250TT8.0	24	8	10.8	Aluminium	250	Twin CR	160	353	46	102	165	6 1/2	422	16 5/8	250	9 13/16	256	10 1/16
593001	300TT10.8	24	10.8	14.5	Bronze	300	Twin CR	250	550	65	143	203	8	450	17 11/16	300	11 13/16	320	12 7/8
593002	300TT15	48	15	20	Bronze	300	Twin CR	280	616	68	150	203	8	450	17 11/16	300	11 13/16	320	12 7/8
593003	300TT10.8	24	10.8	14.5	Aluminium	300	Twin CR	250	550	65	143	203	8	450	17 11/16	300	11 13/16	320	12 7/8

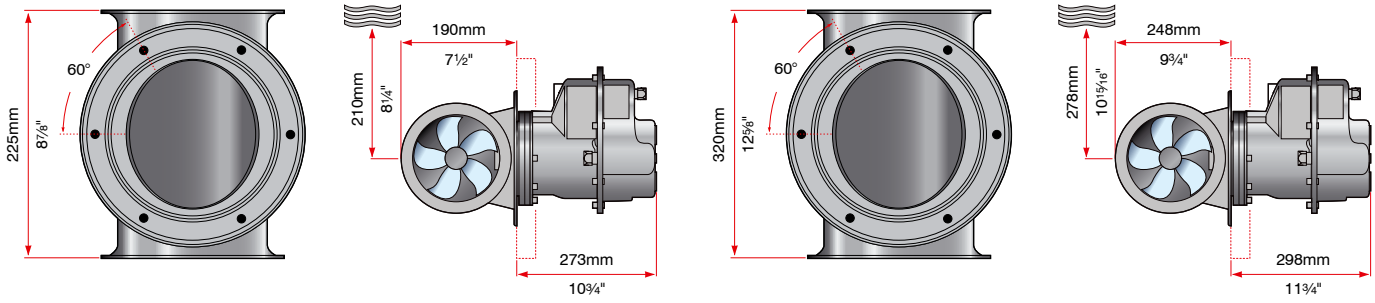
CR = Counter Rotating

Ignition Protected TT Thruster

The Ignition Protected TT Thruster provides reliable and safe installations for boats exposed to gasoline fumes, and is also ideal for stern locations where the thruster may get wet.

- Manufactured and tested to meet ISO 8846
- Water resistant (not recommended to be used when submerged for long periods of time)
- Tough and durable composite housing
- Pre-installed 10m of control cable for connection outside of the restricted area
- Pre-installed 3m of power cables and supplied terminals for safe power supply connection
- Externally mounted fuse for easy maintenance
- Electric motor incorporates an auto-shutoff thermal sensor
- Control systems shuts down after 3 minutes of continual use
- High quality Solenoids to prevent possible contact welding
- Electronic delay between thrust directions to prevent damage to motor
- Externally mounted in-line fuse fitted to protect cable
- IP kits can also be retrofitted to Bow Thrusters

Dimensions Diagram



Ignition Protected TT Thruster Specifications

PART NUMBER	MODEL	VOLTAGE	POWER kW	THRUST kgf	CURRENT DRAW A	FUSE RATING A	ESTIMATED BOAT SIZE ft
591404	140TT IP	12	2.2	42	280	200	25-32
591829	185TT IP	12	3.0	58	330	250	32-38
591830	185TT IP	24	3.0	58	160	130	32-38
591831	185TT IP	12	4.0	65	470	400	38-44
591832	185TT IP	24	4.0	65	235	250	38-44
591833	185TT IP	12	5.0	82	480	400	44-50
591834	185TT IP	24	5.0	82	240	250	44-50
591836	185TT IP	24	6.0	97	370	325	50-58

Thruster Accessories

Fuse Holders

589006 T1 Fuse Holder
- Designed for ANL fuses
- Comes complete with a polycarbonate safety cover

589013 T2 Fuse Holder
- Higher specification fuse holder for ANL fuses
- Allows for easy fuse replacement
- Cable is clamped independently, so a fuse can be changed without disturbing the cable
- Comes complete with a polycarbonate safety cover

Control Panels

589094 Joystick
- Ideal entry level control of thrusters
- Features On/Off illumination
- Easy installation connection
- For use with the 140TT2.0 thruster only

589002 Joystick Pro
- Features a one second press-and-hold safety ON device
- Auto shutoff after 3 minutes of continuous use and 15 minutes of continuous activity
- One second delay from Port to Starboard and vice versa prevents damage to the electric motor

589004 Dual Joystick Panel
- Incorporates safety lock
- Features a one second press-and-hold safety ON device
- Auto shutoff after 3 minutes of continuous use and 15 minutes of continuous activity
- One second delay from Port to Starboard and vice versa prevents damage to the electric motor

589001 Touch Panel
- Incorporates safety lock
- Features a one second press-and-hold safety ON device
- Auto shutoff after 3 minutes of continuous use and 15 minutes of continuous activity
- One second delay from Port to Starboard and vice versa prevents damage to the electric motor

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Connecting Leads and Y Connectors

- Lewmar supplies 4-wire cables suitable for most installations
- Lewmar supplies 5-wire cables suitable for installations where a Battery Switch is connected
- Simply measure the distance from the Thruster to the Panel to choose the suitable lead
- If you are installing a second or third panel, use a Y Connector to divert power back to the Thruster

Cable Specifications

4-WIRE CABLE	5-WIRE CABLE	LENGTH
589021	589075	2m
589016	589070	7m
589017	589071	10m
589018	589072	14m
589019	589073	18m
589020	589074	22m
589015	589069	2m Extension
589025	589076	'Y' Connector

Thruster Accessories

Automatic Battery Switch

- The optimum safety device
- Easy to install
- Installed close to the batteries, it will prevent power from reaching the Thruster until the Panel is activated
- Automatically switches the power off when thrusting is finished and panel inadvertently left on
- Automatically activates power when Panel is operated

Automatic battery switch

Switch Box

- Enables safe usage of a 24V Thruster on a 12V boat
- Enables safe usage of 48V Thruster on a 24V boat
- Additional batteries required

PART NUMBER	DESCRIPTION
589029	12V/24V
589030	24/48V
589031	12V/24V H*

*Heavy duty

12V–24V & 24V–48V Switch box

Accessories Selector

		140TT		185TT											250TT									300TT									
		591402 - 2.0 kW 12V	591401/591404 IP - 2.2 kW 12V	591801/591829 IP - 3.0 kW 12V	591802/591830 IP - 3.0 kW 24V	591807/591831 IP - 4.0 kW 12V	591808/591832 IP - 4.0 kW 24V	591803/591833 IP - 5.0 kW 12V	591804/591834 IP - 5.0 kW 24V	591805 - 6.0 kW 12V	591806/591836 IP - 6.0 kW 24V	591820 - 6cc - 10hp	591821 - 5cc - 10hp	592501 - 8.0 kW 24V	592502 - 9.6 kW 48V	592503 - 8.0 kW 24V	592510 - 26cc - 20hp	592511 - 17cc - 20hp	592520 - 26cc - 20hp	592521 - 17cc - 20hp	592522 - 14cc - 20hp	593001 - 10.8 kW 24V	593002 - 15 kW 48V	593003 - 10.8 kW 24V	593010 - 30cc - 30hp	593011 - 26cc - 30hp	593020 - 30cc - 30hp	593021 - 26cc - 30hp	593022 - 22cc - 30hp	593023 - 19cc - 30hp	593024 - 17cc - 30hp
Gearbox Material	Composite	•	•																													
	Bronze			•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•				•	•	•	•	•
	Aluminium															•	•	•						•	•	•					
Fuse	589007 -130A				•																											
	589008 - 250A			•			•		•						•																	
	589009 - 325A										•																					
	589010 - 400A					•		•						•		•							•									
	589011 - 500A									•												•		•								
	589012 - 200A	•	•																													
Fuse Holder	589006 - T1	•	•	•	•		•		•		•																					
	589013 - T2	•	•	•	•	•	•	•	•	•	•			•	•	•						•	•	•								
Controller	589001 - Touch		•	•	•	•	•	•	•	•	•			•	•	•						•	•	•								
	589002 - Joystick Pro		•	•	•	•	•	•	•	•	•			•	•	•						•	•	•								
	589094 - Joystick	•																														
	589004 - Dual Joystick		•	•	•	•	•	•	•	•	•			•	•	•						•	•	•								
Power Switch Box	589029 - 12V/24V				•		•		•		•			•		•																
	589030 - 24V/48V														•								•									
	589031 - 12V/24V H																					•		•								

Thruster Accessories

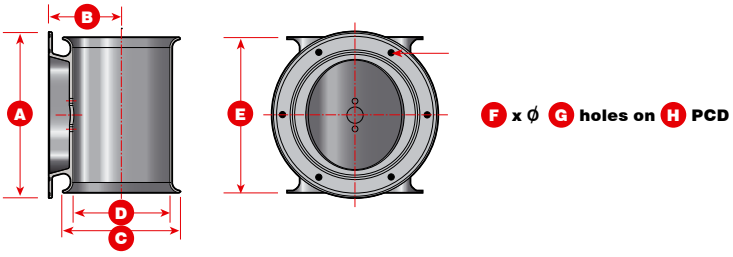
Thruster Tunnels

- Range of high-quality filament-wound GRP tunnels
- Manufactured to Lewmar specifications
- Available in a variety of cut lengths
- Limited range of steel tubes available

TUNNEL LENGTH		GRP Ø140MM	GRP Ø185MM	STEEL Ø185MM	GRP Ø250MM	GRP Ø300MM
cm	ft	(5 1/2")	(7 2/7")	(7 2/7")	(9 5/6")	(11 4/5")
75	2' 6"	589101	589300			
100	3' 3"	589102	589301	589320	589501	589700
150	4' 11"	589103	589302	589321	589502	589701
200	6' 7"		589303		589503	589702
300	9' 10"					589703

Stern Kits

- Sturdy stern kits manufactured from durable GRP
- Available to match Lewmar Thrusters, from 140TT to 300TT



		A		B		C		D		E		F	G		H	
KIT NUMBER	THRUSTER	mm	in	mm	in	mm	in	mm	in	mm	in		mm	in	mm	in
589110	140TT	240	9 7/16	105	4 1/8	170	6 11/16	140	5 1/2	225	8 7/8	6	8.5	5/16	206	8 1/8
589310	185TT	290	11 7/16	130	5 1/8	235	9 1/4	185	7 5/16	320	12 5/8	6	10.5	7/16	251	9 7/8
589510	250TT	350	13 3/4	175	6 7/8	310	12 3/16	250	9 13/16	380	14 15/16	6	10.5	7/16	312	12 5/16
589710	300TT	384	15 1/8	215	8 7/16	375	14 3/4	300	11 13/16	420	16 9/16	8	12	1/2	334	13 1/8

Recommended Spares

THRUSTER	140TT	185TT	250TT/300TT
Anodes	589150	589350	589550

THRUSTER	140TT	185TT	250TT LH	250TT RH	300TT LH	300TT RH
Propellers	589151	589351	589551	589552	589751	589750

THRUSTER	140TT	185TT
Drive Pins	559018	559017

THRUSTER	140TT	185TT	250TT	300TT
Support brackets	589096	589064	589066	589065

Anode Kit

Propellers

Brushes Kit

MOTOR SIZE	MOTOR BRUSHES PART NO
3.0kW 12-24V	589080
5.0/6.0kW 12V	589081
5.0kW 24V	589082
6.0kW 24V	589083
8.0kW 24V	589084
10.8kW 24V	589085

MOTOR SIZE	MOTOR BRUSHES PART NO
15.0kW 48V	589086
2.0/2.2kW 12V	589087
4.0kW 12V	589088
4.0kW 24V	589089
9.6kW 48V	589090
2.2kW Silver Cap	589091

lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

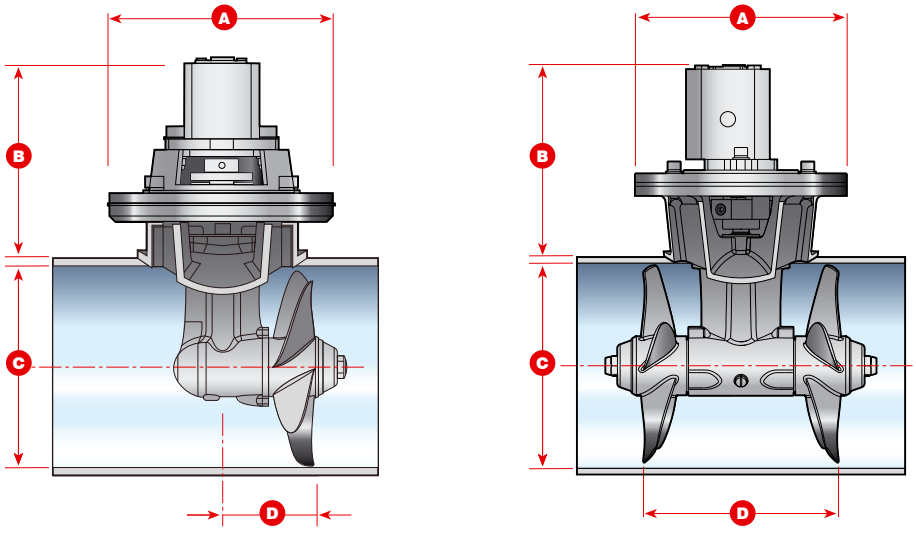
TT Hydraulic Thrusters

When longer duration is required or weight and space are critical, the hydraulic version of the TT Thrusters are the ideal solution.

- Enable significant flexibility of vessel movement
- Increased thrust in comparison to equivalent Electric TT Thruster
- Lewmar offers a complete turn key hydraulic solution
- 250TTH and 300TTH available with bronze or aluminium hub

185TTH Thruster

Dimensions Diagram



TT Hydraulic Thruster Specifications

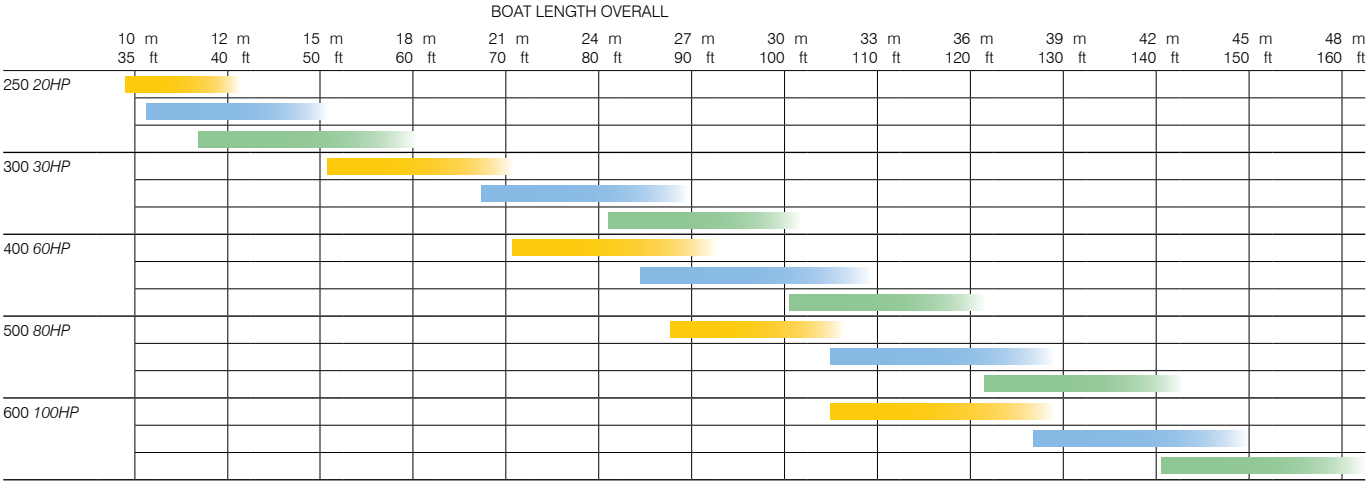
MODEL	TUNNEL	PROPELLER	WEIGHT		POWER		A		B		C		D	
			kW	HP	HP	kW	mm	in	mm	in	mm	in	mm	in
185TTH	185mm	Single	8	17.6	10	7	200	7 7/8	202	7 15/16	185	7 9/32	83	3 9/32
250TTH	250mm	Twin CR	13	28.6	20	15	258	10 5/32	227	8 15/16	250	9 27/32	257	10 1/8
300TTH	300mm	Twin CR	17	37.4	30	22.5	258	10 5/32	256	10 1/16	300	11 13/16	320	12 19/32

CR = Counter Rotating

Custom Thrusters

Manoeuvring larger vessels in the confines of a busy harbour or marina can challenge even a skilled crew. Cross winds and tides can be difficult to overcome with conventional propulsion and steering gear, particularly when mooring 'stern to'. Lewmar Custom Thrusters can help provide additional control just when you need it, at the touch of a button or the move of a joystick. The Lewmar range of thrusters is suitable for sail or power vessels up to 150ft.

Thruster size guide



Estimated performance reference guide for vessels of average proportions. If in doubt about specific wind calculations contact Lewmar
Lighter shading represents the upper limit of model. If in doubt, move up a model. .

Custom Thrusters

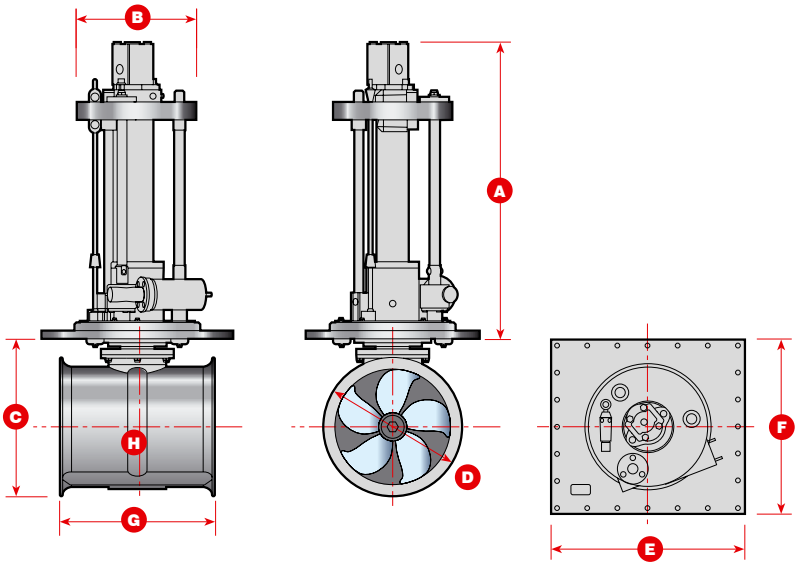
Vertical Retracting Tunnel Thruster

- Suitable for vessels up to 164ft (50m)
- When not in use, the Thruster retracts into the hull leaving a clean line, so there is no drag
- The 300 VRTT Hydraulic is capable of developing more than 30HP
- Better thruster immersion
- Can be mounted further forward
- Better performance per HP than standard tunnel Thruster

Vertical Retracting Thruster Selection Guide

MODEL	POWER HP	TYPICAL VESSEL SIZE m	ft
250VRTTE	10.7	14–20	45–65
250VRTTH	13	14–22	45–71
250VRTTH	20	16–23	48–75
300VRTTH	30	17–27	55–90
400SVTH	30–60	20–37	65–120
500SVTH	60–75	25–43	80–140
600SVTH	75–100	30–50	98–164

Dimensions Diagram



Shroud offset from CL

Vertical Retracting Thruster Specifications

MODEL	A		B		C		D		E		F		G		H		J	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
250VRTTH	721	28⅜	310	12 7/32	353	13⅞	300	11 13/16	450	17 23/32	400	15¾	350	13¾	0	0	300	11 13/16
250VRTTE	911	35⅞	310	12 7/32	353	13⅞	300	11 13/16	450	17 23/32	400	15¾	350	13¾	0	0	300	11 13/16
300VRTTH	765	30⅛	310	12 7/32	407	16	360	14 3/16	500	19 11/16	450	17 23/32	400	15¾	0	0	350	13¾
400SVTH	548	21 9/16	400	15¾	533	21	430	16 15/16	580	22 27/32	520	20 15/32	340	13⅜	30	1 3/16	500	19 11/16
500SVTH	575	22⅝	400	15¾	645	25⅜	533	21	700	27 9/16	640	25 3/16	480	18⅞	45	1 25/32	650	25 19/32
600SVTH	795	31 5/16	480	18 29/32	801	31 9/16	650	25 19/32	850	33 15/32	850	33 15/32	550	21⅝	50	1 31/32	700	27 9/16

Custom Thrusters

Swing Retracting Hydraulic Thruster

- Ideal for higher performance sailing yachts and fast-planing or semi-displacement hulls
- Raised position offers a completely fair hull section causing minimum drag
- No hydraulic motors or hoses are immersed in the water
- Can be mounted further forward in the vessel without additional space intrusion into the forepeak
- Enhanced thrust performance from a lesser power input
- Manual override

Extended 500 Swing Retracting Hydraulic Thruster

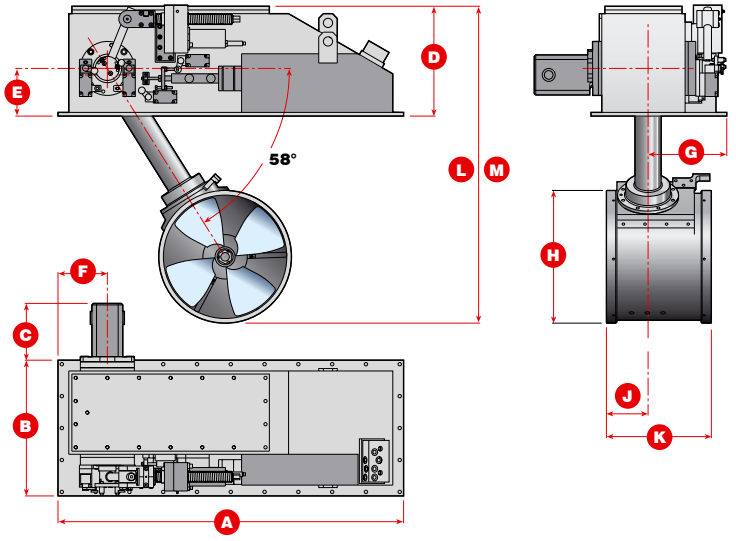
- Features all the benefits of the Swing Retracting Hydraulic Thruster
- Extended leg section provides deeper thruster immersion
- Can be mounted further forward than standard model, offering greater manoeuvrability

Swing Retracting Thruster Selection Guide

MODEL	MATERIAL	POWER	TYPICAL VESSEL SIZE[1]		THRUST
	Aluminium	HP	m	ft	
400 S Swing Retracting Hydraulic Thruster Series	400 SAH	30–60	20–37	65–120	8-10 kg/kw (18-22 lbs/hp)
500 S Swing Retracting Hydraulic Thruster Series	500 SAH	65–75	25–43	80–140	Note: Actual thrust developed is dependent upon depth of immersion and hull shape.

[1] For high windage, heavy displacement Vessels please contact your Lewmar representative for advice

Dimensions Diagram



Swing Retracting Hydraulic Thruster Specifications

MODEL	A		B		C		D		E		F		G		H		J		K		L		M	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins
400 Swing 40HP	1120	44⅛	440	17⁵⁄₁₆	184	7¼	390	15⅜	154.5	6³⁄₃₂	160	6⁵⁄₁₆	255	10¹⁄₃₂	430	16¹⁵⁄₁₆	135	5⁵⁄₁₆	340	13⅜	603	23¾	1027	40⁷⁄₁₆
400 Swing 50HP	1120	44⅛	440	17⁵⁄₁₆	190	7¹⁵⁄₃₂	390	15⅜	154.5	6³⁄₃₂	160	6⁵⁄₁₆	255	10¹⁄₃₂	430	16¹⁵⁄₁₆	135	5⁵⁄₁₆	340	13⅜	603	23¾	1027	40⁷⁄₁₆
400 Swing 60HP	1120	44⅛	440	17⁵⁄₁₆	196.5	7¾	390	15⅜	154.5	6³⁄₃₂	160	6⁵⁄₁₆	255	10¹⁄₃₂	430	16¹⁵⁄₁₆	135	5⁵⁄₁₆	340	13⅜	603	23¾	1027	40⁷⁄₁₆
500 Swing	1255	49½	590	23¼	116	4⁹⁄₁₆	438	17¼	154.5	6³⁄₃₂	160	6⁵⁄₁₆	250	9²⁷⁄₃₂	545	21¹⁵⁄₃₂	285	11⁷⁄₃₂	480	18²⁹⁄₃₂	680	26¾	1200	47¼

Hatches & Portlights

Control of light and ventilation is key to cabin temperature and to your comfort below deck. Lewmar's comprehensive range of hatch and portlight offers a control solution, whether on a small day boat or superyacht. Combining years of manufacturing experience with the latest in design trends, the Hatch and Portlight Range bears all the features you have come to expect of a high-quality Lewmar product. Now there is nothing to mar those lazy days and restful nights!

The Lewmar Hatch Range

Page 57

Flush Hatch
- Sleek, modern look
- Fits seamlessly into a specially designed recess in the deck
- Now part of Lewmar's standard range
- Available with stainless steel hinge, handle and stay.

Page 60

Low Profile Hatch
- Soft styling and sleek looks
- Ideal for use on a powerboat or a sailboat
- Smaller hatches suitable for ventilation
- Available in Round and D-Hatch configuration

Page 62

Medium Profile Hatch
- Smooth modern lines
- Ideal as a foredeck hatch on larger offshore yachts
- Provides greater strength and durability
- Thicker acrylic and deeper frame sections
- Style matches low profile
- Designed for mixed deck specifications

Page 63

Ocean Hatch
- Ultimate protection against the elements
- Classical styling and rugged construction
- Fitted to thousands of boats throughout the world

Page 64

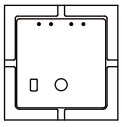
Pilot Hatch
- Sliding hatch designed for use in the wheelhouse or cockpit canopy
- Opens up enclosed steering positions
- Styling complements the Low Profile and Medium Profile Hatch Ranges
- Operated with a single handlebar that rotates to seal down the hatch

Flush Hatch

Created specifically for new boat designs, the Flush Hatch is a simple yet original design. It is made specifically for boat builders preparing recessed hatch openings that would originally have housed either a conventional hatch or an extremely expensive custom flush hatch. The hatch fits seamlessly into a specifically designed recess in the deck and cannot retrofit existing decks. The precision of the fit makes for a sleek, modern look and means no more stubbed toes for boat owners.

- Based on proven Ocean and Low Profile Hatches, which have been thoroughly tested in countless ocean conditions
- Tough, tinted acrylic panel is all that can be seen on deck
- Strengthened, extruded aluminium frame hidden discreetly below deck
- Completely watertight structure
- Water drained effortlessly away by deck-moulded channels
- Strong, stylish handles and hinges
- Trim fit sizes 10, 44, 60 , & 70
- Part of Lewmar's standard range
- Dark grey acrylic option keeps cabin cooler
- Available with stainless steel hatch furniture

Lewmar Flush Hatch fitted to Hanse 530
© 2011 Hanse Yacht



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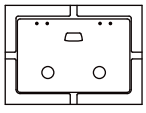

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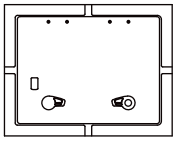

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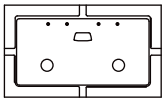

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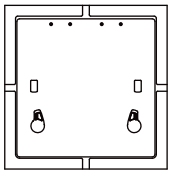

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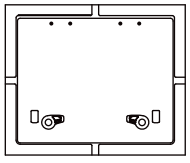

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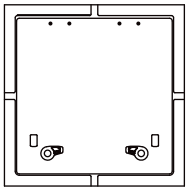

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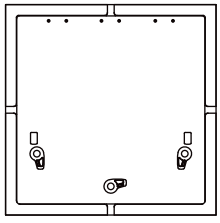
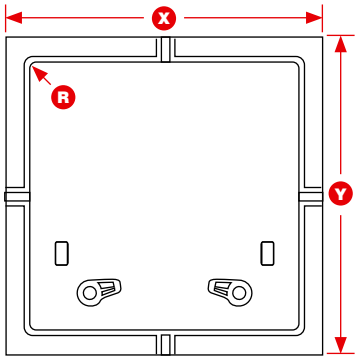


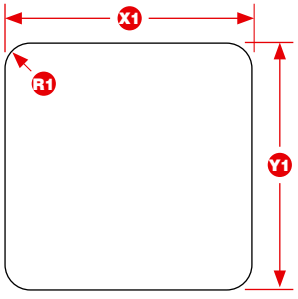
Size 70

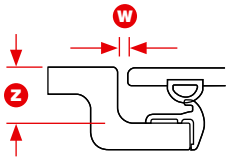
Flush Hatch Size Range

Lewmar Flush Hatch fitted to Gunfleet 43

Flush Hatch Dimensions







CE
Approved
All sizes
Area 2A.
See Page 66

Flush Hatch Specifications

STANDARD COLOUR[1] PART NUMBER	DARK SPORT TINT[2] PART NUMBER	SIZE	W LOWER FRAME FLANGE		W HINGE GAP		OVERALL DIMENSIONS X WIDTH		Y LENGTH		Z DEPTH		R RADII		CUT-OUT DIMENSIONS X1 WIDTH		Y1 LENGTH		R1 RADII		ACRYLIC WINDOW THICKNESS		WEIGHT	
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
39910012	39910812	10	15	9/16	11	11/64	330	13	330	13	31	1 1/4	10	38	260	10 1/4	260	10 1/4	42.5	1 11/16	12	1/2	2.3	5
39920012	39920812	20	15	9/16	11	11/64	417	16 7/16	272	10 11/16	31	1 1/4	10	38	347	13 11/16	202	7 15/16	42.5	1 11/16	12	1/2	2.4	5.3
39930012	39930812	30	15	9/16	11	11/64	527	20 3/4	397	15 5/8	31	1 1/4	10	38	457	18	327	12 7/8	42.5	1 11/16	12	1/2	4.7	10.3
39941012	39941812	41	15	9/16	11	11/64	491	19 5/16	246	9 1/16	31	1 1/4	10	38	421	16 9/16	176	6 15/16	42.5	1 11/16	12	1/2	2.6	5.8
39944012	39944812	44	15	9/16	11	11/64	512	20 3/16	512	20 3/16	31	1 1/4	10	38	442	17 3/8	442	17 3/8	42.5	1 11/16	12	1/2	5.4	12
39954012	39954812	54	15	9/16	11	11/64	577	22 11/16	462	18 3/16	31	1 1/4	10	38	507	19 15/16	392	15 7/16	42.5	1 11/16	12	1/2	5.5	12.1
39960012	39960812	60	15	9/16	11	11/64	577	22 11/16	577	22 11/16	31	1 1/4	10	38	507	19 15/16	507	19 15/16	42.5	1 11/16	15	9/16	7.1	16
39970012	39970812	70	15	9/16	11	11/64	697	27 1/2	697	27 1/2	31	1 1/4	10	38	627	24 11/16	627	24 11/16	42.5	1 11/16	15	9/16	11	24

[1] Standard Colour: grey acrylic, white lower frame
[2] Dark Sport Tint: dark grey acrylic, white lower frame

Flush Hatch with Stainless Steel Handles and Hinges

At Lewmar, we are constantly seeking to improve our product range to suit evolving design trends. The new range of stainless steel hatch fittings are designed for the Flush Hatch Range, offering a stylish interior and exterior aesthetic to this sleek hatch range.

- Hatch can be opened from the outside using a standard winch handle
- Locking mechanism contained in interior handle
- Effortless operation
- Closer fit to the deck along the hinge edge
- All the features of the Flush Hatch Range

Flush Hatch with Stainless Steel Handles and Hinges Specifications

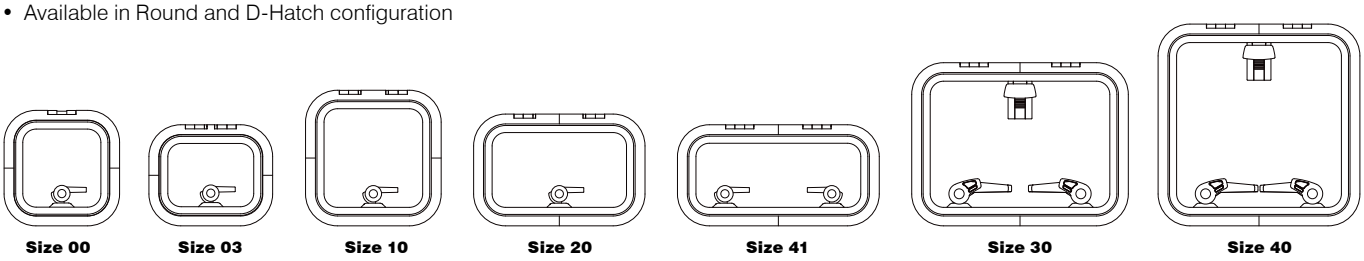
STANDARD COLOUR PART NUMBER	DARK SPORT TINT PART NUMBER	SIZE	LOWER FRAME FLANGE		OVERALL DIMENSIONS								CUT-OUT DIMENSIONS						ACRYLIC WINDOW THICKNESS	
					X WIDTH		Y LENGTH		Z DEPTH		R RADII		X1 WIDTH		Y1 LENGTH		R1 RADII			
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
399441999	399441910	44	15	9/16	512	20 3/16	512	20 3/16	31	1 1/4	10	3/8	442	17 3/8	442	17 3/8	42.5	1 11/16	12	1/2
399601999	399601910	60	15	9/16	577	22 11/16	577	22 11/16	31	1 1/4	10	3/8	507	19 15/16	507	19 15/16	42.5	1 11/16	15	9/16
399701999	399701910	70	15	9/16	697	27 1/2	697	27 1/2	31	1 1/4	10	3/8	627	24 11/16	627	24 11/16	42.5	1 11/16	15	9/16

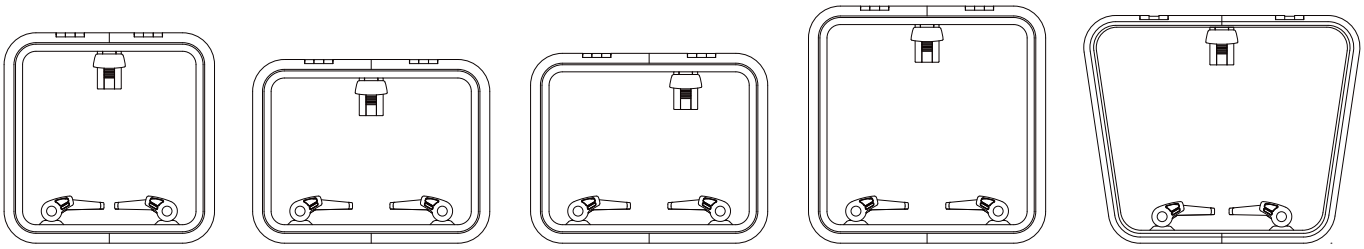
Hatches should be fitted to a flat surface with a maximum tolerance of +/-1mm
Fastening size for lower frame section use 5mm CSK screws No. 10 UNC 2BA
Fastening size at the hinge section use M6 (¼")

Low Profile Hatch

The Low Profile Hatch has soft styling and sleek looks, ideal for use on a powerboat. Smaller ventilation hatches are suitable for any deck location on sailboats, while the larger sizes can be used as foredeck hatches on smaller to mid size yachts.

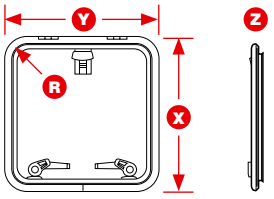
- Outside handles allow the hatch to be opened from on deck if it is not locked
- Friction levers hold the lid open in any position up to 95°
- Anodised aluminium frame for corrosion resistance
- Curved upper frame for strength as well as modern styling
- CE Approved
- Available in Round and D-Hatch configuration



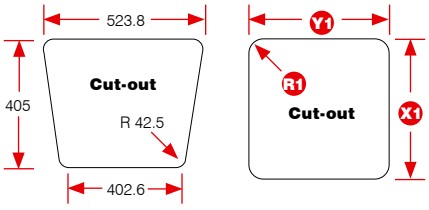


[1] Minimum size for ISO 9094 escape hatches

Low Profile Hatch Dimensions



Low Profile Hatch Cut-outs



CE Approved
All sizes
Area 2A.
See Page 66

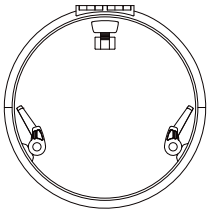
Low Profile Hatch Specifications

PART NUMBER SELF SUPPORTING LID	PART NUMBER HATCH WITH TELESCOPIC STAY	SIZE	LOWER FRAME FLANGE		OVERALL DIMENSIONS X LENGTH		Y WIDTH		Z HEIGHT		R RADII		CUT-OUT DIMENSIONS Change if Trimkits are used X1 LENGTH		Y1 WIDTH		R1 RADII		HATCH WEIGHT		ACRYLIC WINDOW THICKNESS	
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mm	in
39900030		0	15	9/16	281	11 1/16	281	1 1/16	25	1	72.5	2 7/8	211	8 5/16	211	8 5/16	42.5	1 11/16	1.6	3.5	8	5/16
39903030		3	15	9/16	246	9 11/16	301	11 7/8	25	1	72.5	2 7/8	176	6 15/16	231	9 1/8	42.5	1 11/16	1.6	3.5	8	5/16
39910030	399100303	10	15	9/16	330	13	330	13	25	1	72.5	2 7/8	260	10 1/4	260	10 1/4	42.5	1 11/16	2.2	4.9	8	5/16
39920030		20	15	9/16	272	10 11/16	417	16 7/16	25	1	72.5	2 7/8	202	7 15/16	347	13 11/16	42.5	1 11/16	2.3	5.1	8	5/16
39930030	399300303	30	15	9/16	397	15 5/8	527	20 3/4	25	1	72.5	2 7/8	327	12 7/8	457	18	42.5	1 11/16	4.2	9.3	8	5/16
39940030	399400303	40	15	9/16	491	19 5/16	491	19 5/16	25	1	72.5	2 7/8	421	16 9/16	421	16 9/16	42.5	1 11/16	4.6	10.1	8	5/16
39941030		41	15	9/16	246	9 11/16	491	19 5/16	25	1	72.5	2 7/8	176	6 15/16	421	16 9/16	42.5	1 11/16	2.5	5.5	8	5/16
39944030	399440303	44	15	9/16	512	20 3/16	512	20 3/16	25	1	72.5	2 7/8	442	17 3/8	442	17 3/8	42.5	1 11/16	4.8	10.6	8	5/16
39950030	399500303	50	15	9/16	447	17 5/8	577	22 11/16	25	1	72.5	2 7/8	377	14 13/16	507	19 15/16	42.5	1 11/16	4.8	10.6	8	5/16
39954030	399540303	54	15	9/16	462	18 3/16	577	22 11/16	25	1	72.5	2 7/8	392	15 7/16	507	19 15/16	42.5	1 11/16	4.9	10.8	8	5/16
39960030	399600303	60	15	9/16	577	22 11/16	577	22 11/16	25	1	72.5	2 7/8	507	19 15/16	507	19 15/16	42.5	1 11/16	6.4	14.1	10	3/8
39965030		65	15	9/16	560	22 11/16	560 min 675 max	22 11/16 26 9/16	25	1	72.5	2 7/8	See drawing				42.5	1 11/16	6.5	14.3	10	3/8

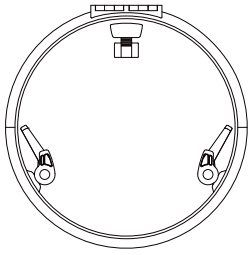
Low Profile Round Hatch

Telescopic Stay
Lewmar's Telescopic Stay features excellent lid positioning and rigid control. The stay allows hatch opening to around 90° – an advantage on smaller to mid size yachts where deck space is a premium.

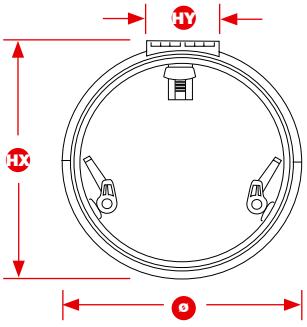
Maintenance
Acrylic or seal can be replaced by sliding the two halves of the frame apart.

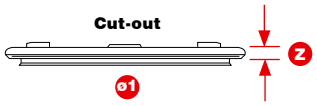


Size 18



Size 22

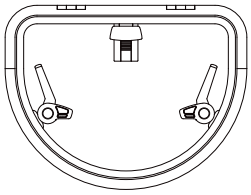




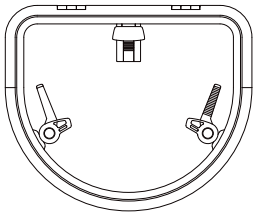
Low Profile Round Hatch Specifications

PART NUMBER	SIZE	LOWER FRAME FLANGE mm	LOWER FRAME FLANGE in	OVERALL DIMENSIONS ø LENGTH mm	OVERALL DIMENSIONS ø LENGTH in	OVERALL DIMENSIONS Z HEIGHT mm	OVERALL DIMENSIONS Z HEIGHT in	OVERALL DIMENSIONS HX HINGE LENGTH mm	OVERALL DIMENSIONS HX HINGE LENGTH in	OVERALL DIMENSIONS HY HINGE WIDTH mm	OVERALL DIMENSIONS HY HINGE WIDTH in	CUT-OUT DIMENSIONS Change if Trimkits are used ø1 DIAMETER mm	CUT-OUT DIMENSIONS Change if Trimkits are used ø1 DIAMETER in	HATCH WEIGHT kg	HATCH WEIGHT lb	ACRYLIC WINDOW THICKNESS mm	ACRYLIC WINDOW THICKNESS in
39918030	18	15	9/16	490	19 15/16	25	1	493	19 7/16	141	5 9/16	420	16 9/16	3.8	8.4	8	5/16
39922030	22	15	9/16	588	23 1/8	25	1	591	23 1/4	173	6 13/16	518	20 3/8	5.8	12.8	10	3/8

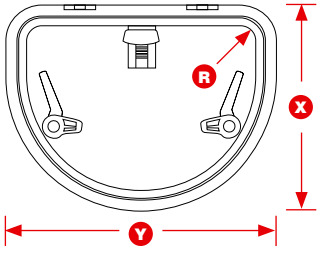
Low Profile D–Hatch

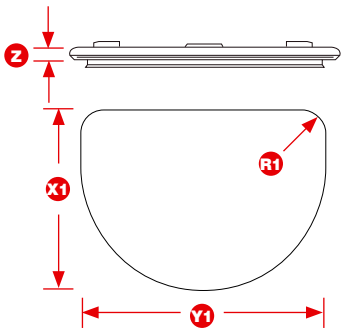


Size 51



Size 64





Low Profile D–Hatch Specifications

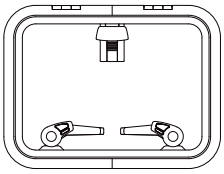
PART NUMBER SELF SUPPORTING LID	SIZE	LOWER FRAME FLANGE mm	LOWER FRAME FLANGE in	OVERALL DIMENSIONS X LENGTH mm	OVERALL DIMENSIONS X LENGTH in	OVERALL DIMENSIONS Y WIDTH mm	OVERALL DIMENSIONS Y WIDTH in	OVERALL DIMENSIONS Z HEIGHT mm	OVERALL DIMENSIONS Z HEIGHT in	OVERALL DIMENSIONS R RADII mm	OVERALL DIMENSIONS R RADII in	CUT-OUT DIMENSIONS Change if Trimkits are used X1 LENGTH mm	CUT-OUT DIMENSIONS Change if Trimkits are used X1 LENGTH in	CUT-OUT DIMENSIONS Change if Trimkits are used Y1 WIDTH mm	CUT-OUT DIMENSIONS Change if Trimkits are used Y1 WIDTH in	CUT-OUT DIMENSIONS Change if Trimkits are used R1 RADII mm	CUT-OUT DIMENSIONS Change if Trimkits are used R1 RADII in	HATCH WEIGHT kg	HATCH WEIGHT lb	ACRYLIC WINDOW THICKNESS mm	ACRYLIC WINDOW THICKNESS in
39951030	51	15	9/16	448	17 5/8	588	23 1/8	25	1	72.5	2 7/8	378	14 7/8	518	20 3/8	42.5	1 11/16	5.5	12.1	8	5/16
30067300	64	15	9/16	500	19 11/16	600	23 5/8	25	1	72.5	2 7/8	430	16 15/16	530	20 7/8	42.5	1 11/16	6.4	14.1	8	5/16

Medium Profile Hatch

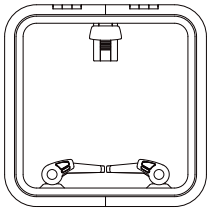
Ideal as a foredeck hatch on larger offshore yachts, the Medium Profile has thicker acrylic and deeper frame sections for greater strength and durability. It features Lewmar's unique sealing system, allowing for easy acrylic replacement. All while retaining the smooth, modern lines of the Low Profile Hatch.

- Outside handles allow the hatch to be opened from on deck if it is not locked
- Friction levers hold the lid open in any position up to 95°
- Anodised aluminium frame for corrosion resistance
- Curved upper frame for strength as well as modern styling
- CE Approved

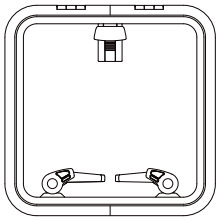
Maintenance
Acrylic or seal can be replaced by sliding the two halves of the frame apart.



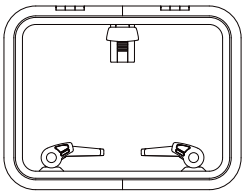
Size 30



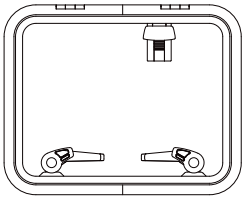
Size 40



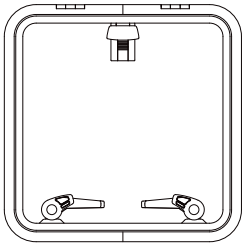
Size 44[1]



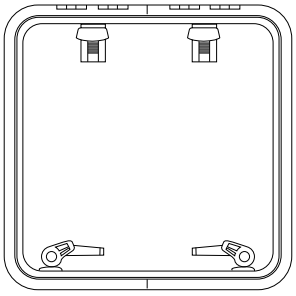
Size 50



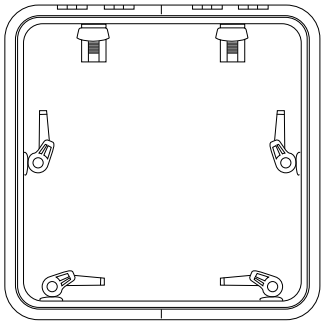
Size 54[1]



Size 60



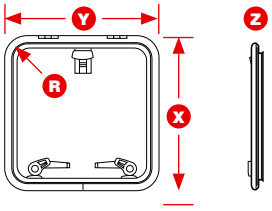
Size 70



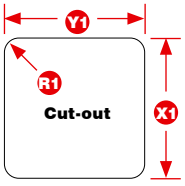
Size 77

[1] Minimum size for ISO 9094 escape hatches

Medium Profile Hatch Dimensions



Medium Profile Hatch Cut-out



CE
Approved
All sizes
Area 2A.
See Page 66

Medium Profile Hatch Specifications

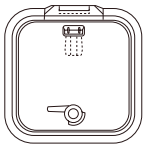
PART NUMBER	SIZE	LOWER FRAME FLANGE		OVERALL DIMENSIONS X LENGTH		OVERALL DIMENSIONS Y WIDTH		OVERALL DIMENSIONS Z HEIGHT		OVERALL DIMENSIONS R RADII		CUT-OUT DIMENSIONS Change if Trimkits are used X1 LENGTH		CUT-OUT DIMENSIONS Y1 WIDTH		CUT-OUT DIMENSIONS R1 RADII		HATCH WEIGHT		ACRYLIC WINDOW THICKNESS	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mm	in
39930020	30	15	9/16	398	15 5/8	528	20 3/4	32	1 1/4	78	3 1/16	327	12 7/8	457	18	42.5	1 11/16	5	11.1	12	1/2
39940020	40	15	9/16	492	19 3/8	492	19 3/8	32	1 1/4	78	3 1/16	421	16 9/16	421	16 9/16	42.5	1 11/16	5.9	13	12	1/2
39944020	44	15	9/16	513	20 3/16	513	20 3/16	32	1 1/4	78	3 1/16	442	17 3/8	442	17 3/8	42.5	1 11/16	6.4	14.1	12	1/2
39950020	50	15	9/16	448	17 5/8	578	22 3/4	32	1 1/4	78	3 1/16	377	14 13/16	507	19 15/16	42.5	1 11/16	6.3	13.9	12	1/2
39954020	54	15	9/16	463	18 1/4	578	22 3/4	32	1 1/4	78	3 1/16	392	15 7/16	507	19 15/16	42.5	1 11/16	6.5	14.3	12	1/2
39960020	60	15	9/16	578	22 3/4	578	22 3/4	32	1 1/4	78	3 1/16	507	19 15/16	507	19 15/16	42.5	1 11/16	7.8	17.2	12	1/2
39970020	70	15	9/16	698	27 1/2	698	27 1/2	32	1 1/4	78	3 1/16	627	24 11/16	627	24 11/16	42.5	1 11/16	10.6	23.4	12	1/2
39977020	77	15	9/16	770	30 5/16	770	30 5/16	32	1 1/4	78	3 1/16	699	27 1/2	699	27 1/2	42.5	1 11/16	12.7	28	12	1/2

Ocean Hatch

With its classic style, the Ocean Hatch is fitted to thousands of boats around the world. Its rugged construction provides the ultimate protection against the elements, whatever conditions you might face.

- Friction levers hold the lid open in any position up to 95°
- Anodised aluminium frame for corrosion resistance
- CE Approved

Lewmar Ocean Hatch fitted to Hallberg Rassy 42



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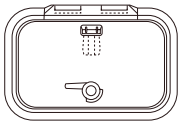

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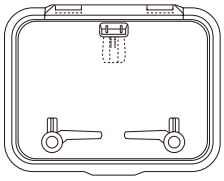

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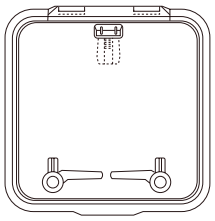
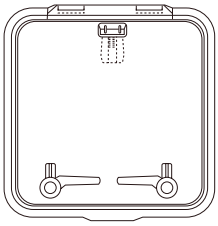
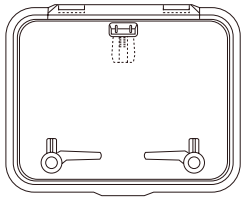


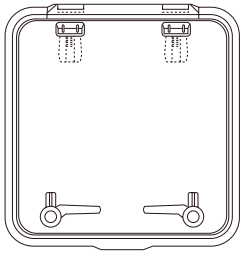
Size 40



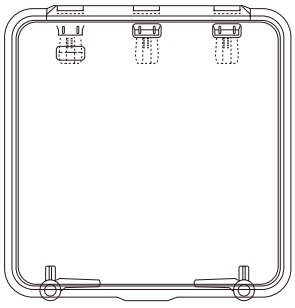
Size 44[1]



Size 50



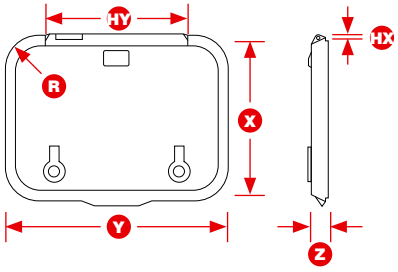
Size 60



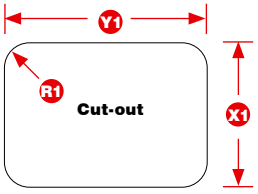
Size 70

[1] Minimum size for ISO 9094 escape hatches

Ocean Hatch Dimensions



Ocean Hatch Cut-out



Flange profile

Flat Base profile

CE
Approved
All sizes
Area 2A.
See Page 66

Ocean Hatch Specifications

PART NUMBER	SIZE	LOWER FRAME	OVERALL DIMENSIONS X LENGTH mm	X LENGTH in	Y WIDTH mm	Y WIDTH in	Z HEIGHT mm	Z HEIGHT in	R RADII mm	R RADII in	HX HINGE LENGTH mm	HX HINGE LENGTH in	HY HINGE WIDTH mm	HY HINGE WIDTH in	CUT-OUT DIMENSIONS Change if Trimkits are used X1 LENGTH mm	X1 LENGTH in	Y1 WIDTH mm	Y1 WIDTH in	R1 RADII mm	R1 RADII in	HATCH WEIGHT kg	HATCH WEIGHT lb	ACRYLIC WINDOW THICKNESS mm	ACRYLIC WINDOW THICKNESS in
39610050 39610070	10	Flat Base Flange[1]	324	12 3/4	324	12 3/4	39.5	1 9/16	75	2 15/16	5	3/16	138	5 7/16	255 260	10 1/16 10 1/4	255 260	10 1/16 10 1/4	40 42.5	1 9/16 1 11/16	2.26	5.77	10	3/8
39620050 39620070	20	Flat Base Flange[1]	266	10 1/2	411	16 3/16	39.5	1 9/16	69	2 11/16	5	3/16	225	8 7/8	197 202	7 3/4 7 15/16	342 347	13 7/16 13 11/16	34 36.5	1 5/16 1 7/16	2.74	6.04	10	3/8
39630050 39630070	30	Flat Base Flange[1]	391	15 3/8	521	20 1/2	39.5	1 9/16	75	2 15/16	5	3/16	335	13 3/16	322 327	12 11/16 12 7/8	452 457	17 13/16 18	40 42.5	1 9/16 1 11/16	4.5	9.9	10	3/8
39640050 39640070	40	Flat Base Flange[1]	485	19 1/8	485	19 1/8	39.5	1 9/16	75	2 15/16	5	3/16	299	11 3/4	416 421	16 3/8 16 9/16	416 421	16 3/8 16 9/16	40 42.5	1 9/16 1 11/16	4.76	10.5	10	3/8
39644050 39644070	44	Flat Base Flange[1]	509	20 1/16	509	20 1/16	43	1 11/16	76	3	4	3/16	302	11 7/8	437 442	17 3/16 17 3/8	437 442	17 3/16 17 3/8	40 42.5	1 9/16 1 11/16	5	11	12	1/2
39650050 39650070	50	Flat Base Flange[1]	444	17 1/2	574	22 5/8	43	1 11/16	76	3	4	3/16	367	14 7/16	372 377	14 5/8 14 13/16	502 507	19 3/4 19 15/16	40 42.5	1 9/16 1 11/16	7.3	16.1	12	1/2
39660050 39660070	60	Flat Base Flange[1]	574	22 5/8	574	22 5/8	43	1 11/16	76	3	4	3/16	367	14 7/16	502 507	19 3/4 19 15/16	502 507	19 3/4 19 15/16	40 42.5	1 9/16 1 11/16	8	17.6	12	1/2
39670050 39670070	70	Flat Base Flange[1]	694	27 5/16	694	27 5/16	43	1 11/16	76	3	4	3/16	487	19 3/16	622 627	24 1/2 24 11/16	622 627	24 1/2 24 11/16	40 42.5	1 9/16 1 11/16	10.8	23.8	12	1/2

[1] Flange size 25mm/1in

Pilot Hatch

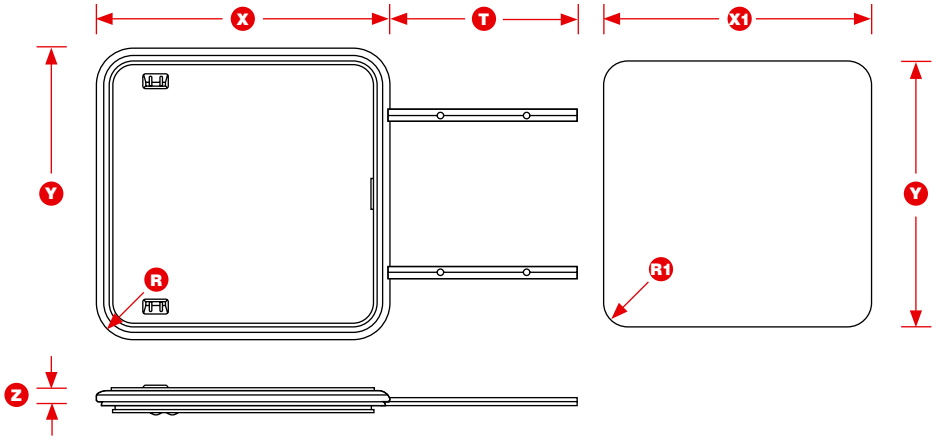
The Pilot Hatch is designed for use on the wheelhouse or cockpit canopy of a power craft, and the styling complements the Low Profile and Medium Profile Hatch Ranges.

- Opens up enclosed steering positions
- The handle never moves out of reach
- Operated with a single handlebar that rotates to seal down the hatch
- Can be secured with a 5cm opening when full ventilation is not required
- Sliding technology from Lewmar's racing hardware track systems, ensuring minimum friction
- The Pilot Hatch uses Lewmar's unique seal system for improved sealing and easy servicing
- Acrylic can be replaced without the use of sealant
- CE Approved

Maintenance
Acrylic or seal can be replaced by sliding the two halves of the frame apart.

Pilot Hatch Dimensions

Cut-out Dimensions



Approved
All sizes
Area 3.
See Page 66

Pilot Hatch Specifications

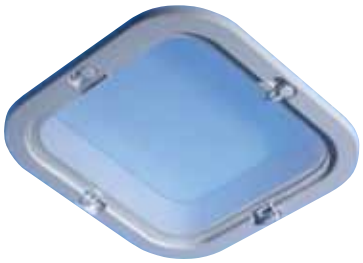
PART NUMBER	SIZE	ACRYLIC COLOUR/ TINT	LOWER FRAME FLANGE		OVERALL DIMENSIONS X WIDTH		OVERALL DIMENSIONS Y LENGTH		OVERALL DIMENSIONS Z HEIGHT		OVERALL DIMENSIONS R RADII		T TRACK LENGTH		CUT-OUT DIMENSIONS Change if Trimkits are used X1 WIDTH		CUT-OUT DIMENSIONS Change if Trimkits are used Y1 LENGTH		CUT-OUT DIMENSIONS Change if Trimkits are used R1 RADII		ACRYLIC WINDOW THICKNESS	
			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
30074000	60	Smoke Grey	15	9/16	581	22 7/8	577	22 1/16	29	1 1/8	72.5	2 7/8	373	14 2/3	507	19 15/16	507	19 15/16	42.5	1 1/16	10	3/8
30069900	78	Smoke Grey	15	9/16	844	33 1/4	790	33 1/8	29	1 1/8	72.5	2 7/8	638	25 1/8	770	30 5/16	720	28 1/4	42.5	1 1/16	10	3/8

Trim Kits are not available for size 78, normal Trim Kit fits size 60
Hatches should be fitted to a flat surface with a maximum tolerance of ± 1mm
The Pilot Hatch is only for use on wheel houses and cockpit canopies. It is not suitable for use on normal decks and coachroof applications
Fastening size for lower frame and sliding track use 5mm CSK screws No. 10 UNC 2BA
The pilot hatch cannot be operated from the outside

Hatch Accessories

ABS Plastic Trim and Flyscreen

- Easy and stylish way of finishing a hatch installation inside the cabin
- Trimkits come complete with a flyscreen
- Can only be fitted to boats with a headlining
- Cannot be used on flat base Ocean Hatches



Cut Out Dimensions and Deck Thickness Requirements

Cut Out Dimension Increase[1]	Add 4mm to X1 & Y1 and 2mm to R1
Ocean	Min Hull Thickness = 25mm Max Hull Thickness = 72mm
Low and Medium Profile	Min Hull Thickness = 15mm Max Hull Thickness = 62mm

[1] Cut Out dimensions for hatches are shown on their relevant pages

Hatch Trim Kits

PLASTIC TRIMKIT PART NUMBER		
IVORY TRIM	WHITE TRIM	HATCH SIZE
367400552	367400252	00 Low Profile[2]
367403552	367403252	03
367410552	367410252	10
367618552	367618252	18 Round
367420552	367420252	20 Low Profile[2]
367620552	367620252	20 Ocean

PLASTIC TRIMKIT PART NUMBER		
IVORY TRIM	WHITE TRIM	HATCH SIZE
367622552	367622252	22 Round
367630552	367630252	30
367640552	367640252	40
367441552	367441252	41
367644552	367644252	44
367650552	367650252	50

PLASTIC TRIMKIT PART NUMBER		
IVORY TRIM	WHITE TRIM	HATCH SIZE
n/a	367651252	51
367654552	367654252	54
367660552	367660252	60
367665552	367665252	65
367670552	367670252	70

[2] Does not fit Ocean, Rollstop or Superhatch

Flyscreen Hinge

- Makes it easier to access the handles when the flyscreen is in place
- Only necessary to undo two tabs and the flyscreen will hinge down – and not fall out
- Flyscreen can be removed and stowed separately if required
- Hinges are also available as retro fit items

Ivory	361196995	**White**	361196992

Telescopic Stay

- Features excellent lid positioning and rigid control
- Allows hatch opening up to 95°
- An advantage on smaller to mid size yachts where deck space is at a premium

360918999

Retro-Fit Vent

- Vent can be fitted to the acrylic lens of any Lewmar hatch or to the deck
- Made from the same rugged composite used in many Lewmar hatch and winch parts
- Styled to match the Low and Medium Profile hatches
- Captive bung to close the ventilator – it cannot be lost
- Fits deck thickness to 100mm
- CE Approved and leak tested
- No sealant required for hatch fitting

361041990

Retro-Fit Lock and Key Kit

- Can be fitted to any Lewmar Hatch by drilling a hole through the acrylic and riveting a catch block to the lower frame
- Lock and key are marinised to prevent corrosion

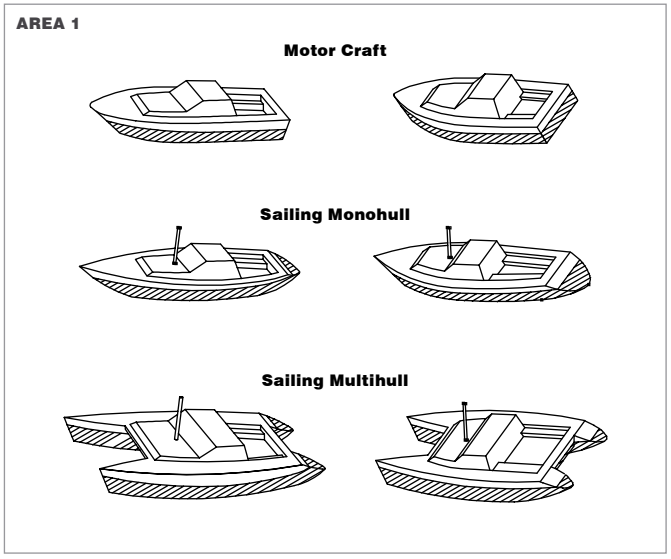
360259990

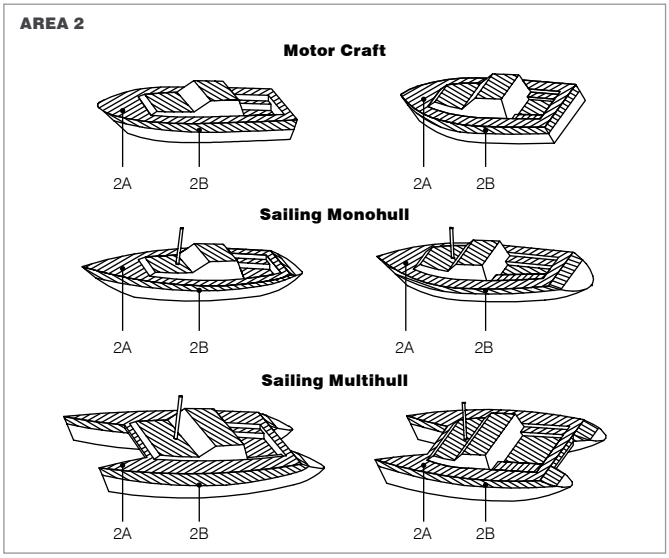
lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

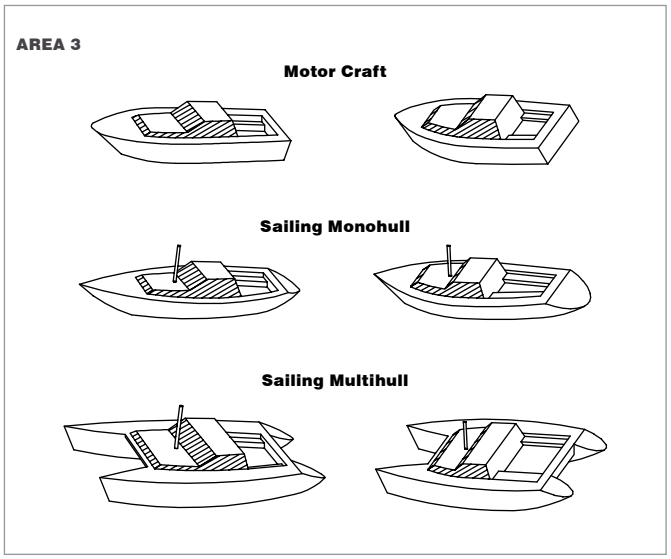
CE Regulations

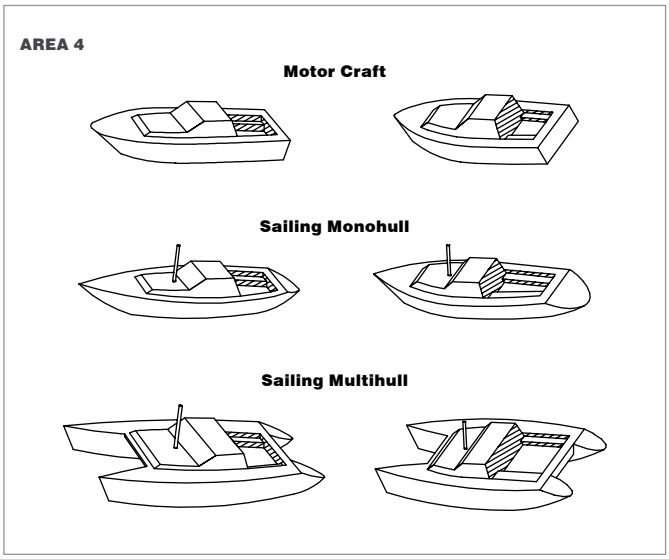
The CE Regulations apply to craft up to 24m in length that are sold in the European Union. Although the Regulations may not apply to your boat, they are a useful guide for small craft throughout the world.

- The Regulations have Design Categories for boats based on their intended usage and propulsion (sail or power). Boats built to CE Regulations are fitted with a plate showing the Design Category.
- All Lewmar hatches and portlights are for Design Category A (Ocean Sailing) or Design Category B (Offshore Sailing).
- The Regulations divide up the hull and deck into four specific 'areas'. These are shown below.
- For craft with a freeboard greater than 1/12 of its overall length, the hull is split into Area 1 and Area 2B. Please refer to the Recreational Craft Directive 94/25/EC.
- A product that is suitable for fitting to an area for which it is approved is suitable for all the areas below its category. For example, a portlight that is approved for Area 2A may also be fitted to Areas 3 and 4, but not Areas 1 or 2B.
- All the hatches and portlights in this publication are CE Approved for the areas indicated on the product pages.
- Lewmar warranties are invalid if the product is installed in an area where it is not intended, and if the installation fails to meet the requirements of the CE Regulations.









Hatches

DESCRIPTION	SIZES	CATEGORY	AREA
Low Profile	All	A	2A, 3 & 4
Medium Profile	All	A	2A, 3 & 4
Ocean Hatch	All	A	2A, 3 & 4
Flush Hatch	All	A	2A, 3 & 4
Pilot Hatch	All	A	2A, 3 & 4

Portlights

DESCRIPTION	SIZES	CATEGORY	AREA
Standard	All	A	2A, 3 & 4
Atlantic	10, 30, 32	A	1, 2, 3 & 4
Atlantic	40, 60	A	2A, 3 & 4
Stainless	0,1,1RE,7RE,8	A	2A, 3 & 4

DESCRIPTION	SIZES	CATEGORY	AREA
Stainless	0,1,1RE,7RE,8	B	1, 2, 3 & 4
Stainless	Round	A	1, 2, 3 & 4
Flush Mitre	All	A	2A, 3 & 4

The Lewmar Portlight Range

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Flush Mitre Portlight

- Development of Lewmar Standard Portlight
- Number of textures, angles and levels is minimised in order to minimise the visual impact of the portlight on the boat
- Acrylic almost flush with the mounting surface
- 12mm acrylic is used in order to achieve the flush effect
- Flat Outer frame
- Outer frame powder coated black to camouflage with the acrylic lens

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Stainless Steel Portlight

- Polished stainless outer frame with no joint
- Handles and hinges are fitted to the edge of the lens to allow clear visibility
- Quick-action handles
- ABS plastic inside trim can be cut to length
- Friction hinges hold the window open

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Standard Portlight

- The Standard Portlight is fitted to thousands of boats throughout the world
- Aluminium outside frame
- Handles and hinges are fitted to the edge of the lens to allow clear visibility
- Quick-action handles
- ABS plastic inside trim can be cut to length
- Friction hinges hold the window open

Pagg 73

Atlantic Portlight

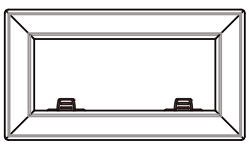
- Stronger aluminium outer frame with single welded join
- Lens bonded into alloy frame for additional stiffness
- Metal handles
- Aluminium inside trim
- Small opening sizes (10,30 & 32) CE Approved for in-hull installation
- Friction hinges hold the window open

Flush Mitre Portlight

Complementing the styling of the Lewmar Flush Hatch, the Flush Mitre Portlight offers a seamless line from the hull across the portlight. When installed into acrylic, the Flush Mitre Portlight offers a ventilation solution within the illusion of a larger opening.

- Development of Lewmar Standard Portlight
- Number of textures, angles and levels is minimised in order to minimise the visual impact of the portlight on the boat
- Acrylic almost flush with the mounting surface
- 12mm acrylic is used in order to achieve the flush effect
- Flat Outer frame
- Outer frame powder coated black to camouflage with the acrylic lens

Lewmar Flush Mitre Portlight fitted to Azimut 38, showing external and internal views



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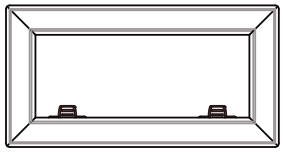

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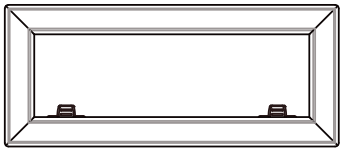

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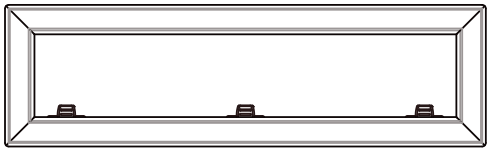
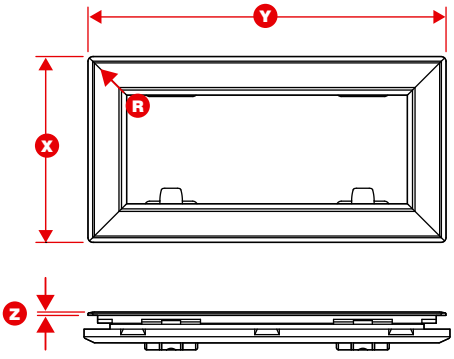


Size 4

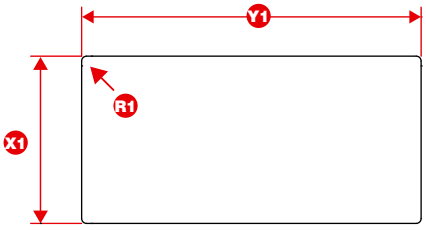
Flush Mitre Portlight

Lewmar Flush Mitre Portlight fitted to Hanse 545 cockpit, © 2011 Hanse Yachts

Flush Mitre Portlight Dimensions



Cut-out Dimensions



CE
Approved
All sizes
Area 2A.
See Page 66

Flush Mitre Portlight Specifications

PART NUMBER	SIZE	FRAME COLOUR	VERSION	OVERALL DIMENSIONS X WIDTH mm	X WIDTH in	Y LENGTH mm	Y LENGTH in	Z HEIGHT mm	Z HEIGHT in	R RADII mm	R RADII in	CUT-OUT DIMENSIONS X1 WIDTH mm	X1 WIDTH in	Y1 LENGTH mm	Y1 LENGTH in	R1 RADII mm	R1 RADII in	PORTLIGHT WEIGHT kg	PORTLIGHT WEIGHT lb	ACRYLIC WINDOW THICKNESS mm	ACRYLIC WINDOW THICKNESS in
393029800	0	Black	Opening	175	6 7/8	322	12 1/16	4	5/32	5	3/16	156	6 1/8	303	11 15/16	5	3/16	1.3	2.9	12	1/2
393129800	1	Black	Opening	190	7 1/2	366	14 7/16	4	5/32	5	3/16	171	6 3/4	347	13 11/16	5	3/16	1.6	3.5	12	1/2
393329800	3	Black	Opening	190	7 1/2	448	17 11/16	4	5/32	5	3/16	171	6 3/4	429	16 7/8	5	3/16	2.0	4.4	12	1/2
393429800	4	Black	Opening	190	7 1/2	645	25 7/16	4	5/32	5	3/16	171	6 3/4	626	24 11/16	5	3/16	2.8	6.2	12	1/2

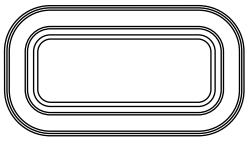
1. Portlights should be fitted to a flat surface with a maximum tolerance of 1mm
2. Maximum hull thickness 11mm (1/2in), minimum hull thickness 6mm (1/4in)
3. Acrylic colour is Smoke Grey
4. All Portlights are supplied complete with 12 off M5 16mm screws (hull thickness 6-11mm)

Stainless Steel Portlight

With its highly polished stainless outer frame, the Stainless Portlight will really shine on your boat. The handles and hinge system were designed to leave the lens clear of obstructions, giving it an uncluttered view and a clean, modern look.

- ABS Plastic Trim
- Can be installed with sealant or closed cell PVC tape
- Easily fitted by clamping the cabin sides between inner and outer frame with screws provided that are fastened into the outer frame
- Trim with clean styling

Lewmar Stainless Steel Portlight fitted to Bavaria 43, © 2011 Bavaria Yachtbau GmbH



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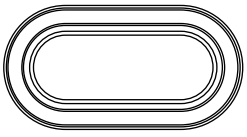
Size 1



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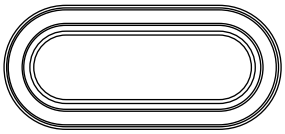

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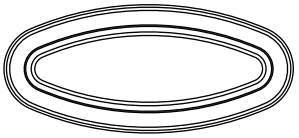

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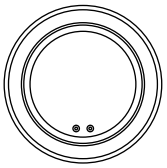
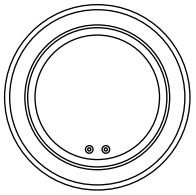


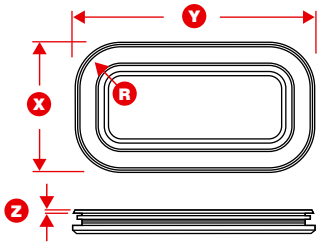
Round 250mm



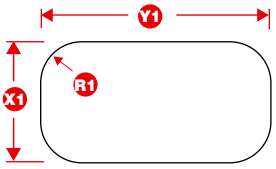
Round 296mm

Stainless Steel Portlight

Standard Portlight Dimensions



Cut-out Dimensions



CE Approved
All sizes
Area 2A.
See Page 66

Stainless Steel Portlight Specifications

PART NUMBER	SIZE	TRIM COLOUR	VERSION	OVERALL DIMENSIONS X LENGTH mm	X LENGTH in	Y WIDTH mm	Y WIDTH in	Z HEIGHT mm	Z HEIGHT in	R RADII mm	R RADII in	CUT-OUT DIMENSIONS X1 LENGTH mm	X1 LENGTH in	Y1 WIDTH mm	Y1 WIDTH in	R1 RADII mm	R1 RADII in	PORTLIGHT WEIGHT kg	PORTLIGHT WEIGHT lb	ACRYLIC WINDOW THICKNESS mm	ACRYLIC WINDOW THICKNESS in
393020262	0	White	Opening	176	6 15/16	323	12 11/16	4	5/32	62.0	2 7/16	156	6 1/8	303	12	52.0	2 1/16	1.5	3.30	8	1/2
393010262	0	White	Fixed	176	6 15/16	323	12 11/16	4	5/32	62.0	2 7/16	156	6 1/8	303	12	52.0	2 1/16	1.5	3.30	10	3/8
393120262	1	White	Opening	191	7 1/2	367	14 7/16	4	5/32	62.0	2 7/16	171	6 3/4	347	13 5/8	52.0	2 1/16	1.7	3.80	8	1/2
393110262	1	White	Fixed	191	7 1/2	367	14 7/16	4	5/32	62.0	2 7/16	171	6 3/4	347	13 5/8	52.0	2 1/16	1.7	3.80	10	3/8
393180262	1RE	White	Opening	191	7 1/2	367	14 7/16	4	5/32	95.5	3 3/4	171	6 3/4	347	13 5/8	85.5	3 3/8	1.7	3.74	10	3/8
393170262	1RE	White	Fixed	191	7 1/2	367	14 7/16	4	5/32	95.5	3 3/4	171	6 3/4	347	13 5/8	85.5	3 3/8	1.7	3.74	10	3/8
393780262	7RE	White	Opening	191	7 1/2	425	16 3/4	4	5/32	95.5	3 3/4	171	6 3/4	405	15 15/16	85.5	3 3/8	1.9	4.18	10	3/8
393770262	7RE	White	Fixed	191	7 1/2	425	16 3/4	4	5/32	95.5	3 3/4	171	6 3/4	405	15 15/16	85.5	3 3/8	1.9	4.18	10	3/8
393820862	8	Chrome	Opening	196	7 11/16	452	17 13/16	4	5/32	n/a	n/a	See drawing on website						1.9	4.18	10	3/8
393810862	8	Chrome	Fixed	196	7 11/16	452	17 13/16	4	5/32	n/a	n/a	See drawing on website						1.9	4.18	10	3/8

1. Maximum hull thickness 30mm
2. Minimum hull thickness 9mm
3. All portlights are supplied with M5 x 20 screws for hull thickness 12-17mm
4. Portlights should be fitted to a flat surface +/-1mm
5. Complete with Flyscreen

Round Stainless Steel Portlight Specifications

PART NUMBER	TRIM COLOUR	VERSION	OVERALL DIAMETER mm	OVERALL DIAMETER in	CUT-OUT DIAMETER mm	CUT-OUT DIAMETER in	WEIGHT kg	WEIGHT lb	THICKNESS mm	THICKNESS in
30209800	Chrome	Opening	250	9 7/8	See website		1.4	3	10	3/8
30209900	Chrome	Opening	296	11 5/8	See website		2.0	4	10	3/8

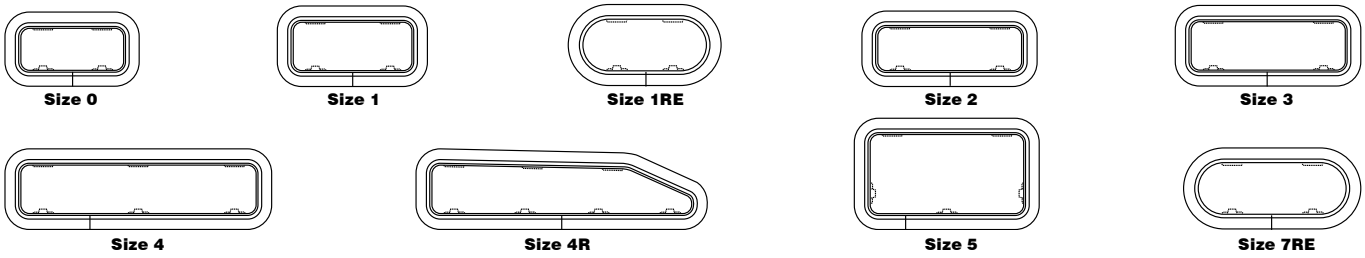
1. Maximum hull thickness 24mm
2. Minimum hull thickness 8mm
3. All portlights are supplied with M5 x 12 fastenings
4. Portlights should be fitted to a flat surface +/-1mm
5. No Flyscreen is available for the Round Stainless Portlight

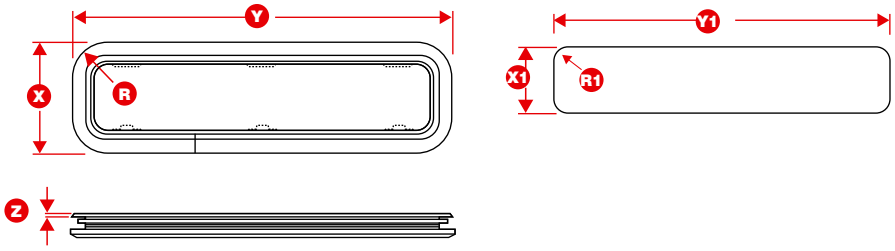
CE Approved
Area 1.
See Page 66

Standard Portlight

A perfect match for any hatch in the Lewmar range, the Standard Portlight is stylish, competitively priced and easy to both use and install.

- ABS Plastic Trim
- Can be installed with sealant or closed cell PVC tape
- Cut out shape available from www.lewmar.com
- Easily fitted by clamping the cabin sides between inner and outer frame with screws provided that are fastened into the outer frame
- Trim with clean styling
- Complete with flyscreen (except sizes 4L and 4R)





CE Approved
All sizes
Area 2A.
See Page 66

Standard Portlight Specifications

PART NUMBER	SIZE	TRIM COLOUR	VERSION	OVERALL DIMENSIONS X LENGTH mm	X LENGTH in	Y WIDTH mm	Y WIDTH in	Z HEIGHT mm	Z HEIGHT in	R RADII mm	R RADII in	CUT-OUT DIMENSIONS X1 LENGTH mm	X1 LENGTH in	Y1 WIDTH mm	Y1 WIDTH in	R1 RADII mm	R1 RADII in	PORTLIGHT WEIGHT kg	PORTLIGHT WEIGHT lb	ACRYLIC WINDOW THICKNESS mm	ACRYLIC WINDOW THICKNESS in
393020200	0	White	Opening	176	6 15/16	323	12 11/16	4	5/32	62.0	2 7/16	156	6 1/8	303	11 15/16	52.0	2 1/16	1.1	2.42	6	1/4
393020500	0	Ivory	Opening	176	6 15/16	323	12 11/16	4	5/32	62.0	2 7/16	156	6 1/8	303	11 15/16	52.0	2 1/16	1.1	2.42	6	1/4
393120200	1	White	Opening	191	7 1/2	367	14 7/16	4	5/32	62.0	2 7/16	171	6 3/4	347	13 11/16	52.0	2 1/16	1.3	2.86	6	1/4
393120500	1	Ivory	Opening	191	7 1/2	367	14 7/16	4	5/32	62.0	2 7/16	171	6 3/4	347	13 11/16	52.0	2 1/16	1.3	2.86	6	1/4
393180200	1RE	White	Opening	191	7 1/2	367	14 7/16	4	5/32	95.5	3 3/4	171	6 3/4	347	13 11/16	85.5	3 3/8	1.3	2.86	8	5/16
393180500	1RE	Ivory	Opening	191	7 1/2	367	14 7/16	4	5/32	95.5	3 3/4	171	6 3/4	347	13 11/16	85.5	3 3/8	1.3	2.86	8	5/16
393220200	2	White	Opening	176	6 15/16	425	16 3/4	4	5/32	62.0	2 7/16	156	6 1/8	405	15 5/16	52.0	2 1/16	1.4	3.08	8	5/16
393220500	2	Ivory	Opening	176	6 15/16	425	16 3/4	4	5/32	62.0	2 7/16	156	6 1/8	405	15 15/16	52.0	2 1/16	1.4	3.08	8	5/16
393320200	3	White	Opening	191	7 1/2	449	17 11/16	4	5/32	62.0	2 7/16	171	6 3/4	429	16 7/8	52.0	2 1/16	1.7	3.74	10	3/8
393320500	3	Ivory	Opening	191	7 1/2	449	17 11/16	4	5/32	62.0	2 7/16	171	6 3/4	429	16 7/8	52.0	2 1/16	1.7	3.74	10	3/8
393420200	4	White	Opening	191	7 1/2	646	25 7/16	4	5/32	62.0	2 7/16	171	6 3/4	626	24 11/16	52.0	2 1/16	2.4	5.28	8	5/16
393420500	4	Ivory	Opening	191	7 1/2	646	25 7/16	4	5/32	62.0	2 7/16	171	6 3/4	626	24 11/16	52.0	2 1/16	2.4	5.28	8	5/16
393440200	4R	White	Opening	195	7 11/16	708	27 7/8	4	5/32	62.0	2 7/16	175	6 7/8	688	27 1/16	52.0	2 1/16	2.4	5.28	8	5/16
393440500	4R	Ivory	Opening	195	7 11/16	708	27 7/8	4	5/32	62.0	2 7/16	175	6 7/8	688	27 1/16	52.0	2 1/16	2.4	5.28	8	5/16
393460200	4L	White	Opening	195	7 11/16	708	27 7/8	4	5/32	62.0	2 7/16	175	6 7/8	688	27 1/16	52.0	2 1/16	2.4	5.28	8	5/16
393460500	4L	Ivory	Opening	195	7 11/16	708	27 7/8	4	5/32	62.0	2 7/16	175	6 7/8	688	27 1/16	52.0	2 1/16	2.4	5.28	8	5/16
393520200	5	White	Opening	264	10 3/8	449	17 11/16	4	5/32	62.0	2 7/16	244	9 5/8	429	16 7/8	52.0	2 1/16	2.3	5.15	10	3/8
393520500	5	Ivory	Opening	264	10 3/8	449	17 11/16	4	5/32	62.0	2 7/16	244	9 5/8	429	16 7/8	52.0	2 1/16	2.3	5.15	10	3/8
393780200	7RE	White	Opening	191	7 1/2	425	16 3/4	4	5/32	95.5	3 3/4	171	6 3/4	405	15 15/16	85.5	3 3/8	2.4	5.28	8	5/16
393780500	7RE	Ivory	Opening	191	7 1/2	425	16 3/4	4	5/32	95.5	3 3/4	171	6 3/4	405	15 15/16	85.5	3 3/8	2.4	5.28	8	5/16

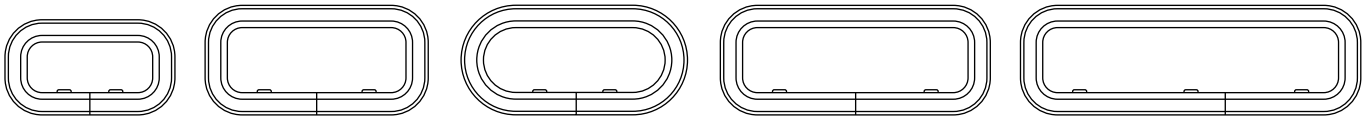
1. Maximum hull thickness 34mm
2. Minimum hull thickness 7mm
3. All portlights are supplied with 12 off M5 x 25 screws for hull thickness 17-25mm
4. Portlights should be fitted to a flat surface +/-1mm
5. Acrylic colour is Smoke Grey

Atlantic Portlight

The Atlantic Portlight has clean lines and a clear, acrylic window housed in an attractive aluminium frame.

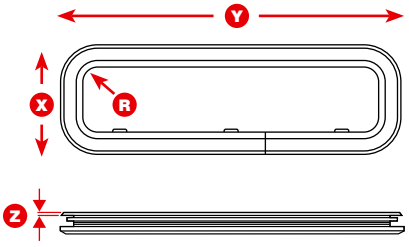
- Extensive range
- Flyscreens provided as standard
- Friction hinges
- Quick-action handles

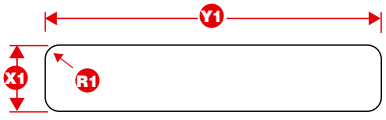
Aluminium interior trim



Size 10 **Size 30** **Size 32** **Size 40** **Size 60**

Atlantic Portlight Dimensions





CE Approved
All sizes
Area 2A.
See Page 66

Atlantic Portlight Specifications

PART NUMBER				OVERALL DIMENSIONS								CUT-OUT DIMENSIONS						PORTLIGHT WEIGHT		ACRYLIC WINDOW THICKNESS	
				X LENGTH		Y WIDTH		Z HEIGHT		R RADII		X1 LENGTH		Y1 WIDTH		R1 RADII					
Thin Valance	Thick Valance	SIZE	VERSION	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	mm	in
39110090	39110070	10	Opening	174	6 15/16	304	12	6	1/4	71	2 13/16	154	6 1/16	284	11 3/16	61	2 3/8	1.6	3.5	8	5/16
39130090	39130070	30	Opening	200	7 7/8	400	15 3/4	6	1/4	71	2 13/16	180	7 1/16	380	14 15/16	61	2 3/8	2.2	4.8	8	5/16
39132090	39132070	32	Opening	198	7 13/16	401	15 13/16	6	1/4	99	3 7/8	178	7	381	15	89	3 1/2	2.1	4.6	8	5/16
39140090	39140070	40	Opening	200	7 7/8	480	18 7/8	6	1/4	71	2 13/16	180	7 1/16	460	18 1/8	61	2 3/8	2.5	5.5	8	5/16
39160090	39160070	60	Opening	200	7 7/8	600	23 5/8	6	1/4	71	2 13/16	180	7 1/16	580	22 13/16	61	2 3/8	3.0	6.6	8	5/16

1. Smoke grey acrylic and silver anodise frames.
2. Portlights and fixed lights should be fitted to a flat surface with a maximum tolerance of ± 1mm
3. Portlights and fixed lights come complete with fastenings as indicated on above table
4. Portlight opening is restricted on very thick hulls.
5. At 24mm hull thickness opening angle is 115°

Portlight Valance & Fastening Required

HULL THICKNESS mm	VALANCE TYPE	FASTENING	
8–10	Thin Hull Valance	360360999[1]	M5 x 12mm Long
11–15	Thin Hull Valance	360361999	M5 x 16mm Long
16–19	Thick Hull Valance	360362999	M5 x 20mm Long
20–24	Thick Hull Valance	360363999[2]	M5 x 25mm Long

[1] Supplied as standard with thin hull valances
[2] Supplied as standard with thick hull valances
Fastenings supplied in bags of 100

Portlight Accessories

Portlight Flyscreen

- Portlight Flyscreen provides easy installation and removal
- Can be left in place when the window is closed

lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

Flush Mitre Portlight Clip Flyscreens

lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

Standard Portlight Clip Flyscreens

PART NUMBER	DESCRIPTION
367302936	Flyscreen Size 0
367312936	Flyscreen Size 1
367318936	Flyscreen Size 1RE
367322936	Flyscreen Size 2
367332936	Flyscreen Size 3
367342936	Flyscreen Size 4
367352936	Flyscreen Size 5
367378936	Flyscreen Size 7RE

Atlantic Portlight Clip Flyscreens

PART NUMBER	DESCRIPTION
367110936	Flyscreen Size 10
367130936	Flyscreen Size 30
367132936	Flyscreen Size 32
367140936	Flyscreen Size 40
367160936	Flyscreen Size 60

Portlight Fastenings

PART NUMBER	SCREW SIZE	HULL THICKNESS mm			
		STANDARD PORTLIGHT		STAINLESS STEEL PORTLIGHT	
		MIN	MAX	MIN	MAX
19899000	M5 X 12	7	9	7	9
19899100	M5 X 16	8	13	8	13
19899200	M5 X 20	12	17	12	17
19899300	M5 X 25	17	22	17	22
19899400	M5 X 30	22	27	22	27
19899500	M5 X 35	27	32	27	32
19899600	M5 X 40	32	34	32	34

Screws supplied in quantities of 100

Winches

Lewmar winches are designed with both racing crews and cruising sailors in mind. The new EVO® range of winches meets the needs of sailors and boat builders with a perfect blend of looks, functionality, and reliability. We have a range of new captive winches, and for smaller boats where space under the cabin top is limited we have designed the CW800. Constant evolution means our cutting edge racing winches have been fitted on board the current America's Cup multi-hulls as well as much of the TP52 fleet.

The Lewmar Winch Range

EVO® Winch
- Available from Size 6 to Size 80
- Choice of multiple styles and finishes
- Simple servicing
- 7 year warranty

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Winch Handles
- Award-winning OneTouch offers easy one-handed removal
- Lightweight, forged construction
- PowerGrip makes initial one-handed fast cranking easy
- Corrosion resistant

Page 82

Electric Winches
- Purchase complete or retrofit
- Push button power control
- Includes contactor and motor units
- Features manual override
- CW800 Captive Winch for smaller yachts

Page 84

Hydraulic Winches
- Ideal for craft over 15m (50ft)
- Minimal space and weight
- Quiet operation
- Features manual override

Page 90

Line Management System
- Up to 25% lighter than previous models
- Up to 3 speed options
- Unique stowing system ensures low line tension
- Emergency high-load release feature

Page 94

Grand Prix Racing Winches
- Developed with top racing classes
- Weight saving
- Superior strength
- Easy to service

Page 96

Pedestal Systems
- Lightweight carbon shell
- Unique I Beam belt drive ensures maximum efficiency
- Removable pedestal option for fast cruising market
- Twist or straight pedestal options

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EVO® Winches

Lewmar fuses its legendary quality with state of the art technology to offer the most advanced winch range ever – the EVO®. We've taken Lewmar's Ocean Winch, the most popular winch ever made, and improved it further. The EVO® winch is a development that contains years of knowledge and understanding of what boat builders and sailors want. No compromises have been made in terms of quality or integrity of design.

Simple servicing

No tools are required to service a Lewmar EVO® winch. Simply unscrew the top cap with your fingers to remove the drum and provide access to the proved gear train.

Multiple styles and finishes

EVO® winches are available in black or grey alloy and chrome bronze for the cruising sailor. Manual winches feature single speed or two speed, while Size 40 to Size 80 are available with electric operation.

Wave Spring jaw and feeder arm

The integrated investment cast stainless steel feeder arm completely covers the top of the winch, preventing a rope trap above the Wavespring jaws. The feeder arm position can be adjusted to smoothly feed the rope out of the jaws and into the cockpit.

Engineering Excellence

For Lewmar customers, there is no such thing as "just a winch". That's because inside every winch you will find materials developed over many years, designed using the latest techniques, and machined using CNC equipment. When we machine the winches we are looking for the maximum in efficiency, durability, and strength to weight ratio.

Electric winches

Whatever sailing you do, short handed or long distance cruising, the decision to install electric winches or upgrade your existing winches with one of our conversion kits is simple.

7-year warranty

We are so confident about the quality of the EVO® winch range that we are backing it up with a 7-year warranty.

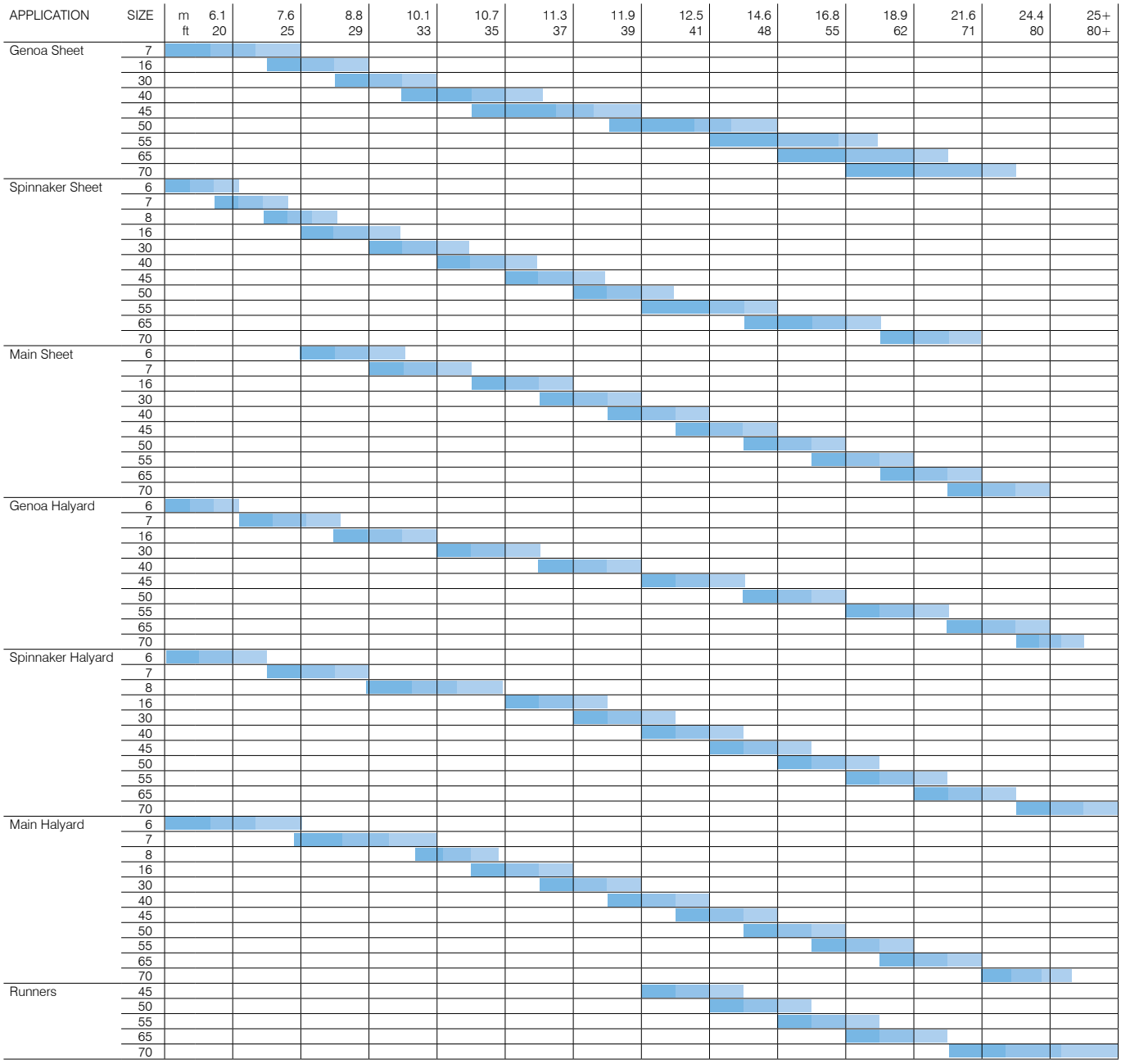
Winch Selection Guide

Efficient sail handling begins with the selection of the correct winch. To help you select from the winches described in the following pages the chart below is designed as a quick reference to match application, yacht size and winch. Cross reference your yacht size (for masthead rigs) or sail area (fractional rigs) with application, to ascertain the correct winch. You can also send your deck and sail plans to your Lewmar representative, they will be pleased to make individual recommendations. REMEMBER runner winch and mainsheet winch selection depends on the purchase system fitted, and expected loads. Dynamic sail loads can easily increase the loads dramatically. Multihulls generally have a higher righting moment than monohulls of equivalent lengths, resulting in higher dynamic loading, therefore, winch size needs to be larger – consult your Lewmar office or rigger for further guidance.

Sail Area

APPLICATION		BOAT LENGTH OVERALL																					
	m ft	6.1–7.6 20–25		7.6–8.8 25–29		8.8–10.1 29–33		10.1–10.7 33–35		10.7–11.3 35–37		11.3–11.9 37–39		11.9–12.5 39–41		12.8–14.6 42–48		14.6–16.8 48–55		16.8–18.9 55–62		18.9–21.6 62–71	
Genoa (ft²/m²)		200	19	300	28	350	33	470	44	550	51	600	56	750	70	900	84	1500	139	1900	177	2300	214
Spinnaker (ft²/m²)		300	28	400	37	600	56	800	74	1000	93	1200	111	1400	130	1600	149	3000	279	3800	353	4600	427
Main (ft²/m²)		120	11	150	14	180	17	210	20	230	21	260	24	300	28	350	33	750	70	875	81	1000	93

Winch Selection Guide



Lighter shading represents the upper limit of the model. If in doubt, move up a model.

EVO® Sport Winches

The EVO® Sport complements the EVO® Winch Range. Best suited for sport boats requiring constant trimming and where weight consideration is a premium, the EVO® Sport is also suitable as a mast mounted winch

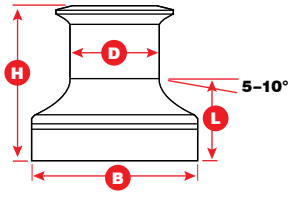
- Architecture based on self tailing EVO® Winch
- Tool-free servicing
- Can be converted into an EVO® Self tailing winch retrospectively
- Size 40 convertible to electric
- Choice of finishes: Black alloy or Chrome bronze
- Available in Size 6 to Size 40

EVO® Sport Winch Black Size 7

EVO® Sport Winch Black Size 40

EVO® Sport Winch Chrome Size 40

Dimensions Diagram EVO® Sport Winch



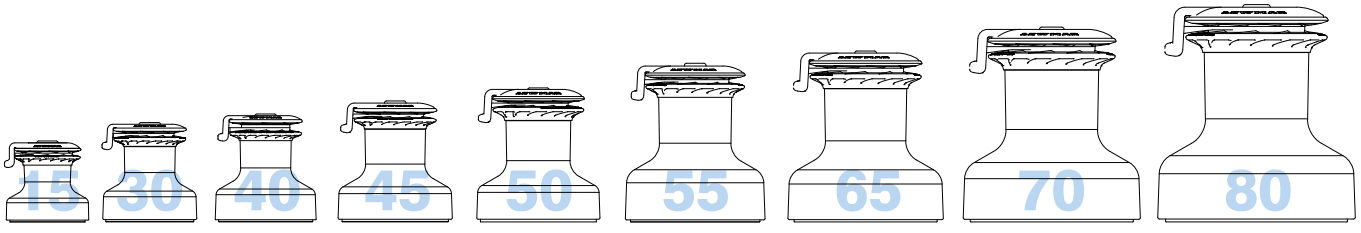
EVO® Sport Winch Specifications

PART NO	MODEL	FINISH	GEAR RATIO		POWER RATIO		WLL		WEIGHT		D DRUM DIA		B BASE DIA		H HEIGHT		L LINE ENTRY		MOUNTING INSTRUCTIONS
			1st	2nd	1st	2nd	kg	lb	kg	lb	mm	in	mm	in	mm	in	mm	in	
49006075	6	Alloy Black	1:1		6.8:1		341	752	0.5	1.1	59	2 5/16	94	3 11/16	83	3 1/4	35.5	1 3/8	4 x M6 (1/4 in) c'sk head screws on 66mm (2 19/32 in) PCD
19006100	6	Chrome	1:1		6.8:1		341	752	1.1	2.4	59	2 5/16	94	3 11/16	83	3 1/4	35.5	1 3/8	
49507075	7	Alloy Black	1:1		7.9:1		341	752	0.8	1.8	65	2 9/16	108	4 1/4	102	4	40	1 9/16	5 x M6 (1/4 in) c'sk head screws on 80mm (3 5/32 in) PCD
49507076	7	Chrome	1:1		7.9:1		341	752	1.7	3.7	65	2 9/16	108	4 1/4	102	4	40	1 9/16	
49508075	8	Alloy Black	1:1		7.9:1		455	1003	1.4	3.1	65	2 9/16	108	4 1/4	103	4 1/16	40	1 9/16	5 x M6 (1/4 in) c'sk head screws on 80mm (3 5/32 in) PCD
49508076	8	Chrome	1:1		7.9:1		455	1003	2.3	5.1	65	2 9/16	108	4 1/4	103	4 1/16	40	1 9/16	
49516075	16	Alloy Black	1:1	2:1	7.9:1	16:1	570	1257	2.1	4.6	67	2 5/8	120	4 3/4	112	4 7/16	55	2 3/16	5 x M6 (1/4 in) c'sk head screws on 94mm (3 11/16 in) PCD
49516076	16	Chrome	1:1	2:1	7.9:1	16:1	570	1257	3.2	7.0	67	2 5/8	120	4 3/4	112	4 7/16	55	2 3/16	
49530075	30	Alloy Black	2:1	4.2:1	13.8:1	29.21	685	1510	3.9	8.6	74	2 15/16	138	5 7/16	145.85	5 3/4	69	2 11/16	5 x M6 (1/2 in) c'sk head screws on 113mm (4 15/32 in) PCD
49530076	30	Chrome	2:1	4.2:1	13.8:1	29.21	685	1510	5.8	12.8	74	2 15/16	138	5 7/16	145.85	5 3/4	69	2 11/16	
49540075	40	Alloy Black	1.9:1	5.8:1	13.2:1	40.2:1	795	1753	5.5	12.1	74	2 15/16	148	5 13/16	158.5	6 1/4	79	3 1/8	5 x M6 (1/2 in) c'sk head screws on 121mm (4 3/4 in) PCD
49540076	40	Chrome	1.9:1	5.8:1	13.2:1	40.2:1	795	1753	7	15.4	74	2 15/16	148	5 13/16	158.5	6 1/4	79	3 1/8	

EVO® Self-Tailing Winches

An evolution of the renowned Lewmar Ocean winch, the EVO® Self-Tailing Winch draws on the a wealth of design and manufacturing experience to produce a state-of-the-art winch. With a wide choice of sizes and styles, there is a versatile EVO® for any style or application.

- Easy Servicing – no tools required
- User friendly direction arrows
- All the benefits of the EVO® range
- Choice of three finishes.
- Convertable to electric
- Available in Size 15 to Size 80
- 7-year warranty



Wave Spring Jaw and Feeder Arm

The integrated investment cast stainless steel feeder arm covers the winch, and does not create a rope trap above our WaveSpring jaws.

The feeder arm position can be adjusted to smoothly feed the rope out of the jaws and into the cockpit, while the proven stripper ring goes round the WaveSpring. Lewmar's unique design ensures you cannot snag that loose rope cover.

Expert Advice

When installing a winch, Lewmar recommends the winch must be mounted on a flat surface and that the rope enters the drum at an angle of 5° to 10° to the base axis of the winch. This angle can be achieved by using a base wedge when mounting the winch.

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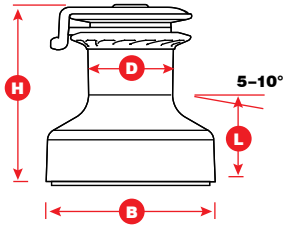
Dimensions Diagram EVO® Self-Tailing Winch



Mounting Instructions

15st	5 x M6 (½ in) c'sk head screws on 94mm (3⁷⁄₁₀ in) PCD
30st	5 x M6 (½ in) c'sk head screws on 113mm (4¹⁵⁄₃₂ in) PCD
40st	5 x M6 (½ in) c'sk head screws on 121mm (4¾ in) PCD
45st	5 x M8 (⁵⁄₁₆ in) c'sk head screws on 136mm (5¹¹⁄₃₂ in) PCD
50st	5 x M8 (⁵⁄₁₆ in) c'sk head screws on 150mm (5²⁹⁄₃₂ in) PCD
55st	6 x M8 (⁵⁄₁₆ in) c'sk head screws on 165mm (6½ in) PCD
65st	5 x M10 (⅜ in) c'sk head screws on 184mm (7¼ in) PCD

EVO® Self-Tailing Winch Specifications

PART NO	MODEL	FINISH	GEAR RATIO		POWER RATIO		WLL		WEIGHT		D DRUM DIA		B BASE DIA		H HEIGHT		L LINE ENTRY		LINE SIZE	
			1st	2nd	1st	2nd	kg	lb	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in
49515055	15ST	Alloy Black	2:1		15.8:1		570	1257	2.6	5.7	66.8	2⅝	121	4¾	119	4¹¹⁄₁₆	58	2⁵⁄₁₆	8–12	⁵⁄₁₆–½
49515057	15ST	Alloy Grey	2:1		15.8:1		570	1257	2.6	5.7	66.8	2⅝	121	4¾	119	4¹¹⁄₁₆	58	2⁵⁄₁₆	8–12	⁵⁄₁₆–½
49515056	15ST	Chrome Bronze	2:1		15.8:1		570	1257	3.9	8.6	66.8	2⅝	121	4¾	119	4¹¹⁄₁₆	58	2⁵⁄₁₆	8–12	⁵⁄₁₆–½
49530055	30ST	Alloy Black	2:1	4.2:1	13.8:1	29.2:1	685	1510	4	8.8	74	21⁵⁄₁₆	138	5⁷⁄₁₆	145.85	5¾	69	2¹¹⁄₁₆	8–12	⁵⁄₁₆–½
49530057	30ST	Alloy Grey	2:1	4.2:1	13.8:1	29.2:1	685	1510	4	8.8	74	21⁵⁄₁₆	138	5⁷⁄₁₆	145.85	5¾	69	2¹¹⁄₁₆	8–12	⁵⁄₁₆–½
49530056	30ST	Chrome Bronze	2:1	4.2:1	13.8:1	29.2:1	685	1510	5.4	11.9	74	21⁵⁄₁₆	138	5⁷⁄₁₆	145.85	5¾	69	2¹¹⁄₁₆	8–12	⁵⁄₁₆–½
49540055	40ST	Alloy Black	1.9:1	5.8:1	13.2:1	40.2:1	795	1753	4.9	10.7	74	21⁵⁄₁₆	148	5¹³⁄₁₆	158.5	6¼	79	3⅛	8–12	⁵⁄₁₆–½
49540057	40ST	Alloy Grey	1.9:1	5.8:1	13.2:1	40.2:1	795	1753	4.9	10.7	74	21⁵⁄₁₆	148	5¹³⁄₁₆	158.5	6¼	79	3⅛	8–12	⁵⁄₁₆–½
49540056	40ST	Chrome Bronze	1.9:1	5.8:1	13.2:1	40.2:1	795	1753	6.5	14.3	74	21⁵⁄₁₆	148	5¹³⁄₁₆	158.5	6¼	79	3⅛	8–12	⁵⁄₁₆–½
49545055	45ST	Alloy Black	2.4:1	7.6:1	13.9:1	44.8:1	1200	2646	7.1	15.6	87	3⁷⁄₁₆	168	6⅝	177.7	7	84	3⁵⁄₁₆	8–14	⁵⁄₁₆–⁹⁄₁₆
49545057	45ST	Alloy Grey	2.4:1	7.6:1	13.9:1	44.8:1	1200	2646	7.1	15.6	87	3⁷⁄₁₆	168	6⅝	177.7	7	84	3⁵⁄₁₆	8–14	⁵⁄₁₆–⁹⁄₁₆
49545056	45ST	Chrome Bronze	2.4:1	7.6:1	13.9:1	44.8:1	1200	2646	9.7	21.3	87	3⁷⁄₁₆	168	6⅝	177.7	7	84	3⁵⁄₁₆	8–15	⁵⁄₁₆–⁹⁄₁₆
49550055	50ST	Alloy Black	2.6:1	9:1	13.9:1	48.6:1	1250	2756	9	19.8	93	3⅝	181	7⅛	197	7¾	90	3½	8–14	5⁄16-9⁄16
49550057	50ST	Alloy Grey	2.6:1	9:1	13.9:1	48.6:1	1250	2756	9	19.8	93	3⅝	181	7⅛	197	7¾	90	3½	8–14	5⁄16-9⁄16
49550056	50ST	Chrome Bronze	2.6:1	9:1	13.9:1	48.6:1	1250	2756	12.3	27	93	3⅝	181	7⅛	197	7¾	90	3½	8–14	5⁄16-9⁄16
49555055	55ST	Alloy Black	2.8:1	11.2:1	13.8:1	54:1	1480	3263	12.2	26.9	105	4⅛	205	8¹⁄₁₆	233	9¹¹⁄₃₂	115	4½	8–16	5⁄16-5⁄8
49555057	55ST	Alloy Grey	2.8:1	11.2:1	13.8:1	54:1	1480	3263	12.2	26.9	105	4⅛	205	8¹⁄₁₆	233	9¹¹⁄₃₂	115	4½	8–16	5⁄16-5⁄8
49555056	55ST	Chrome Bronze	2.8:1	11.2:1	13.8:1	54:1	1480	3263	18	39.6	105	4⅛	205	8¹⁄₁₆	233	9¹¹⁄₃₂	115	4½	8–16	5⁄16-5⁄8
49565055	65ST	Alloy Black	3.1:1	14.8:1	13.4:1	64:1	1700	3748	16.6	36.5	118	4⅝	228	9	251	9⅞	119	4¹¹⁄₁₆	8–18	5⁄16-11⁄16
49565057	65ST	Alloy Grey	3.1:1	14.8:1	13.4:1	64:1	1700	3748	16.6	36.5	118	4⅝	228	9	251	9⅞	119	4¹¹⁄₁₆	8–18	5⁄16-11⁄16
49565056	65ST	Chrome Bronze	3.1:1	14.8:1	13.4:1	64:1	1700	3748	23.8	52.4	118	4⅝	228	9	251	9⅞	119	4¹¹⁄₁₆	8-18	5⁄16-11⁄16

Winch Handles

OneTouch Winch Handle

The award-winning OneTouch allows you to lock in and remove the winch handle with one hand. Simply squeeze the release lever, which runs the entire length of the handle, and pull to unlock in one quick, easy motion.

- 8" and 10" Alloy Handle
- Release lever runs entire length of the handle – no twisting, jiggling or fiddling around
- Easy one-handed removal – just squeeze and lift
- Lightweight, forged construction
- Corrosion resistant for years of performance under harsh conditions
- Available in Standard Grip and Power Grip
- As used by the Americas Cup, Volvo and TP52 teams

2914 0044

2914 0046

OneTouch Winch Handle Specifications

PART NUMBER	SIZE		DESCRIPTION
	mm	in	
2914 0044	250	10	Alloy Handle, Lock-in Single, Grip
2914 0046	250	10	Alloy Handle, Lock-in, Power Grip
2914 0040	200	8	Alloy Handle, Lock-in Single, Grip
2914 0042	200	8	Alloy Handle, Lock-in, Power Grip

Winch Handles

Lewmar Winch Handle

- Ball bearings provide maximum efficiency
- Manufactured in durable, lightweight alloy
- 250mm (10") available in chrome
- Optional Power Grip makes initial fast cranking easy and comfortable, with space for a second hand once the load comes on

2914 1011

2914 1110

2914 1111

2914 0121

Titan Winch Handle

- Light weight composite construction
- Engineered to withstand rigours of saltwater environment
- Floating handle

2914 5301

Lewmar Winch Handle Specifications

PART NUMBER	SIZE		DESCRIPTION
	mm	in	
2914 1011	200	8	Alloy Lock-in Winch Handle
2914 1110	250	10	Alloy Winch Handle (Forged)
2914 1111	250	10	Alloy Winch Handle, Lock-in (Forged)
2914 0121	250	10	Chrome Winch Handle, Lock-in Power Grip (Forged)

Titan Winch Handle Specifications

PART NUMBER	SIZE		DESCRIPTION
	mm	in	
2914 5301	200	8	Titan Winch Handle, Red, Locking
2914 5311	250	10	Titan Winch Handle, Red, Locking

Winch Handle Pocket

PART NUMBER	DESCRIPTION
2914 0020	Winch Handle Pocket

2914 0020

Electric Winches

A Self-Tailing EVO® Winch that works at the push of a button! That's exactly what you will find with Lewmar's electric winch range. Whether you buy an electrically-operated winch complete or retro-fit the compact electric motor/controller unit, the electric EVO® provides improved sail control.

- Push Button Power
- Quiet operation
- Manual override
- All the benefits of the EVO® range
- Easy to install
- Inclusive of contactor and motor units
- Features a series wound motor
- Choice of two levels of control: E Series or Electric Load Sensing (ELS)
- Available for Size 40, 45, & 50, E Series controller features a thermal trip
- In addition to a thermal trip, the ELS Control Box cuts power when the winch reaches its Working Load Limit (WLL). Power resumes once the loads return below the WLL.
- ELS Control Box available for Size 40 to 80

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New electric motor includes controller

Lewmar supplies a new motor gearbox with the E-series controller pre-mounted. This convenient solution removes any complicated wiring for the installer and keeps the boat looking very tidy. For part number refer to Page 90.

E-series

The E-series controller is equipped with a thermal trip to monitor the motor temperature, which ensures a cut out if the heat builds up to an unacceptable level.
Available on the EVO® electric winch range 40, 45 & 50.

Electric load sensing – ELS

Pioneered by Lewmar, ELS (Electric Load Sensing) electric winches are controlled by an Overload Protection Control Box, which allows the winch to be operated up to a set current relative to the working load limit of the specific winch. Once this current is exceeded, the winch automatically cuts out. Once the current drops to below the working load limit, the winch can be restarted. The ELS features the additional safety function of a Motor Thermal Trip, which ensures that the motor cuts out in the event of excessive heat build up. ELS is available on the EVO® Electric Winch Range Size 40 to 80.

Electric Winches – Complete Kits

Electric Winch Kits 12V (24V units are also available)

PART NUMBER	MODEL	DESCRIPTION
49540210	40EST	Alloy Black Complete
49540201	40EST	Chrome Bronze Complete
49540200	40EST	Alloy Grey Complete
49545210	45EST	Alloy Black Complete
49545201	45EST	Chrome Bronze Complete
49545200	45EST	Alloy Grey Complete
49550210	50EST	Alloy Black Complete
49550201	50EST	Chrome Bronze Complete
49550200	50EST	Alloy Grey Complete
49555210	55EST	Alloy Black Complete
49555201	55EST	Chrome Bronze Complete
49555200	55EST	Alloy Grey Complete
49565210	65EST	Alloy Black Complete
49565201	65EST	Chrome Bronze Complete
49565200	65EST	Alloy Grey Complete

Kit includes: Deck unit, motor gearbox, E series connected to motor 40–50, or control box 55–65, circuit breaker 40–50 or fuse 55–65, deck switch.

Custom Electric Winch Complete Kits 24V (12V units also available)

PART NUMBER	MODEL	FINISH	WEIGHT	
			kg	lb
49570230	70 EST	Alloy Black	42	92.6
49570221	70 EST	Chrome	48.8	107.6
49570220	70 EST	Alloy Grey	42	92.6
49570211	70/3 EST	Alloy Black	48	105.8
49570212	70/3 EST	Chrome	54.8	120.8
49570213	70/3 EST	Alloy Grey	48	105.8
49580230	80 EST	Alloy Black	49.3	108.7
49580221	80 EST	Chrome	55.3	121.9
49580220	80 EST	Alloy Grey	49.3	108.7
49580211	80/3 EST	Alloy Black	51.3	113.1
49580212	80/3 EST	Chrome	57.3	126.3
49580213	80/3 EST	Alloy Grey	51.3	113.1

Kit includes: Deck unit, motor gearbox, E series connected to motor 40–50, or control box 55–65, circuit breaker 40–50 or fuse 55–65, deck switch.

Two + Three Speed Electric Winch

Ocean Winch Electric Conversion Kit

The complete Ocean upgrade kit size 40–48 is supplied with the motor gearbox and E-series controller pre-mounted for fast and easy installation.

PART NUMBER	DESCRIPTION
48040300	40ST 12V 'E' Conversion Kit
48046300	46ST 12V 'E' Conversion Kit
48048300	48ST 12V 'E' Conversion Kit
48050300	50ST 12V 'E' Conversion Kit
48054300	54ST 12V 'E' Conversion Kit
48058300	58ST 12V 'E' Conversion Kit

Kit includes: Deck Unit, Motor/Gearbox, and Control Box.

Electric Power drive

The Lewmar EVO™ and Ocean winch can easily be converted into an Electric Winch.
The basic winch needs a conversion kit to form the basic Electric Winch Deck Unit.

EVO® WINCH PART NUMBER	OCEAN WINCH PART NUMBER	DESCRIPTION
48540055	48040055	40ST Power drive
48545055	48046055	45/46ST Power drive
–	48048055	48ST Power drive
48550055	48050055	50ST Power drive
–	48054055	54ST Power drive
–	48058055	58ST Power drive
–	48065055	65ST Power drive

NOTE: You will also require, Motor/Gearbox, Contactor, Circuit Breaker and Switch.

EVO™ Winch **Power drive**

Specify your own Electric Winch

1 Deck Unit

2 Motor Gearbox

3 Contactor/Control Box

4 Accessories

1 Electric Winch Deck Unit

Electric Winch

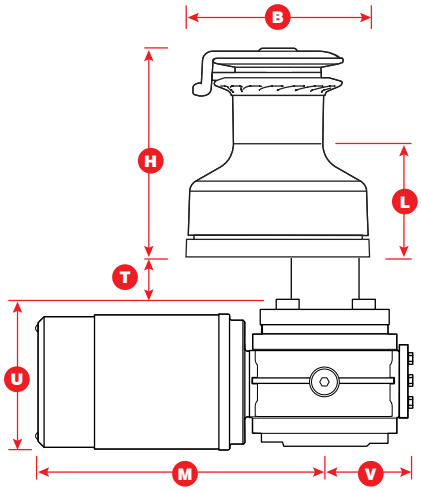
PART NUMBER	MODEL	FINISH	WEIGHT	
			kg	lb
48540210	40ESR	Alloy Black	17.8	39.3
48540201	40EST	Chrome	19.5	43.0
48540200	40EST	Alloy Grey	17.8	39.3
48545210	45EST	Alloy Black	22.1	48.6
48545201	45EST	Chrome	24.6	54.1
48545200	45EST	Alloy Grey	22.1	48.6
48550210	50EST	Alloy Black	24.7	54.3
48550201	50EST	Chrome	28.1	61.8
48550200	50EST	Alloy Grey	24.7	54.3
48555210	55EST	Alloy Black	29.0	63.8
48555201	55EST	Chrome	34.8	76.5
48555200	55EST	Alloy Grey	29.0	63.8
48565210	65EST	Alloy Black	33.6	73.9
48565201	65EST	Chrome	40.8	89.7
48565200	65EST	Alloy Grey	33.6	73.9

Custom Electric Winch

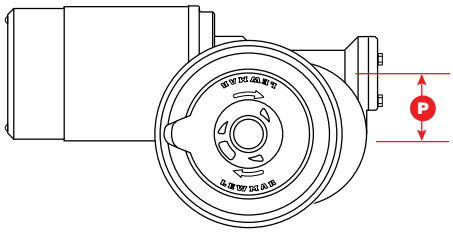
PART NUMBER	MODEL	FINISH	WEIGHT	
			kg	lb
48570210	70 EST	Alloy Black	42.0	92.6
48570201	70 EST	Chrome	48.8	107.6
48570200	70 EST	Alloy Grey	42.0	92.6
48570208	70/3 EST	Alloy Black	48.0	105.8
48570207	70/3 EST	Chrome	54.8	120.8
48570206	70/3 EST	Alloy Grey	48.0	105.8
48580210	80 EST	Alloy Black	49.3	108.7
48580201	80 EST	Chrome	55.3	121.9
48580200	80 EST	Alloy Grey	49.3	108.7
48580208	80/3 EST	Alloy Black	51.3	113.1
48580207	80/3 EST	Chrome	57.3	126.3
48580206	80/3 EST	Alloy Grey	51.3	113.1

Notes: Weights shown above includes the weight of Motor Gearbox & Control Box.

Electric Winch Dimensions



When installing a winch, Lewmar recommends the winch be mounted on a level surface and that the rope enters the drum at an angle of 5° to 10° to the base axis of the winch. This angle can be achieved by using a base wedge when mounting the winch.



WINCH SIZE	H HEIGHT		L LINE ENTRY		M		P		T		U		V		B BASE DIA	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
40EST	175	6 9/10	95.4	3 49/64	238.5	9 25/64	50	1 31/32	34.4	1 23/64	120.7	2 3/4	72.5	2 55/64	154	6 1/16
45EST	194	7 5/8	100.3	3 61/64	238.5	9 25/64	50	1 31/32	64.4	2 17/32	120.7	2 3/4	72.5	2 55/64	174	6 55/64
50EST	246.8	9 2/3	105.2	4 9/64	238.5	9 25/64	50	1 31/32	64.4	2 17/32	120.7	2 3/4	72.5	2 55/64	186	7 21/64
55EST	257.5	10 1/8	135.8	5 3/8	290	11 7/16	62	2 7/16	59.5	2 5/16	160	6 1/4	80	3 1/8	209	8 1/4
65EST	273.8	10 3/4	141.8	5 9/16	290	11 7/16	62	2 7/16	59.5	2 5/16	160	6 1/4	80	3 1/8	234	9 1/4
70EST	274.2	10 13/16	142.1	5 5/8	290	11 7/16	62	2 7/16	67.5	2 11/16	160	6 1/4	80	3 1/8	282	11 1/8
70/3EST	318.5	12 9/16	186.4	7 5/16	290	11 7/16	62	2 7/16	67.5	2 11/16	160	6 1/4	80	3 1/8	294	11 9/16
80EST	320	12 19/16	174.0	6 7/8	290	11 7/16	62	2 7/16	67.5	2 11/16	160	6 1/4	80	3 1/8	294	11 9/16
80/3EST	320	12 19/16	174.0	6 7/8	290	11 7/16	62	2 7/16	67.5	2 11/16	160	6 1/4	80	3 1/8	294	11 9/16
90EST	327	12 7/8	159.5	6 1/4	290	11 7/16	62	2 7/16	–	–	–	–	–	–	326	12 3/4

Mounting Instructions

40EST	5 x M6 (1/2 in) c'sk head screws on 121mm (4 3/4 in) PCD
45EST	5 x M8 (5/16 in) c'sk head screws on 136mm (5 11/32 in) PCD
50EST	6 x M8 (5/16 in) c'sk head screws on 150mm (5 29/32 in) PCD
55EST	6 x M8 (5/16 in) c'sk head screws on 165mm (6 1/2 in) PCD
65EST	5 x M10 (3/8 in) c'sk head screws on 184mm (7 1/4 in) PCD
70EST	6 x M10 (3/8 in) c'sk head screws on 241mm (9 1/2 in) PCD
70/3EST	6 x M10 (3/8 in) c'sk head screws on 241mm (9 1/2 in) PCD
80EST	6 x M10 (3/8 in) c'sk head screws on 241mm (9 1/2 in) PCD
80/3EST	6 x M10 (3/8 in) c'sk head screws on 241mm (9 1/2 in) PCD
90/3EST	8 x M10 (3/8 in) c'sk head screws on 270mm (10 5/8 in) PCD

Note: not all holes are symmetrical on all models

Cable Sizes

	CABLE DISTANCE FROM BATTERY TO WINCH	UP TO 10M (33FT)		10–35M (33–49FT)		15–20M (49–66FT)	
		CSA mm²	AWG	CSA mm²	AWG	CSA mm²	AWG
12V	40–50	35	2	50	0	70	00
12V	55–65	70	00	95	000	120	0000
12V	70–80	50	0	70	00	95	000
24V	40–50	25	3	25	3	35	2
24V	55–65	25	3	35	2	50	0
24V	70–80	25	3	35	2	50	0

The above cable size are recommendations only

2 Motor Gearbox

PART NUMBER	DESCRIPTION	MOTOR (Watt)	40ST	45ST	50ST	55ST	65ST	70-70/3	80-80/3
48000116	40-50 12v M/GBOX ASSY	700	•	•	•				
48000117	40-50 24v M/GBOX ASSY	900	•	•	•				
48000075	50-65 12v M/GBOX ASSY	1600				•	•		
48000076	50-65 24v M/GBOX ASSY	2000				•	•		
48000077	70-80 12v M/GBOX ASSY	1600						•	•
48000078	70-80 24v M/GBOX ASSY	2000						•	•

PART NUMBER	DESCRIPTION	MOTOR (Watt)	40ST	45ST	50ST
48000211	12v Pre-Wired M/GBOX	700	•	•	•
48000212	24v Pre-Wired M/GBOX	900	•	•	•

3 Contactors & Control Boxes

PART NUMBER	DESCRIPTION	40ST	45ST	50ST	55ST	65ST	70-70/3	80-80/3
68000933	Contactor 12V "E"	•	•	•				
68000934	Contactor 24V "E"	•	•	•				
18000301	Contactor Box 12V "E"	•	•	•				
18000302	Contactor Box 24V "E"	•	•	•				
48000217	ELS Control Box Type 1–3	24V						
48000220	ELS Control Box Type 1–6		24V					
48000221	ELS Control Box Type 1–7			24V	24V			
48000222	ELS Control Box Type 1–8	12V				24V		
48000224	ELS Control Box Type 2–2		12V					
48000225	ELS Control Box Type 2–3			12V				
48000227	ELS Control Box Type 2–5				12V			
48000229	ELS Control Box Type 2–7					12V		
48000178	70-70/3 Control Box 12v "ELS"						•	
48000179	70-70/3 Control Box 24v "ELS"						•	
48000180	80-80/3 Control Box 12v "ELS"							•
48000181	80-80/3 Control Box 24v "ELS"							•

"ELS" Electric Load Sensing Control Box

Contactor "E"

4 Accessories

SX Foot Switch

- Suitable for DC electric winches running on 12 or 24v
- IP67/5 rated for water resistance
- Twin sealed switch compartment
- Composite plastic body
- Available with polished stainless steel or composite plastic lid
- New lower-profile design with updated styling
- Open and closed top lids available in both stainless and composite plastic

DESCRIPTION	BLACK PART NUMBER	STAINLESS STEEL PART NUMBER
Open Lid	68001027	68001026
Closed Lid	68001031	68001030

68001027

68001030

68001026

Deck Foot Switch

- Suitable for DC electric winches running on 12 or 24v
- Single direction switch
- Hinged cover to prevent accidental operation
- Available in grey, white, or stainless steel
- Normally open contact, 5A (12 & 24v)
- Ready to install
- Must be used with a contactor or control box

PART NUMBER	DESCRIPTION
68000928	Grey Switch (Blank)
68000970	Grey Switch (Open)
68000930	White Switch (Blank)
68000971	White Switch (Open)
68000929	Stainless Steel Switch (Blank)
48000100	Grand Prix Switch

68000970

68000930

68000929

48000100

Circuit Breaker

CIRCUIT BREAKER	WINCH SIZE 40	45	50	55	65	70	80	90	110
68000542 - 40A	24V								
68000348 - 50A		24V							
68000240 - 70A			24V			24V	24V		24V
68000349 - 90A	12V			24V	24V			24V	
68000350 - 110A		12V							
68000239 - 120A			12V			12V			12V
68000351 - 150A							12V	12V	
68000894 - 200A				12V	12V				
68000239	12V	120A	110						
68000240	24V	70A	110						

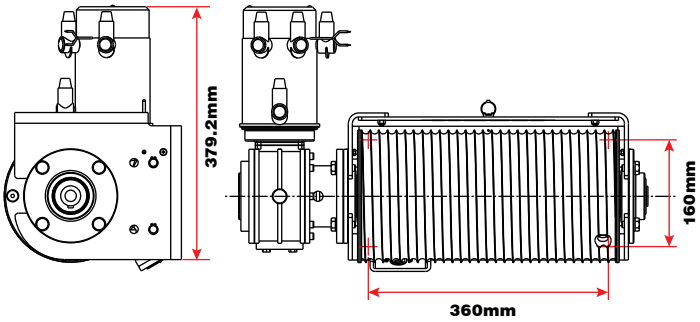
CW 800 – The captive winch for the smaller yacht

The CW 800 winch is ideal for the main halyard or mainsheet on yachts. The CW 800 offers safe remote controlled line handling and storage on yachts up to 48ft (14.6m).

If you wish to have powered winches but do not have the space on the cabin top, using a CW 800 will allow the halyards to be hauled and stored in a convenient place on board for a very efficient use of space on board smaller yachts.

Available in 12V and 24V options the CW 800 is a viable alternative to managing halyards, or main sheets, dependent on the line speed required.

Dimensions Diagram CW 800



CW 800 High Capacity Specification

SPECIFICATION	METRIC	IMPERIAL
Max line length	14.6 m	48 ft
Line size	10 – 12 mm	3/8 – 7/16 in
Maximum Line Speed	45 m/min	148 ft/min
Maximum pull	1200 Kg	2645 lb
Maximum holding power	1500 Kg	3307 lb
Weight	39.3 Kg	87 lb
Part number 12V	59600150	

CW 800 Standard Specification

SPECIFICATION	METRIC	IMPERIAL
Max line length	10.3 m	34 ft
Line size	10 – 12 mm	3/8 – 7/16 in
Maximum Line Speed	33.5 m/min	110 ft/min
Maximum pull	1400 Kg	3086 lb
Maximum holding power	1500 Kg	3307 lb
Weight	38.3 Kg	84 lb
Part number 12V	59600140	

24v available, please contact your Lewmar agent

Hydraulic Winches: Integrated engineering from Lewmar

Lewmar's hydraulic powered winches combine the benefits of electric winches with system integration. The installation of a cost-effective, multi-function hydraulic system on boats over 15m (50ft) enables short-handed sailing through push-button control of winches and other integrated deck functions. Find out more about the Lewmar Custom Range in the Custom Component Guide.

- Suitable for craft over 15m (50ft)
- Minimal internal space required for compact motor
- Low weight
- Manual override facility
- Quiet operation
- Push button control
- All benefits of EVO® Range
- Wide choice of finishes
- Powered by Lewmar's Commander Hydraulic Pack
- Ideal for Size 80 EVO® ST Winch

Push button control
Combining Lewmar's push button operation and Lewmar's Wavespring self-tailer produces simple hands free sailing whatever sheeting operation is to be carried out.

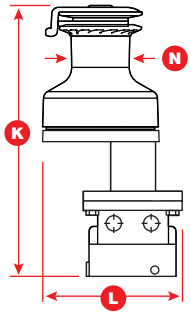
Minimal space and weight
The hydraulic motor is extremely compact ensuring minimal internal space used, while being less obtrusive below deck. All achieved without compromising power.

Quiet operation
By using hydraulic power the winch operation is performed in near silence, adding to your sailing experience.

Manual override
Manual override can be effected simply and quickly through winch handle insertion.

Hydraulic Winch Dimensions

Note: Not all mounting holes are symmetrical on all models. Top dimensions as Electric Winches.



Hydraulic Winch Specifications

PART NO	MODEL	FINISH	WEIGHT		K		L		N		LINE SIZE		MOUNTING INSTRUCTIONS
			kg	lb	mm	in	mm	in	mm	in	mm	in	
49545100	45HST	Alloy Grey	15.6	34.4	430	16 15/16	186	7 5/16	93	3 11/16	8–14	5/16–9/16	5 x M8 (5/16 in) c'sk head screws on 136mm (5 11/32 in) PCD
49545101	45HST	Chrome	18.4	40.6	430	16 15/16	186	7 5/16	93	3 11/16	8–14	5/16–9/16	
49545110	45HST	Alloy Black	15.6	34.4	430	16 15/16	186	7 5/16	93	3 11/16	8–14	5/16–9/16	
49550100	50HST	Alloy Grey	17.2	37.9	430	16 15/16	186	7 5/16	93	3 11/16	8–14	5/16–9/16	6 x M8 (5/16 in) c'sk head screws on 165mm (6½ in) PCD
49550101	50HST	Chrome	21.1	46.4	430	16 15/16	186	7 5/16	93	3 11/16	8–14	5/16–9/16	
49550110	50HST	Alloy Black	17.2	37.9	430	16 15/16	186	7 5/16	93	3 11/16	8–14	5/16–9/16	
49555100	55HST	Alloy Grey	20.5	45.1	478	18 13/16	207	8 1/8	105	4 1/8	8–16	5/16–5/8	6 x M8 (5/16 in) c'sk head screws on 165mm (6½ in) PCD
49555101	55HST	Chrome	26.4	58.2	478	18 13/16	207	8 1/8	105	4 1/8	8–16	5/16–5/8	
49555110	55HST	Alloy Black	20.5	45.1	478	18 13/16	207	8 1/8	105	4 1/8	8–16	5/16–5/8	
49565100	65HST	Alloy Grey	25.1	55.2	478	18 13/16	207	8 1/8	105	4 1/8	8–18	5/16–1 1/16	5 x M10 (3/8 in) c'sk head screws on 184mm (7¼ in) PCD
49565101	65HST	Chrome	31.1	73.0	478	18 13/16	207	8 1/8	105	4 1/8	8–18	5/16–1 1/16	
49565110	65HST	Alloy Black	25.1	55.2	478	18 13/16	207	8 1/8	105	4 1/8	8–18	5/16–1 1/16	
49570100	70HST	Alloy Grey	28.5	62.7	542	21 5/16	294	11 9/16	141	5 9/16	10–20	3/8–3/4	6 x M10 (3/8 in) c'sk head screws on 241mm (9½ in) PCD
49570101	70HST	Chrome	36.2	79.5	542	21 5/16	294	11 9/16	141	5 9/16	10–20	3/8–3/4	
49570110	70HST	Alloy Black	28.5	62.7	542	21 5/16	294	11 9/16	141	5 9/16	10–20	3/8–3/4	
49570102	70/3HST	Alloy Grey	40	88	542	21 5/16	294	11 9/16	141	5 9/16	10–20	3/8–3/4	6 x M10 (3/8 in) c'sk head screws on 241mm (9½ in) PCD
49570103	70/3HST	Chrome	42.2	92.8	542	21 5/16	294	11 9/16	141	5 9/16	10–20	3/8–3/4	
49570109	70/3HST	Alloy Black	40	88	542	21 5/16	294	11 9/16	141	5 9/16	10–20	3/8–3/4	
49580100	80HST	Alloy Grey	35.8	78.8	547	21 9/16	294	11 9/16	178	7	12–22	1/2–7/8	6 x M10 (3/8 in) c'sk head screws on 241mm (9½ in) PCD
49580101	80HST	Chrome	48.8	107.4	547	21 9/16	294	11 9/16	178	7	12–22	1/2–7/8	
49580110	80HST	Alloy Black	35.8	78.8	547	21 9/16	294	11 9/16	178	7	12–22	1/2–7/8	
49580102	80/3HST	Alloy Grey	42	92.4	547	21 9/16	294	11 9/16	178	7	12–22	1/2–7/8	6 x M10 (3/8 in) c'sk head screws on 241mm (9½ in) PCD
49580103	80/3HST	Chrome	49.8	109.6	547	21 9/16	294	11 9/16	178	7	12–22	1/2–7/8	
49580109	80/3HST	Alloy Black	42	92.4	547	21 9/16	294	11 9/16	178	7	12–22	1/2–7/8	
49590100	90HST	Alloy Grey			568	22 3/8	324	12 3/4	228	9	12–25	1/2–1	8 x M10 (3/8 in) c'sk head screws on 270mm (10⅝ in) PCD
49590101	90HST	Chrome	54	118.8	568	22 3/8	324	12 3/4	228	9	12–25	1/2–1	
49590110	90HST	Alloy Black			568	22 3/8	324	12 3/4	228	9	12–25	1/2–1	
49590102	90/3HST	Alloy Grey			568	22 3/8	324	12 3/4	228	9	12–25	1/2–1	8 x M10 (3/8 in) c'sk head screws on 270mm (10⅝ in) PCD
49590103	90/3HST	Chrome	55	121	568	22 3/8	324	12 3/4	228	9	12–25	1/2–1	
49590109	90/3HST	Alloy Black			568	22 3/8	324	12 3/4	228	9	12–25	1/2–1	
49110100	110HST	Alloy Grey			627	24 11/16	406	16	280	11	16–38	5/8–1 1/2	6 x M12 (1/2 in) c'sk head screws on 340mm (13⅜ in) PCD
49110101	110HST	Chrome	68.5	150.7	627	24 11/16	406	16	280	11	16–38	5/8–1 1/2	
49110110	110HST	Alloy Black			627	24 11/16	406	16	280	11	16–38	5/8–1 1/2	
49110102	110/3HST	Alloy Grey			627	24 11/16	406	16	280	11	16–38	5/8–1 1/2	6 x M12 (1/2 in) c'sk head screws on 340mm (13⅜ in) PCD
49110103	110/3HST	Chrome	69.5	152.9	627	24 11/16	406	16	280	11	16–38	5/8–1 1/2	
49110109	110/3HST	Alloy Black			627	24 11/16	406	16	280	11	16–38	5/8–1 1/2	

Servicing your Winch

The Lewmar Winch is the easiest winch to service in the world!

Frequency of servicing
Lewmar winches must be serviced regularly. Winches are required to carry deceptively high loads. Regular servicing, with attention to correct assembly and condition of parts, is vital to the safety and performance of your boat.

When ?
1. Two or three times during active sailing season winches should be stripped, cleaned and re-lubricated.
2. At the end of each sailing season & before starting the new sailing season all Lewmar winches should be completely stripped, cleaned, thoroughly checked for damage and lubricated. (see the latest issue of the Lewmar Winch Service Manual B2304 available at www.lewmar.com)

External cleaning of the drum.
Chromed winches – wash drum regularly with fresh water and dry with a cloth. Non-abrasive liquid chrome cleaner can be used occasionally to remove dirt spots.

Alloy winches – wash drum regularly with fresh water and dry with a cloth. DO NOT use polishes or abrasives.

Stainless Steel Winches – wash drum regularly with fresh water and dry with a cloth. Non-abrasive liquid chrome cleaner can be used occasionally to remove dirt spots.

Servicing Winches
All components should be removed and cleaned in a paraffin bath during the course of servicing. If you do not have access to a paraffin bath, use half of an old plastic container with an old toothbrush. Even a cotton cloth soaked in paraffin or white spirit will suffice.

Caution
Some Lewmar winches contain plastic components which may be damaged by inappropriate cleaning agents. Always check the manufacturers directions before using any cleaning agents.

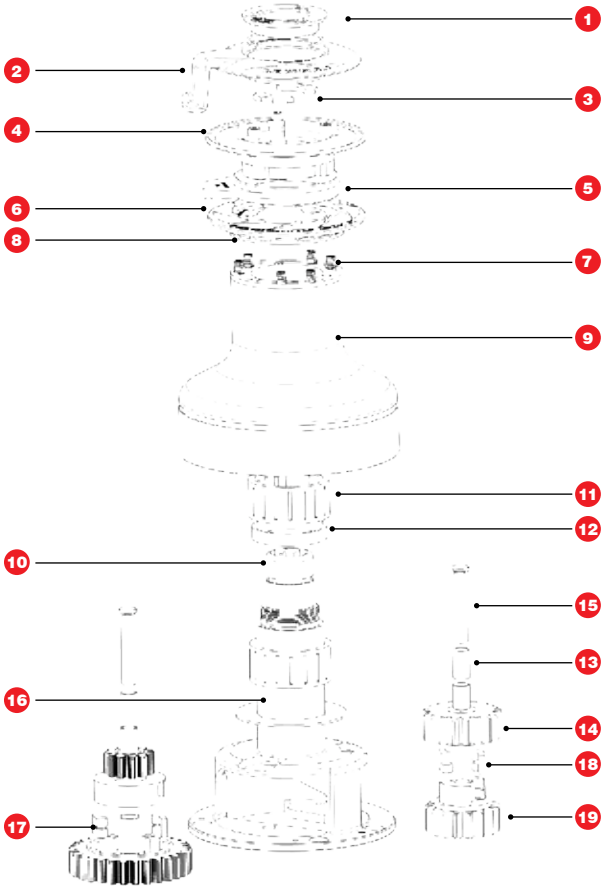
Greasing
Never use grease to lubricate your pawls, as this can lead to pawls sticking in their pockets and disabling the winch. Instead, lubricate with a light engine oil.

Use only a light smear of winch grease when lubricating ratchet tracks, gear teeth and bearings. Otherwise excess grease will be forced out and collect in potentially dangerous areas, such as pawl pockets.

Assembly
Winches must be re-assembled in the reverse sequence to the order of dismantling. After re-assembly, immediately check the winch functions correctly.

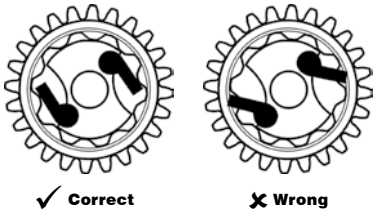
Mounting
Winches must be fitted in the manner laid out in leaflet B2189 (supplied with every winch and downloadable from www.lewmar.com). Winches are self-draining and care should be taken to ensure the drain holes are not obstructed.

Know your Winch



1. Top Cap
2. Feeder arm
3. Collet
4. Upper crown
5. Stripper ring
6. Lower crown
7. Spring
8. Spring cup
9. Main spindle
10. Drum
11. Roller bearing assembly
12. Drum washer
13. Gear spindle sleeve
14. Pawl gear
15. Gear spindle
16. Centre stem
17. Pawl spring
18. Pawl
19. Ratchet gear

Ratchet Gears – Pawl Engagement
When assembling ratchet gears, check pawl engagement as shown below. Incorrect assembly will lead to back winding of the winch. This is very dangerous, so extreme care should be taken.



Winch Spares and Maintenance Kits

Lewmar offers a full range of winch spares, including pawl springs, circlips, and Lewmar Geargrease. Full listings of the EVO® Winch spares, including exploded diagrams to aid identification, are available on www.lewmar.com. To identify spares for the Ocean Winch and Standard Winch ranges, refer to the product manual for an exploded view. All product manuals are available to download from www.lewmar.com. Part numbers for the Standard and Ocean Winch ranges can be found under the Spares section of the Lewmar website. If you have any queries about Lewmar winch spares, contact Lewmar or your local Lewmar retailer.

lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares

19700100
Spares Kit 5-44

19700200
Spares Kit 14ST-66ST

19700300
Spares Kit 44-66PB

19700401
STD Large Pawls & Springs 50–65

19700501
STD Small Pawls & Springs 5-48 & 66

19701500
Winch Maintenance Pack

19701000
Grease — 100g

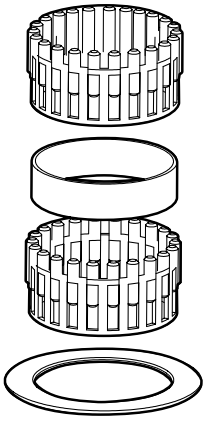
19701100
Grease — 300g

19701600
Race Lube — 55ml

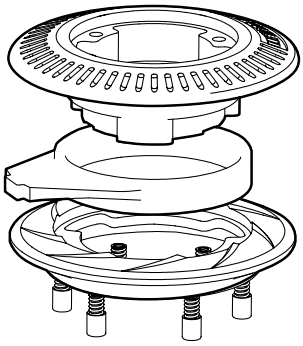
Winch Spares Kit

Available from Top Cap to Pawl Gear Kit. Contact your local Lewmar supplier or go to www.lewmar.com

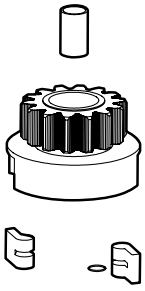
lewmar.com Visit lewmar.com for more information about Lewmar Accessories and Spares



Drum Bearing Kit



Jaw Kit



Pawl Gear Kit

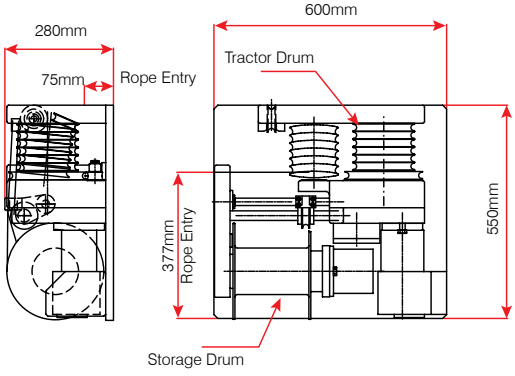
Captive Winch Line Management System

The Lewmar Captive Winch Line Management System offers safe, remote-controlled line handling and storage for yachts in the 24m (80ft) to 91m (300ft) range. The unique separate hauling drum eliminates the need for long lead entries, while storing the rope at low tension on a separate drum prevents damage to the rope. For small boats where space under the cabin top is limited, we have designed the CW800 – for details refer to Page 89.

- Up to 25% lighter than previous models
- Compact size
- Up to 3 speed options
- Good combination of line speed and power
- Eliminates long lead entry angles
- Automatic hauling system
- Unique V groove sheave improves grip and reduces rope damage
- Line stowing system ensures low line tension and good line lay
- Can be used with proportional or non proportional hydraulic control systems
- Emergency high-load release feature
- Self sustaining – no load 'drop back' when the brakes are applied
- Separate hauling and stowing drums, allows more rope storage for a given size
- Pulls from 1.5 to 18 tons

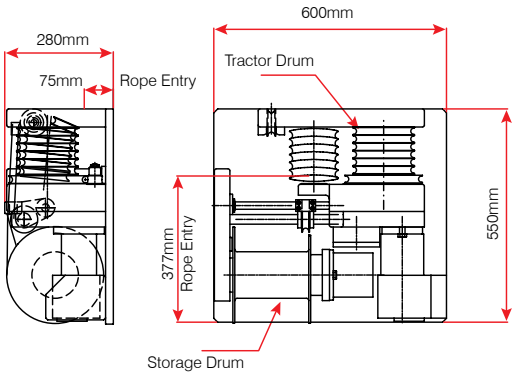
© Nirvana – Vitters Shipyard. Photo: Ed Holt

CW 2500

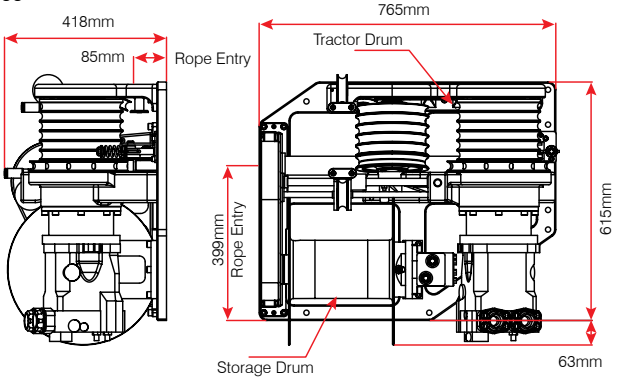


A separate hauling drum eliminates the need for long lead entries while storing the rope to the separate storage drum, allowing the rope to be stored neatly at low tension and preventing damage to the rope and the possibility of riding turns.

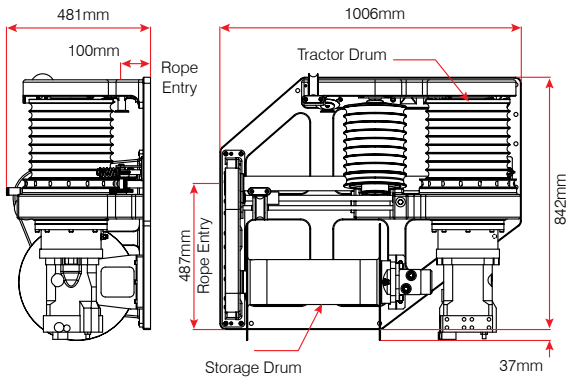
CW 3500



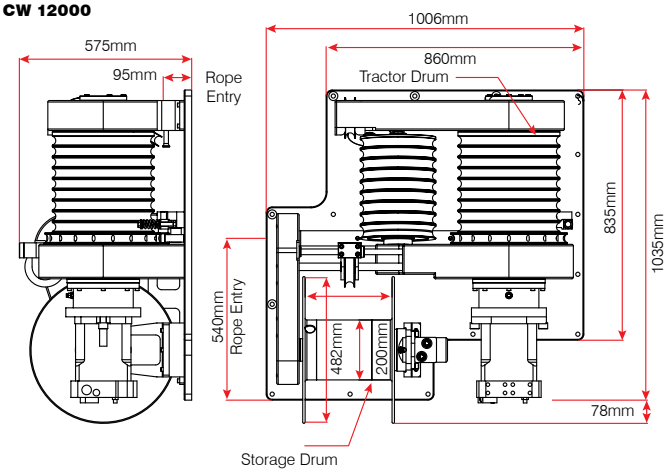
CW 6000



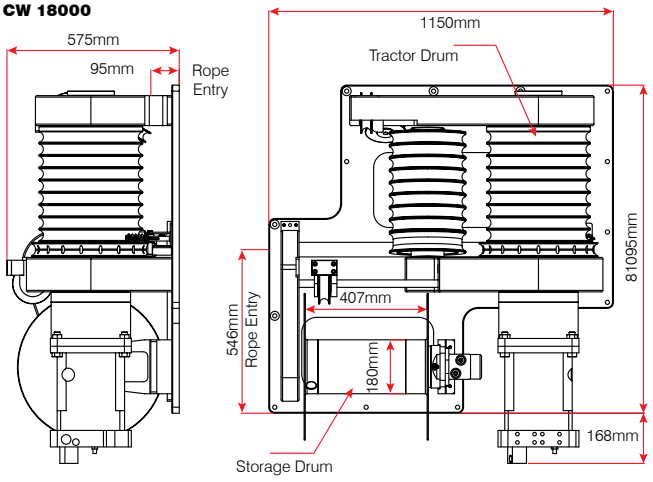
CW 9000



CW 12000



CW 18000



Custom line storage

Custom line storage options available. Consult Lewmar for further details.

LMS Standard Specifications

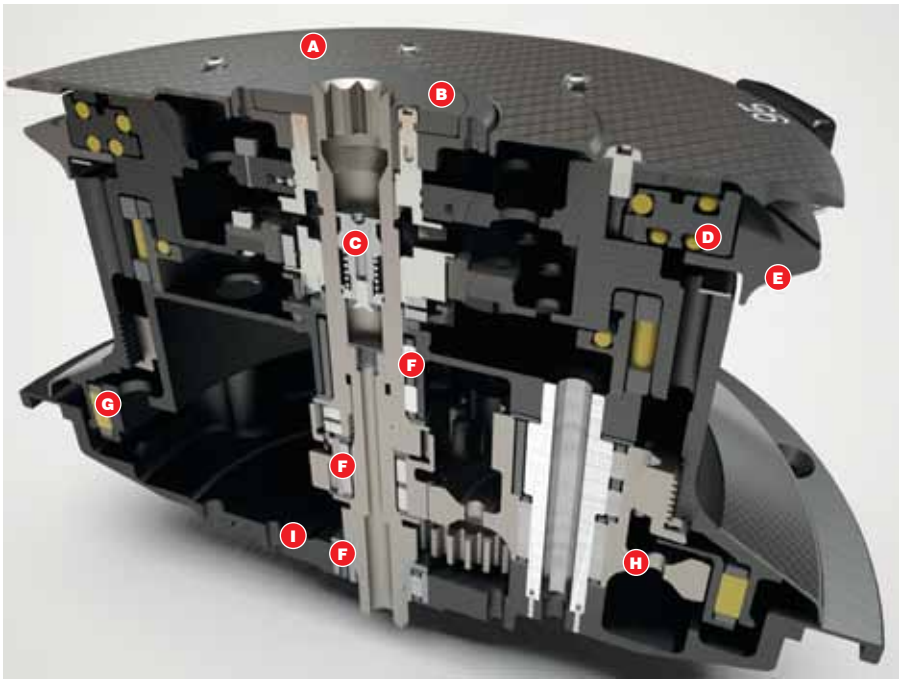
	SPEEDS	MAXIMUM LINE PULL		MAXIMUM LINE SPEED IN EACH GEAR		FLOW RATE AT MAX LINE SPEEDS		LINE DIAMETER		MAXIMUM WORKING PRESSURE		WEIGHT	
		kg	lb	m/min	ft/min	l/min	US gal/min	mm	in	bar	psi	kg	lb
CW2500	1	2500	5512	28	92	60	15.9	12–16	1/2–5/8	160	2321	120	265
CW3500	2	3500	7716	31/15	102/49	55	14.5	12–16	1/2–5/8	150	2176	120	265
CW6000	2 or 3	6000	13228	60/24/15	197/79/49	45	11.9	14–22	9/16–7/8	235	3408	150	331
CW9000	2 or 3	9000	19842	60/22/10	197/72/33	70	18.5	22–28	7/8–1 1/8	200	2901	285	628
CW12000	2 or 3	12000	26455	60/20/13	197/66/43	95	25.1	26–30	1–13/16	230	3336	480	1058
CW18000	2 or 3	18000	39683	60/16/10	197/52/33	110	29.1	30–38	13/16–1 1/2	220	3191	600	1323

MODEL	CW2500	CW3500	CW6000	CW9000	CW12000	CW18000
Line storage (m)	Ø12mm : 38	Ø12mm : 38	Ø14mm : 110	Ø20mm : 110	Ø26mm : 65	Ø30mm : 65
	Ø14mm : 29	Ø14mm : 29	Ø16mm : 90	Ø22mm : 85	Ø28mm : 55	Ø32mm : 55
	Ø16mm : 27	Ø16mm : 27	Ø18mm : 75	Ø24mm : 65	Ø30mm : 50	Ø34mm : 50
			Ø20mm : 60	Ø26mm : 60	Ø32mm : 40	Ø36mm : 45
			Ø22mm : 50	Ø28mm : 50		
Line storage (ft)	Ø1/2" : 125	Ø1/2" : 125	Ø9/16" : 361	Ø13/16" : 361	Ø15/16" : 213	Ø13/16" : 213
	Ø9/16" : 95	Ø9/16" : 95	Ø5/8" : 295	Ø7/8" : 279	Ø15/16" : 180	Ø1 1/4" : 180
	Ø5/8" : 89	Ø5/8" : 89	Ø11/16" : 246	Ø15/16" : 213	Ø13/16" : 164	Ø15/16" : 164
			Ø13/16" : 197	Ø15/16" : 197	Ø1 1/4" : 148	Ø17/16" : 148
			Ø7/8" : 164	Ø15/16" : 164		

Lewmar Racing Winches

Lewmar Racing Winches have been at the forefront of the world's premier races for the last 60 years, including the America's Cup, Vendee Globe, MedCup, and the Volvo Ocean Race. Features such as aluminium and carbon fibre construction, torlon polymer bearings, and optional titanium gears, are all the result of close relationships with race crews and cutting edge research and design. Lewmar Race Winches are the first choice for lightweight performance boats that want a winch they can rely on, round the cans or round the world!

- Latest Finite Element Analysis (FEA) and simulation software ensures designs are the lightest and most efficient winch systems
- Carbon power range available in Size 50 GPST through to the Size 120-4 GPST, with patented integral four-speed system
- Many custom options available, including ceramic drum coatings, custom top cleats, and free-spinning or ratcheting sheave base additions.
- Weight saving
- Superior strength
- Developed through extensive research and development
- Speed and Power ratios for ultimate flexibility
- Wavespring Self-Tailer
- Extensive range — Self-Tailing, Cleat-Top Sheave, Base combinations
- Easy to service
- Needle Peen Drum



A Carbon Tops & Skirts — Reducing weight
B Slam down 1:1 first speed button
C Drum Release – Unique single release button, for quick maintenance and servicing
D Torlon Balls – More balls than any other winch!
E Wave Grip self-tailer – Proven simple effective design
F Internal Roller Bearings – For maximum efficiency
G Large Torlon Bearings
H Optimised Gear Design – Skeletal but strong
I Sunk Base Option — For lower windage and flusher decks

Image courtesy of Premier Composite Technologies

Grand Prix racing winches can be driven by grinding pedestals or by hydraulic or electric motors, with modern racing rules evolving all the time the Lewmar winch range has evolved to meet these challenges.

Lewmar has had many successful partnerships over recent years including many of the leading TP52's, America's Cup teams, Open 60's and IRC race boats such as RAN2 the Fastnet 2009 winner, and the multiple record breakers - Wild Oats and Leopard 3, which between them hold many race records and victories.

Pedestal-drive winch systems are used for applications demanding speed and power. One or more crew can grind from a powerful optimised standing position. Pedestal systems are customized to meet the specific needs of each boat.

© Guilain Grenier / Groupe Bel

Light, fast and strong!
Lightweight and strong, Lewmar's racing winches offer the serious racer outstanding performance and power. Using the best features of our standard range combined with the technology used on America's Cup, Volvo 70's, Vendée Globe etc.

Grand Prix Racing Winches

What's inside makes all the difference. In every Lewmar Carbon Fibre Winch, you will find materials developed for the aerospace industry, precision CNC machined for maximum efficiency, durability and strength-to-weight ratio. Once the winch is assembled, we use an aggressive in-house testing program to ensure maximum performance on the world's toughest racecourses.

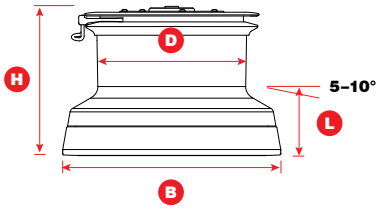
- Developed in conjunction with some of the top racing classes including GP42, Class 40, TP52, Open 60, Volvo 70, IACC, 100ft Supermaxi + offshore Maxi-Multihulls
- Range available in 2, 3 or with Lewmar's Patented Integral four-speed system available on larger winch models
- Self-Tailing, optional cleat top
- Top handle driven or bottom pedestal drive with electric or hydraulic options available
- Carbon and painted finishes

115/3 GPST

60/3GPST
(Self-Tailing)

All 3-Speed Grand Prix winches are available in either Self-Tailing, Cleat Top or Sheave Base

Dimensions Diagram Grand Prix Racing Winch



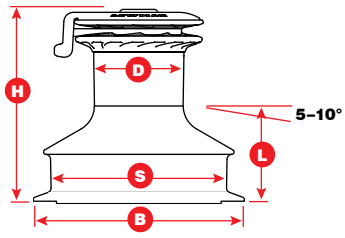
Grand Prix Racing Winch Specifications

MODEL	GEAR RATIO				POWER RATIO				WEIGHT		D DRUM DIA		B BASE DIA		H HEIGHT		L LINE ENTRY		LINE SIZE		MOUNTING INSTRUCTIONS
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	kg	lb	mm	in	mm	in	mm	in	mm	in			
50GPST	3.4:1	11.3:1			15.2:1	50:1			4.7	10.3	115	4½	188	7⅜	168	6⅝	62	2½	8–14	5/16–9/16	5 x M8 (5/16 in) c'sk head screws on 170mm (6⅝ in) PCD
50GPST SR	3.4:1	11.3:1			15.2:1	50:1			5.1	11.2	115	4½	217	8½	168	6⅝	62	2½	8–14	5/16–9/16	5 x M8 (5/16 in) c'sk head screws on 170mm (6⅝ in) PCD
60/3GPST	1:1	4.3:1	15.4:1		3.9:1	16.8:1	60.2:1		7.8	17.2	130	5⅛	214	8½	186	7⅜	67	2⅝	8–14	5/16–9/16	6 x M8 (5/16 in) c'sk head screws on 195mm (7⅝ in) PCD
60/3GP SB	1:1	4.3:1	15.4:1		3.9:1	16.8:1	60.2:1		8.2	18	130	5⅛	236	9 5/16	186	7⅜	67	2⅝	8–14	5/16–9/16	6 x M8 (5/16 in) c'sk head screws on 195mm (7⅝ in) PCD
68ACSTR	3.5	19.2:1			12:1	67:1			9.5	20.9	150	5⅞	250	9 13/16	213	8⅜	99	3⅞	8–14	5/16–9/16	6 x M10 (⅜ in) c'sk head screws on 200mm (7⅞ in) PCD
68/3ACSTR	1:1	3.4:1	19.2:1		3.5:1	12:1	67:1		10.6	23.3	146	5¾	250	9 13/16	227	8 15/16	97	3⅞	8–14	5/16–9/16	6 x M10 (⅜ in) c'sk head screws on 200mm (7⅞ in) PCD
68/3GP SB	1:1	3.5:1	19.3:1		3.5:1	12:1	67:1		10.5	23.1	146	5¾	275	10 13/16	227	8 15/16	95	3¾	8–14	5/16–9/16	6 x M10 (⅜ in) c'sk head screws on 200mm (7⅞ in) PCD
82GPST	1:1	8.5:1	29:1		2.5:1	24:1	82:1		14.7	32.4	182	7⅛	290	11 7/16	215	8 7/16	79.5	3⅛	12–16	½–⅝	8 x M10 (⅜ in) c'sk head screws on 266mm (10½ in) PCD
99/3GPST	1:1	9.4:1	40.9:1		2.5:1	23:1	101:1		17.5	38.5	204	8	320	12⅝	234	9¼	90	3½	10–16	⅜–⅝	8 x M10 (⅜ in) c'sk head screws on 296mm (11⅝ in) PCD
99/3GP SB	1:1	9.4:1	40.9:1		2.5:1	23:1	101:1		19.2	42.2	204	8	328	12 15/16	234	9¼	92	3 9/16	12–16	½–⅝	8 x M10 (⅜ in) c'sk head screws on 281mm (11 1/16 in) PCD
95/4GPST	1:1	3.8:1	8:1	40:1	2:1	7.6:1	16:1	80:1	20.5	45.1	254	10	370	14⅝	225	8⅞	98	3⅞	10–16	⅜–⅝	6 x M12 (½ in) c'sk head screws on 288mm (11 3/32 in) PCD
95/4GPST SB	1:1	3.8:1	8:1	40:1	2:1	7.6:1	16:1	80:1	21.8	48	254	10	370	14⅝	225	8⅞	98	3⅞	10–16	⅜–⅝	6 x M12 (½ in) c'sk head screws on 288mm (11 3/32 in) PCD
105/3STR	1:1	8.3:1	39.6:1		1.6:1	13.6:1	64.8:1		18.5	40.7	280	11	360	14 9/32	225	8⅞	93.7	3 11/16	8–14	5/16–9/16	6 x M12 (½ in) c'sk head screws on 288mm (11 3/32 in) PCD
105/4GPST	1:1	3.8:1	8:1	40:1	1.8:1	6.9:1	14.5:1	72.6:1	21.6	47.5	280	11	370	14⅝	237	9⅜	90	3½	10–16	⅜–⅝	6 x M12 (½ in) c'sk head screws on 288mm (11 3/32 in) PCD
105/4GP SB	1:1	3.8:1	8:1	40:1	1.8:1	6.9:1	14.5:1	72.6:1	23.4	51.5	280	11	370	14⅝	220	8⅝	90	3½	10–16	⅜–⅝	6 x M12 (½ in) c'sk head screws on 288mm (11 3/32 in) PCD
115/3ACSTR	1:1	8:1	45.2:1		1.8:1	14.8:1	82.2:1		39.3	86.5	282	11⅛	432	17	327	12⅞	152	5 5/16	12–18	½–¾	10 x M12 (½ in) c'sk head screws on 365mm (14⅜ in) PCD
120/4ACSTR	1:1	3.6:1	8:1	45.2:1	1.7:1	6:1	13.5:1	75.3:1	47.3	104.1	305	12	450	17¾	312	12¼	143	5⅝	14–20	9/16–¾	10 x M12 (½ in) c'sk head screws on 365mm (14⅜ in) PCD

EVO® Speed Ring Winches

EVO® Speed Ring racing winches offer all the features of the EVO® Range with the additional benefit of two drum diameters. The larger drum is used for fast asymmetric spinnaker gybes or hoists while the standard size drum allows fine tuning, removing the need for additional winches.

- Easy servicing – no tools required
- Available in black or grey alloy finish
- Features two drum diameters for greater control



EVO® Self-Tailing Winch Specifications

PART NO	SIZE	FINISH	GEAR RATIO		POWER RATIO		SPEED RING POWER RATIO		WLL		WEIGHT		D DRUM DIA		S SPEED RING DIA		B BASE DIA		H HEIGHT		L LINE ENTRY		LINE SIZE	
			1st	2nd	1st	2nd	1st	2nd	kg	lb	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
49540085	40	Black	1.9:1	5.8:1	13.2:1	40.2:1	6.6:1	20.3:1	795	1753	4.9	10.7	74	2 15/16	145.5	5¾	148	5 13/16	158.5	6¼	79	3⅛	8-12	5/16-½
49540087	40	Grey	1.9:1	5.8:1	13.2:1	40.2:1	6.6:1	20.3:1	795	1753	4.9	10.7	74	2 15/16	145.5	5¾	148	5 13/16	158.5	6¼	79	3⅛	8-12	5/16-½
49545085	45	Black	2.36:1	8.0:1	13.86:1	46.8:1	7:1	22.6:1	1200	2643	7.6	16.7	86.8	3 7/16	170.5	6¾	205	8	177.5	7	84.5	3 5/16	8-12	5/16-½
49545087	45	Grey	2.36:1	8.0:1	13.86:1	46.8:1	7:1	22.6:1	1200	2643	7.6	16.7	86.8	3 7/16	170.5	6¾	205	8	177.5	7	84.5	3 5/16	8-12	5/16-½

ASTOR Racing Winches

Proven Lewmar Race Winch technology, that has provided race-winning performance for offshore and inshore race teams around the world.

- Superior strength
- Developed through extensive research and development
- Easy to service
- Needle peen drum
- Alloy finish

Two Speed Racing Self-Tailing Winch

Three Speed Cleat Top Racing Winch

ASTOR Race Winch Specifications

MODEL	GEAR RATIO				POWER RATIO				WEIGHT		D DRUM DIA		B BASE DIA		H HEIGHT		L LINE ENTRY		LINE SIZE		MOUNTING INSTRUCTIONS
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in	
40STR	1.9:1	5.8:1			13.2:1	40.2:1			3.4	7.5	74	2 15/16	148	5 13/16	173	6 13/16	80	3⅛	8-12	5/16-½	5 x M6 (¼ in) c'sk head screws on 121mm (4¾ in) PCD
44STR	2.4:1	7.6:1			13.9:1	44.8:1			4.9	10.8	87	3 7/16	168	6⅝	192	7 9/16	84	3 5/16	8-14	5/16-9/16	5 x M8 (5/16 in) c'sk head screws on 136mm (5 11/32 in) PCD
44/3R	1:1	3:1	8.7:1		5.1:1	15.2:1	44:1		5.5	12.1	100	3 15/16	184	7¼	169	6⅝	83	3¼	8-14	5/16-9/16	5 x M8 (5/16 in) c'sk head screws on 150mm (5 29/32 in) PCD
48STR	2.6:1	9:1			13.9:1	48.6:1			5.9	13	93	3 11/16	181	7⅛	208	8 3/16	86	3⅜	8-14	5/16-9/16	5 x M8 (5/16 in) c'sk head screws on 150mm (5 29/32 in) PCD
48/3R	1:1	3.6:1	10.6:1		4.5:1	16.3:1	48:1		6.8	14.9	112	4 7/16	207	8⅛	196	7¾	102	4	8-14	5/16-9/16	6 x M8 (5/16 in) c'sk head screws on 165mm (6½ in) PCD
50STR	2.8:1	10.5:1			13.8:1	50.6:1			7.8	17.2	105	4⅛	200	7⅞	238	9⅜	106	4 3/16	8-16	5/16-⅝	6 x M8 (5/16 in) c'sk head screws on 165mm (6½ in) PCD
50/3R	1:1	5.4:1	12.8:1		31.1:1	20.9:1	49.9:1		8.4	18.5	130	5⅛	225	8⅞	223	8¾	120	4¾	8-16	5/16-⅝	5 x M8 (5/16 in) c'sk head screws on 193mm (7 19/32 in) PCD
54STR	2.8:1	11.2:1			13.8:1	54:1			8.3	18.3	105	4⅛	205	8 1/16	250	9 13/16	115	4½	8-16	5/16-⅝	6 x M8 (⅜ in) c'sk head screws on 165mm (6½ in) PCD
58STR	3.1:1	13.5:1			13.5:1	58.1:1			10.2	22.4	118	4⅝	228	9	266	10½	118.5	4 11/16	8-18	5/16-1 1/16	5 x M10 (5/16 in) c'sk head screws on 184mm (7¼ in) PCD
60/3R	1:1	5.4:1	9:1		3.1:1	16.7:1	59.4:1		13.6	26.9	162	6⅜	238	9⅜	315	12⅜	164	6 7/16	8-18	5/16-1 1/16	6 x M10 (5/16 in) c'sk head screws on 200mm (7⅞ in) PCD
62STR	3.1:1	14.5:1			13.5:1	62.6:1	-		10.8	23.8	118	4⅝	231	9⅛	271	10 1/16	121.5	4¾	8-18	5/16-1 1/16	5 x M10 (5/16 in) c'sk head screws on 184mm (7¼ in) PCD
77/3STR	2.8:1	8:1	27:1		7.9:1	23:01	77:1		22.3	49.1	178	7	294	11 9/16	348	8¾	174	6⅞	12-22	½-⅞	8 x M10 (5/16 in) c'sk head screws on 256mm (8 29/32 in) PCD
88/3STR	3.8:1	8:1	40:1		8.4:1	17.8:1	89:1		24.7	54.5	228	9	324	12¾	333	13⅛	151	5 15/16	12-25	½-1	6 x M12 (½ in) c'sk head screws on 288mm (11 11/32 in) PCD
111/3STR	3.6:1	8:1	45.2:1		6.5:1	14.6:1	82.2:1		29.8	65.7	260	11	404	15 15/16	367	14 7/16	163	6 7/16	12-25	½-1	8 x M12 (½ in) c'sk head screws on 340mm (13⅜ in) PCD
111/4R	1:1	3.6:1	8:1	45.2:1	1.8:1	6.5:1	14.6:1	89.2:1	29.1	64.2	280	11	404	15 15/16	317	12½	163	6 7/16	12-25	½-1	8 x M12 (½ in) c'sk head screws on 340mm (13⅜ in) PCD

Lewmar Pedestal Systems

Lewmar has been making pedestal systems for nearly 40 years. Working closely with some of the best teams and sailors over this time has given Lewmar a great pedigree and understanding – we know what it takes to get you over the line. Our design engineers can develop bespoke tailored systems to your exact requirements.

- Unique I-Beam belt drive pedestal moulded in carbon fibre
- Optimised layup schedule ensures maximum stiffness and efficiency
- Pedestals available in straight or twisted configuration
- Fat grip racing handles ideal for strong grinders
- Pedestals can be customised to crew strength
- Drive components manufactured in hardcore anodised aluminium and titanium or 17-4 PH stainless steel
- Ceramic and torlon bearings along with carbon-reinforced drive belts provide lightweight, maximum efficiency
- Removable option available to open up cockpit for long-distance racing and cruising

Photo: Christophe Launay

Drive Shafts

Lewmar offers two types of drive shafts, either extruded splined aluminium drive shafts, or the more popular custom made carbon tubular drive shafts with bonded end fittings. The drive shaft choice is determined by load, cost, and weight considerations.

Drive Shaft Specifications

PRODUCT	WEIGHT	
	kg	lb
Lightweight Alloy Drive Shaft	1.0	2.2
High Torque Ultralight Carbon Fibre Drive Shaft[1]	0.4	0.9

[1]Illustrated

Clutches

The unique Lewmar dog drive clutches ensure consistent and smooth operation this allows engagement and disengagement even while the grinders are hard at work spinning the handles.

Clutch Specifications

PRODUCT	WEIGHT	
	kg	lb
Modular Self Seeking Clutch[1]	2.4	5.3
Integrated Self Seeking Clutch	0.75	1.6

[1]Illustrated

Bevel box

The bevel gear box is the core building block of the Lewmar drive system. The bevel gear box housings are made of a high-strength aluminium alloy that is Hardkote-anodized for maximum durability. The optimised gears, shafts, and rollers are 17-4 PH stainless steel.

Bevel Box Specifications

PRODUCT	WEIGHT	
	kg	lb
Alloy Bevel Gearbox	4.5	10
Lightweight 4 Man Alloy Bevel Gearbox	2.5	5.5
High Torque Ultralight Carbon Fibre Bevel Gearbox	2.0	4.4

Universal Joints

Gear boxes are connected to other gear boxes and pedestals by drive shafts fitted with either a universal joint or a coupling at each end. Our CV couplings are extremely light but may only be used where the shafts are in-line. Our high angle universal joint is made of aluminium with 17-4 stainless pins, making it very strong and able to operate efficiently at shaft angles up to 15 degrees.

Disconnect Foot Switches

Pedestal system disconnects can be activated with either levers, control lines or a two-position push button. The most popular method is operation via a foot switch.

Overdrive Box

The overdrive box can be used to speed up line speeds or increase power, ideal for fast leeward mark rounding, or short handed sailing if you need more power. The Lewmar overdrive box is modular and can be fitted to any pedestal drive system.

Overdrive Box Specifications

PRODUCT	WEIGHT	
	kg	lb
Overdrive Box	3.1	6.8

CV Joints

The Lewmar constant velocity joint can replace universal joints reducing weight in the system as well as increasing drive train efficiency for more effective power transfer.

Lewmar Pedestal Systems

Pedestals

- Lightweight Carbon Shell
- Developed using high-strength low-weight pre-preg carbon fibre composites from the F1 industry
- Twist or straight pedestal options
- Dual output also available
- Clear coat UV stable protective lacquer is standard (painted options available)
- Internal belt drive composite bearing systems
- Double bearing systems on handle housing
- Custom Fat Racing grip handles
- Removable Pedestal options for fast cruising market

Pedestal Specifications

PRODUCT	WEIGHT	
	kg	lb
Carbon Fibre Drive Belt Pedestal – Max Height	5.5	12.1

Note: Weight Includes Double Grip Handles

Pedestal Systems – Case Study

The illustration is indicative of Lewmar's 3D CAD capability. It shows the range of modular components brought together to form an ergonomically efficient Pedestal System that offers versatility, efficiency and power. Power drive hydraulic or electric additions can be engineered into the system with full safety interlocks, allowing for effortless push-button sailing.

Image courtesy of Premier Composite Technologies

Design Brief

- Overdrive feature for A-sail gybes
- Single self tailing winch for fast spinnaker host and drop
- TP52 proven winches
- Latest generation of 'I' Beam pedestal
- Foot button operating clutches
- Light weight carbon drive shafts

Hydraulics

Since 1983 Lewmar have pioneered the use of hydraulic powered sailing systems for use on modern cruising yachts of all types. This has enabled larger vessels to be sailed with less crew more safely than ever before. A variety of heavy jobs can be completed at the touch of a button making life easier, and more enjoyable.

Hydraulic Integrated Engineered Systems
The totally compatible solution

A hydraulic power system can be engineered to perform many tasks, from hauling up the anchor, to furling the sails. With over 30 years of experience, Lewmar can offer a variety of solutions tailor made to suit your particular application.

With our range of power packs and control systems we can offer simple single function packs, to multi-function and multi-source systems for yachts up to 90m (300 ft).

Selection of the most suitable system will depend on a number of factors, but the following pages will give valuable information which will enable owners, designers and builders to construct a working solution specifically to suit their demands.

1 Mast or Boom Furler
Lewmar have a hydraulic system that can control any of the world's furler manufacturer's units

2 Transom Door and Passarelle
Lewmar can provide various control systems for different actuator methods, whether they are cylinders of rotary actuators, balanced, or unbalanced systems.

3a Deck Winches
Sail handling winches whether conventional or self-tailing.

3b Captive Winches
Powered Line Management System below deck.

4 PTO Pump
Pumps fitted to either main engine or generator, or both. Primarily to power thrusters but also to power all hydraulic systems

5 Commander Hydraulic Power Pack
A variety of power packs are available. Single/Multiple motor, various voltages, custom reservoirs, the list is endless.

6 Bow Thrusters
Lewmar offer a wide range of thrusters (See Thruster section for details). The thruster can be powered from main engine or generator.

7 Anchor Windlass
The Lewmar anchor windlass is an ideal addition to the system, and affords an excellent level of performance.

8 Headsail Furlers
Hydraulic headsail furlers from various manufacturers are a stylish and reliable way to control the size of the headsail. Valves and control systems are available for headsails.

9 Rig Control
The sail handling system can be also integrated with rig control cylinders such as back stay and boom vang for rapid take-up facility.

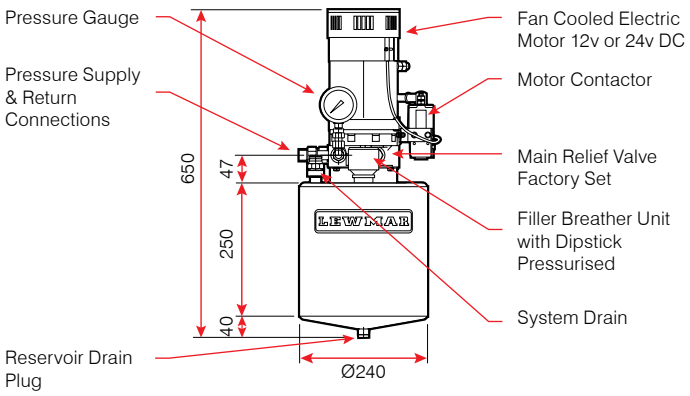
Hydraulic Integrated Engineered Systems

Four main assemblies need to be carefully considered to enable the system to be correctly specified.

- **Power pack** suitably sized to match hydraulic functions namely winches, thruster, cylinder etc.
- **Directional control valve stations**, these can be on one manifold block with one to six valves, or in any combination of manifolds and valves. A range of valve assemblies are available to suit operating requirement of hydraulic functions.
- **Control box** containing a printed circuit board (PCB) that provides push button sailing by operating the Commander in conjunction with the valves. More advanced control systems are provided as hydraulic systems increase in size.
- **Return line oil filter** maintains a good level of oil cleanliness which is essential to the performance and reliability to the hydraulic system.

Commander 200

The Commander 200, is a compact hydraulic power unit, which is capable of operating winches, anchor windlasses, furling systems, and auxiliary functions, one at a time. Both 12 and 24 volt versions feature a fan cooled electric motor, offering high pressure and flow performance coupled to a long duration running time. Both 12 and 24 volt motors offer thermal protection safety switches. The concept of the Commander 200 is flexibility, its modular ordering format allows the required specification to be suited to each vessel as necessary.



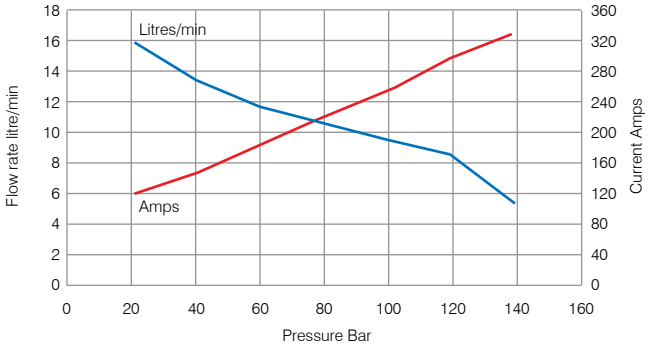
Hydraulic Specification

Operating Pressure	140 bar (2030 p.s.i.)
Max flow	16l/min (4.3 US gal)
Reservoir Capacity	9 litres (2.4 US gal)
Hydraulic Oil Type	ISO 32 grade

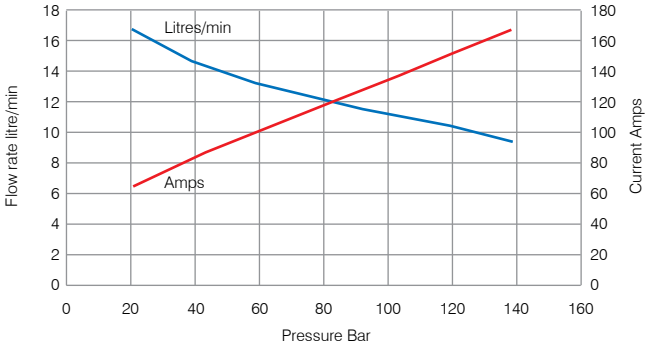
Electrical Specification

12 and 24 Volt motors nominally rated to 3kW.
Supply voltage limits, ± 15%
At extreme tolerances the unit will operate with de-rated performance.

Performance Characteristics – Commander 200 12V

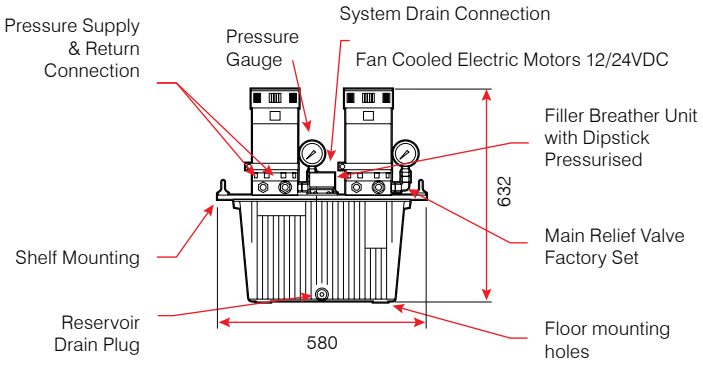


Performance Characteristics – Commander 200 24V



Commander 400

The Commander 400 continues the flexibility of the Commander 200 but with increased power. It is available in 12 or 24 volt versions, both are fan cooled. The Commander 400 is ideal for vessels which require high flow for sailing functions.



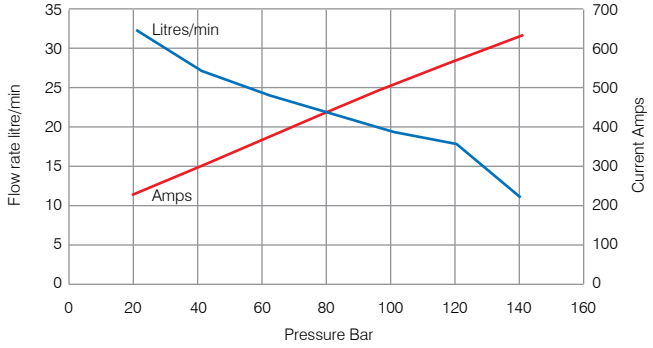
Hydraulic Technical Specification – Commander 400

Operating Pressure	140 bar (2030 p.s.i.)
Max flow	32l/min (8.4 US gal)
Reservoir Capacity	27 litres (7.1 US gal)
Hydraulic Oil Type	ISO 32 grade

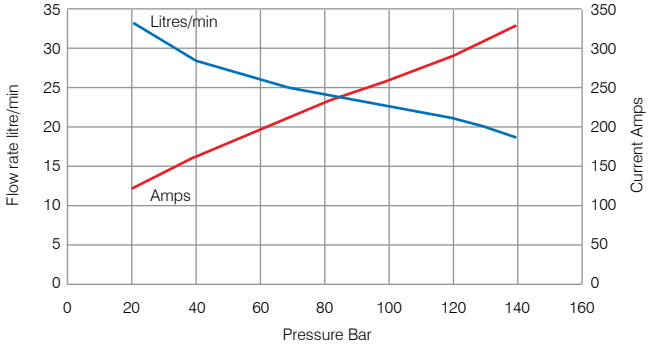
Electrical Specification

12 and 24 volt motors nominally rated to 3kW and fan cooled.
Supply voltage limits, ± 15%
At extreme tolerances the unit will operate with de-rated performance.

Performance Characteristics – Commander 400 12V



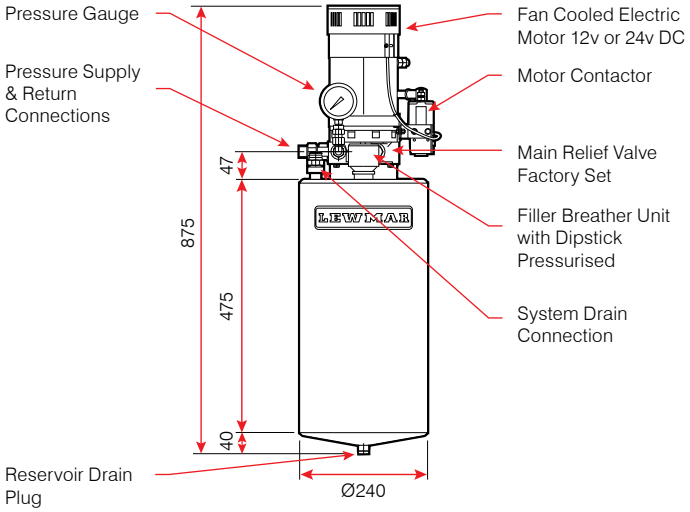
Performance Characteristics – Commander 400 24V



Commander 200HP

A variation of the Commander 200, this power unit will operate up to a higher pressure – 230 bar (3300psi)

- Suitable for powering rig tensioning systems such as backstays, boom vangs, forestay etc, all available from the Lewmar / Navtec range.
- Higher capacity reservoirs (2 litres) are essential to accommodate larger cylinder displacement
- Available in 12V and 24V versions
- All Commander 200 features



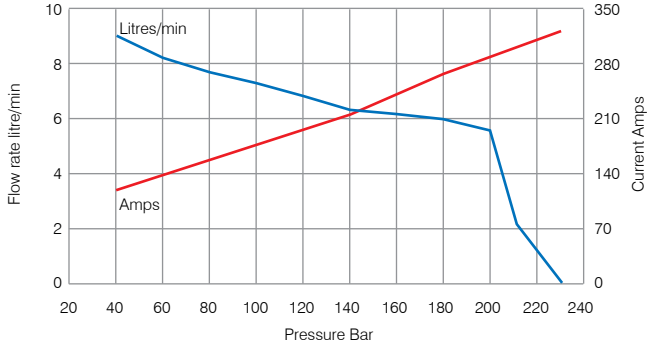
Hydraulic Specification

Operating Pressure	230 bar (3300 p.s.i.)
Max flow	9l/min (2.3 US gal)
Reservoir Capacity	19.5 litres (5.2 US gal)
Hydraulic Oil Type	ISO 32 grade

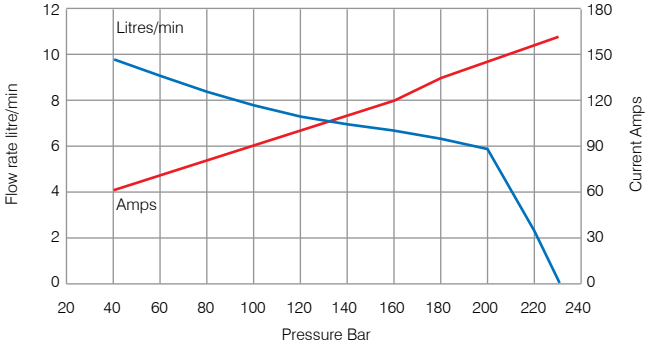
Electrical Specification

12 and 24 Volt motors nominally rated to 3kW.
Supply voltage limits, ± 15%
At extreme tolerances the unit will operate with de-rated performance.

Performance Characteristics – Commander 200HP 12V



Performance Characteristics – Commander 200HP 24V



Commander 400HP also available Contact your Lewmar representative for more information.

Custom Commander Systems

The Lewmar range of Custom Commanders is very comprehensive. This type of system allows the design of a fully integrated hydraulic package to be installed, and affords the builder the knowledge that he has a properly engineered package that is not just a mismatch of various manufacturers components. Custom commander systems can be fully integrated with Lewmar Thrusters. This allows the use of single reservoir, saving valuable space. It also allows the use of the Thruster pump to act as an additional power source for the sailing system hydraulics. This can offer considerable benefits in the reduction of battery charging, as well as an additional source of power in the event of an emergency. Lewmar Custom Commander Systems have been used on over 200 yachts in the last 15 years, a testament to the popularity, and reliability of the product.

- DC motors from 3–15 kW
- Multi motor combinations
- 3 phase AC versions up to 15kW
- AC/DC versions
- Custom designed reservoirs
- Remote valve groups
- Proportional control
- PLC control
- Field bus control
- Electric & hydraulic soft starts
- Various alarm outputs
- Fan cooled motors
- Thermal overload protection
- Custom program design
- Supported by Lewmar for the lifespan of the system

Custom AC/DC Commander

Power Packs & Reservoirs

Lewmar can provide custom power pack and reservoir design

- Reservoir sized to match the requirements of the hydraulic system to store and condition the oil while shaped to fit into the space available in the yacht.
- Multiple electric motor pump sets can be mounted onto the reservoir to provide a compact power solution using various sizes of AC or DC motor pump units to match the power requirements of the hydraulic system in the most efficient way.
- Bulkhead or Foot mounted reservoirs are available for PTO or stand alone pump only hydraulic systems.

Bulkhead Reservoir

Pump Drives

The real art of achieving an integrated system installation that is efficient and trouble free is the design of the pump drive system. Lewmar have hundreds of designs that have been giving reliable service for years. The design of such a system is a very careful balance between the performance characteristics of the power source (Main engine, Gearbox or Generator), choice of thruster drive motor, and set up of the control system. Lewmar specify variable displacement pump and fixed displacement pump drive systems dependant on system requirements. These systems offer fingertip control of power selection, are extremely energy efficient as you only generate the power demanded and generate less noise. The various types of drive offer different benefits, but all depend on correct engineering:-

Main Engine Drives

Careful consultation between Lewmar and the engine manufacturer will assure a pump drive that will give a good spread of power from idle to higher RPM. Obviously some engines are better suited than others but most of the higher torque models will offer good results. Lewmar recommend the fitment of an electromagnetic clutch in order that the pump can be disconnected when not required. This saves energy, heat and noise. A speed trip can also be fitted to ensure that the engine is not stalled at low RPM, or the pump is not damaged at high RPM.

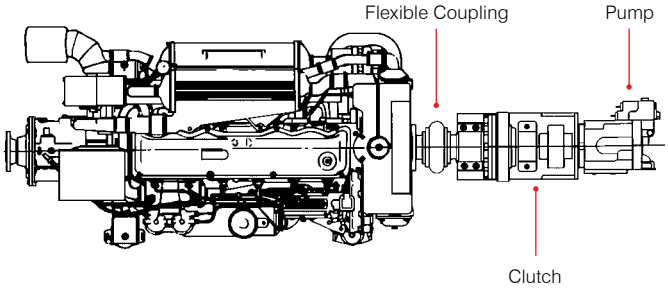
Gearbox Drive

Some gearbox manufacturers can provide a PTO output if specified. Some are clutched and some are direct coupled. Again, with careful consultation we can provide a pump drive to suit. Even without a clutch we can provide a speed sensor that will allow the pump to run at standby if the RPM are too low or too high.

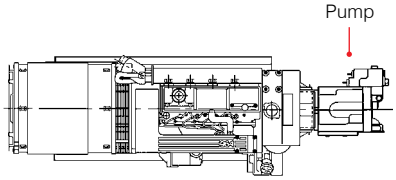
Generator Drive

If the generator can provide sufficient usable power, this is an excellent way of achieving thrust without disturbing the main engine. The major generator manufacturers can provide a clutched PTO output if specified. Lewmar can then match a pump to suit. The advantage of this system is that the generator runs at a constant high RPM, so the pump size can be smaller for the same Horsepower. No speed trip is required, as the RPM is constant.

Main Engine



Generator



Valves

A range of modular valve solutions are available to tailor the hydraulic power for precise control of any individual hydraulic function

- Simple on-off or fully proportional control is available
- In the case of specialist hydraulic functions a custom designed valve manifold can be supplied.

Control System

A control system is required for the correct and safe operation of the hydraulic system. It is used to make sure that when a deck switch or joystick is pushed, the right amount of hydraulic power is supplied to the hydraulic function from the correct power source.

The control system design is tailored to the needs or the customer and the requirements of the hydraulic system. Depending on complexity, the package can range from a barebone system as available with the Commander 200/400 to a PLC (Programmable Logic Controller) system, with the option to extend to a FieldBus control network for comprehensive control and automation.

Panels

Control panels designed and manufactured in a variety of weather resistant materials and components. Provide overall system and individual function control from a helm station or other location as desired.

Features multicoloured indicating push buttons and switching or proportional joysticks for control of thrusters, captive winches and sail furling systems.

PowerPack

When a system has more than one electric motor-pump, the control system will tailor the operation of each motor to start and stop individually or in conjunction in order to meet the hydraulic requirements efficiently and to reduce motor wear and strain on the power supply. All motors are thermally monitored and made safe in case of overheat. Both AC & DC motors can be provided with an option with variable speed control giving soft starting and idle speed control to improve response times, further reducing wear.

PTO Pump Control

The control system can monitor the main engine speed or a generator status to engage a pump on the PTO when power is available and automatically disengage to reduce wear and power wastage.

Oil Status

The control system monitors the system oil levels, filtration and temperature providing user feedback with audible alarms and indicators and will disable the system should the oil level reach minimum to prevent damage.

PLC Control

Programmable “system brain” extremely robust and reliable, simple to install. Every PLC system custom designed to match the complexity and needs of the hydraulic system.

Easy to troubleshoot using built in input & output indicators.

Each PLC is individually programmed & tested. Lewmar keeps a copy of the program and can supply operational program modifications and updates as required using plug-in memory cassettes.

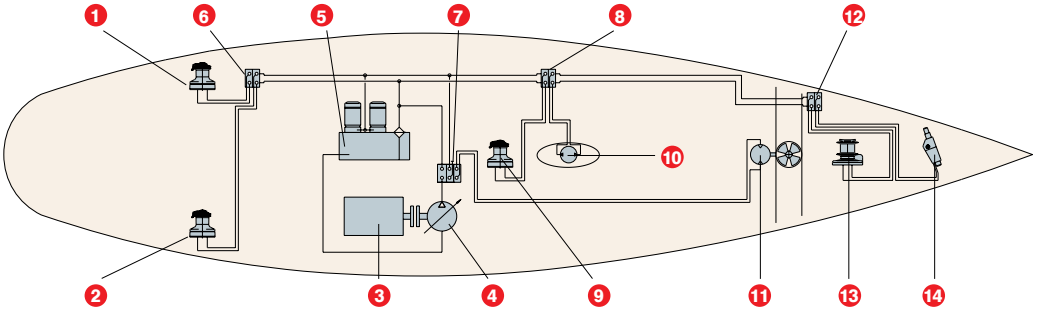
Field Bus

This is a more advanced PLC control system which controls the hydraulics using an ASi (Actuator Sensor Interface) network. This is a simple, robust and reliable network which distributes control of the hydraulic system throughout the yacht using simple wiring and IP65 connection modules making it a perfect match for the environment.

Case Study

A typical hydraulic system which can be found on a 60-70ft yacht. Features a custom designed Commander 400 and a pump off a generator clutched PTO output. The PTO pump is sized to match the thruster and powers the thruster only in docking mode while the commander powers the rest of the system, but when sailing the PTO pump will power all non thruster functions leaving the Commander as backup and for night/quiet operation.

The control system is designed to use a barebones Commander 3/8 control box and a custom stainless control panel with a proportional paddle joystick giving fine thruster control.



18m (60ft) Typical Hydraulic Schematic

POSITION	DESCRIPTION	TYPE	PRESSURE FLOW
1	Primary Winch	Lewmar 70/3	140 BAR – 20 l/min
2	Primary Winch	Lewmar 70/3	140 BAR – 20 l/min
3	Generator Set with Clutched PTO	Various	
4	Variable Displacement Pump	41 CC/REV	210 BAR – 53 l/min
5	24 v DC Hydraulic Power Pack	Custom Commander 400	140 BAR – 30 l/min
6	Aft Winch Valve Group	2 Station Valve Group	
7	PTO Backup/Thruster Valve	2 Station Valve Group	190 BAR – 53 l/min 140 BAR – 30 l/min
8	Mast Winch/Furler Valve Group	2 Station Valve Group	
9	Halyard/Outhaul winch	Lewmar 55SHST	140 BAR – 20 l/min
10	In Mast Main Furler	Various	140 BAR – 20 l/min
11	15HP Tunnel Thruster	Lewmar 250TTH	190 BAR – 53 l/min
12	Fwd Windlass/Furler Valve Group	2 Station Valve Group	
13	Gypsy Capstan Anchor Windlass	Lewmar V6	140 BAR – 30 l/min
14	Headsail Furler	Various	140 BAR – 15 l/min

Hardware

By using the latest materials and design technology developed in the racing arena, Lewmar has completely transformed the sailing experience. Each hardware component is designed to work in perfect harmony with rope action, placing sail control at your fingertips. The result? Smooth yet powerful deck-to-sail movement that you can feel confident about.

The Lewmar Block Range

Synchro Cruising blocks

Page 115

- Stainless steel straps and glass-fibre reinforced cheeks
- High density, free-spin plain bearing
- Easy to use, patented shackle post lock
- Sheave / bearing / pin & line size optimised for efficiency

HTX Range – Cruising and Racing Blocks

Page 122

- Alloy cheeks
- Side thrust ball bearings
- Head design inspired by racing blocks
- Very high load and large line size
- Easy to use, patented shackle post lock

Control Blocks – Control lines & hand loads

Page 124

- Long glass-fibre reinforced composite cheeks
- Stainless steel ball bearings

Snatch Block

Page 127

- Tough side loading blocks for general use

Racing Range – Racer and Grand Prix

Page 128

- Monocoque alloy construction
- Ball and roller bearings
- Light weight
- High strength / weight ratio
- High level of type optimisation – webbing, runner. Halyard blocks etc

Bespoke hardware for custom yacht projects

Page 155

- Performance hardware suitable for high loads generated on superyachts
- Designed to meet individual functional specification
- Customised to blend with overall design aesthetic

Note: Lewmar blocks are intended for sail control line handling on sail boats only. Buyers intending to use them for any other purpose should seek independent professional advice as to their suitability. Lewmar accepts no liability arising from such other uses.

Synchro Blocks – Features

Lewmar synchro block are engineered for speed, efficiency and superior handling. We use a combination of scientifically optimised block geometry, a Free-Spin bearing and self-aligning head to reduce friction and increase efficiency by up to 40% over budget blocks on mainsheet systems.

Each component is perfectly synchronised with the movement of the rope, providing you with an easier, smoother transfer of power from deck to sail and less wear on your rope.

Features

- Stainless steel strap for improved strength and longer service life
- Stiff glass fibre reinforced cheeks to prevent lines from wedging
- Innovative design with “tool-free” sliding swivel locking mechanism

Ⓐ Easy to use shackle post lock
Ⓑ Shackle post – Fits travellers
Ⓒ Lock mechanism – Enables 30° float
Ⓓ Larger sheave diameter – Minimises rope friction
Ⓔ High density free-spin bearing – Reduces axle diameter for superior efficiency

Applications

Plain bearing blocks are typically used for heavy and static loads in:

- Halyard tuning
- Mainsheet systems
- Mast foot blocks
- Mast head blocks
- Boom vang

Practical switch from swivelling to fixed shackle

Synchro Blocks – Selection Guide

Winch Selection Guide

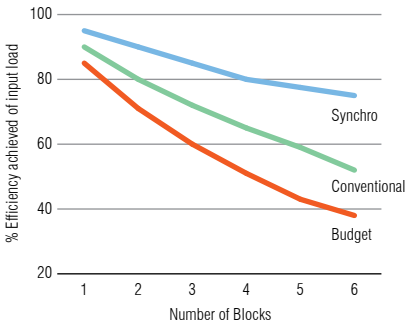
APPLICATION	SYNCHRO SIZE mm	BOAT LENGTH OVERALL m / ft 7.3 / 24	8.5 / 28	10.3 / 34	11.5 / 38	13.4 / 44	14.6 / 48
Main sheet Blocks End Boom	50	■	■	■			
	60		■	■			
	72			■	■	■	
	90					■	■
Main sheet Blocks Mid Boom	50	■	■	■			
	60		■	■			
	72			■	■		
	90		■	■	■	■	■
	105						■
Main & Genoa Halyard Block & Padeye at Mast Base	60	■	■				
	72		■	■	■		
	90			■	■	■	■
	105						■
Spinnaker Mast Top Block	50	■					
	60	■	■	■			
	72			■	■	■	
	90					■	■
	105						■
Spinnaker Sheet Blocks	50	■	■				
	60		■	■			
	72			■	■		
	90				■	■	
	105					■	■
Spinnaker Guy Blocks	50	■					
	60	■	■				
	72		■	■			
	90			■	■	■	
	105				■	■	■
Spinnaker Downhaul	50	■	■				
	60		■	■	■		
	72			■	■	■	
	90					■	■
Boom Vangs	50	■	■				
	60		■	■	■		
	72			■	■	■	
	90					■	■
Backstay Tensioners	50	■					
	60	■	■				
	72		■	■			

Lighter shading represents the upper limit of model. If in doubt, move up a model.

Head can be positioned for use in line or at 90 degrees – or left to rotate freely when in unlocked position. When locked allows 30° "float" on shackle post to improve alignment of block.

Higher efficiency – for faster sail handling and less rope wear.
Independent tests show Synchro blocks offer increased efficiency over conventional designs. Calculations over a 6-block mainsheet system, indicated Synchro blocks can deliver up to 40% greater efficiency than budget products – resulting in better responsiveness and improved sailing performance.

Efficiency improvements in multi block systems



Synchro Blocks 50 and 60mm

General Information

	50MM BLOCKS	60MM BLOCKS
Post Diameter	7.9mm (5/16")	9.4mm (3/8")
Shackle Pin Diameter	4mm (5/32")	5mm (3/16")
Fit Traveller Upstand	–	Size 1 NTR
Fit Block Upstand	29904050 (see p.136)	19811000 (see p.136)
Fit Snap Shackle	29925040 (see p.135)	29926040 (see p.135)
Use Cleat	29104100 (see p.160)	29104110 (see p.160)
Optium Line Size	6mm (1/4")	8mm (5/16")
Max Line Size	10mm (3/8")	10mm (3/8")

Single

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925001BK	50	450	990	67	2.36
29926001BK	60	800	1760	115	4.06

Double

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925002BK	50	450	990	142	5.01
29926002BK	60	800	1760	251	8.84

Triple

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925003BK	50	450	990	226	7.96
29926003BK	60	800	1760	371	13.06

Single & Becket

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925004BK	50	450	990	81	2.85
29926004BK	60	800	1760	127	4.48

Double & Becket

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925005BK	50	450	990	164	5.77
29926005BK	60	800	1760	261	9.19

Single, Becket & Cam

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925009BK	50	450	990	123	4.30

Also available in grey (remove BK)

Synchro Blocks 50 and 60mm

Triple, Becket & Cam

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925010BK	50	450	990	282	9.93
29926005BK	60	800	1760	261	9.19

Single Fiddle & Becket

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925034BK	50	450	990	98	3.45
29926034BK	60	800	1760	166	5.85

Single Fiddle & Cam

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925037BK	50	450	990	139	4.89
29926037BK	60	800	1760	221	7.78

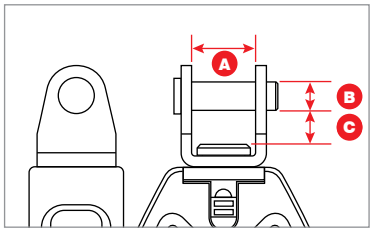
For information about Synchro Snap Shackles please refer to Page 137.

Single Fiddle, Becket & Cam

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925039BK	50	450	990	145	5.10
29926039BK	60	800	1760	234	8.24

Single Fiddle

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29925031BK	50	450	990	94	3.31
29926031BK	60	800	1760	156	5.50



The toggle head of the halyard blocks is designed to fit on the studs commonly found at mast bases – check the diameter of the stud against the width of the block jaws (A) and pin diameter (B)

Synchro Halyard Blocks

PART NO	SHEAVE DIAMETER	WORKING LOAD LIMIT		WEIGHT		HEAD DETAILS A WIDTH		B PIN		C SPACE TO PIN	
	mm	Kg	lb	g	oz	mm	in	mm	in	mm	in
29925021BK	50	450	990	73	2.57	13	½	5	3⁄16	8.2	5⁄16
29926021BK	60	800	1760	122	4.29	15	37⁄64	6	7⁄32	6.9	9⁄32

Also available in grey (remove BK)

Synchro Blocks 72 and 90mm

General Information

	72MM BLOCKS	90MM BLOCKS
Post Diameter	7.9mm (5/16")	9.4mm (3/8")
Shackle Pin Diameter	4mm (5/32")	5mm (3/16")
Fit Traveller Upstand	–	Size 1 NTR
Fit Block Upstand	29904050 (see p.136)	19811000 (see p.136)
Fit Snap Shackle	29925040 (see p.135)	29926040 (see p.135)
Use Cleat	29104100 (see p.160)	29104110 (see p.160)
Optimum Line Size	10mm (3/8")	12mm (1/2")
Max Line Size	12mm (1/2")	14mm (9/16")

Single

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927201BK	72	1100	2420	190	6.69
29929001BK	90	2000	4400	413	14.57

Double

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927202BK	72	1100	2420	406	14.29
29929002BK	90	2000	4400	966	34.00

Triple

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927203BK	72	1100	2420	618	21.75
29929003BK	90	2000	4400	1389	48.89

Single & Becket

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927204BK	72	1100	2420	210	7.41
29929004BK	90	2000	4400	458	16.15

Double & Becket

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927205BK	72	1100	2420	415	14.61

Triple & Becket & Cam

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927204BK	72	1100	2420	820	28.86

Also available in grey (remove BK)

Synchro Blocks 72 and 90mm

Single Fiddle

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927231BK	72	1100	2420	250	8.80
29929031BK	90	2000	4400	544	19.19

Single Fiddle & Becket

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927234BK	72	1100	2420	275	9.70
29929034BK	90	2000	4400	589	20.77

Single Fiddle & Cam

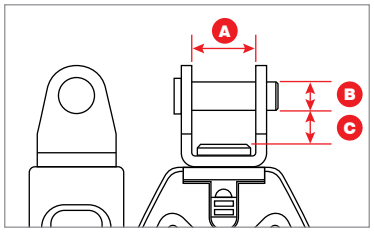
Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927237BK	72	1100	2420	339	11.93

29927239BK

29929039BK

Single Fiddle & Becket & Cam

Part No	SIZE	WORKING LOAD LIMIT		WEIGHT	
		Kg	lb	g	oz
29927239BK	72	1100	2420	356	12.53
29929039BK	90	2000	4400	879	27.12



The toggle head of the halyard blocks is designed to fit on the studs commonly found at mast bases — check the diameter of the stud against the width of the block jaws (A) and pin diameter (B)

Synchro Halyard Block

PART NO	SHEAVE DIAMETER	WORKING LOAD LIMIT		WEIGHT		HEAD DETAILS A WIDTH		B PIN		C SPACE TO PIN	
	mm	Kg	lb	g	oz	mm	in	mm	in	mm	in
29927221BK	72	1100	2420	198	6.98	18	45/64	8	5/16	9.6	3/8
29929021BK	90	2000	4400	414	14.57	23	29/32	10	25/64	13.9	17/32

Also available in grey (remove BK)

Synchro Footblocks

Synchro Footblocks feature alloy cheeks, fixing isolators, and a moulded base plate to prevent sealant ingress into the sheave. Jamming footblocks are ideal for temporarily holding the load on a sheet while it is transferred to another winch.

- Standard and jammer options can be double stacked
- Two-step jammer action keeps lever close to side of the block
- SS hollow cast jammer, holds fast without tearing the line
- Optimised jammer shape holds line central on the sheave
- Tough alloy cheeks
- Synchro sheave loads match the same sized blocks
- Twin fixings with inserts
- Wide head for a solid base, block will not “roll” on the deck
- Moulded base plate with recess to hold sealant around fixing screws and prevent ingress onto the bearing and sheave

Synchro Footblock – Selection Guide

FOOTBLOCK	SHEET DEFLECTION	WINCH SIZE 8	15/16	30	40	45	50
60mm 800kg WLL	90°	■	■	■			
	180°	■	■				
72mm 1100kg WLL	90°			■	■		
	180°	■	■	■			
90mm 2000kg WLL	90°				■	■	■
	180°				■	■	

Control Line Footblock 29924061

Double Control Line Footblock 29924062

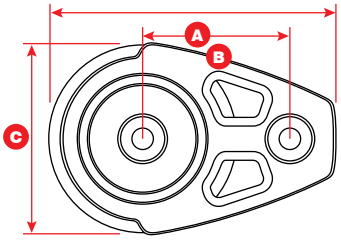
A smaller 40mm control line footblock comes with a stainless steel base plate and can be used as miniature organisers or deflectors for lines being returned to the cockpit.

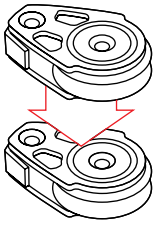
Synchro Footblock

Synchro Jamming Footblock

Synchro Footblock Footprint

PART NO	A mm	A in	B mm	B in	C mm	C in
40mm Footblock	63.2	2 5/16	34.5	1 9/16	40	1 9/16
60mm Footblock	98.0	3 7/8	51.0	2	59	2 5/16
72mm Footblock	110.6	4 5/16	58.0	2 5/16	71	2 13/16
90mm Footblock	134.0	5 1/16	69.0	2 11/16	89	3 1/2





Standard and jammer options can be double stacked

Synchro Footblock Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT Kg	WORKING LOAD LIMIT lb	BREAKING LOAD Kg	BREAKING LOAD lb	SAFE CAM LOAD Kg	SAFE CAM LOAD lb	WEIGHT Kg	WEIGHT lb	FIXINGS Not Included	
29924061BK	40	Control line Footblock	750	1653	1500	3307	–	–	66	2.33	M8	5/16
29924062BK	40	Double Control line Footblock	750	1653	1500	3307	–	–	121	4.27	M8	5/16
29926061BK	60	Synchro Footblock	800	1764	1600	3527	300	661	162	5.70	M8	5/16
29926064BK	60	Synchro Jamming Footblock	800	1764	1600	3527	300	661	190	6.70	M8	5/16
29927261BK	72	Synchro Footblock	1200	2645	2400	5291	300	661	229	8.10	M8	5/16
29927264BK	72	Synchro Jamming Footblock	1200	2645	2400	5291	300	661	250	8.80	M8	5/16
29929061BK	90	Synchro Footblock	2000	4409	4000	8818	300	661	430	15.20	M10	3/8
29929064BK	90	Synchro Jamming Footblock	2000	4409	4000	8818	300	661	480	16.90	M10	3/8

Also available in grey (remove BK)

HTX Blocks

Years of design and manufacturing experience, combined with collaboration with boat builders, designers, and sailors, has resulted in the new Lewmar HTX Hardware Range. Drawing upon the design of the racing range, the HTX blocks are constructed from a minimal number of alloy parts, providing enhanced reliability.

- Alloy cheeks
- High Load capacity and large line size
- Side thrust ball bearings
- Head design inspired by Lewmar racing range with swivel head mechanism locking through a grub screw

General Information

	SIZE 50		SIZE 60	
	metric	imperial	metric	imperial
Post Diameter	9.4mm	3/8 in	11.9mm	15/32 in
Shackle Pin Diameter	5mm	3/16 in	6mm	1/4 in
Max line size	10mm (8mm fiddle)	3/8 in (5/16 in fiddle)	12mm (10mm fiddle)	1/2 in (3/8 in fiddle)
Fits Traveller Upstand	Sz1NTR	Sz2NTR	SzNTR	n/a
Fits Block Upstand	19811000	19821000	29393000	Pad Eye 29904050
Fits Snap Shackle	29926040	29927240	29929040	n/a
Working Load Limit	800 Kg	1760 lb	1100 Kg	2425 lb
Breaking Load	1600 Kg	3520 lb	2200 Kg	4850 lb

Single

HTX Specifications

PART NO	SIZE	DESCRIPTION	WEIGHT	
			g	oz
29195001	50	Single	139	4.76
29195002	50	Double	217	7.65
29195003	50	Triple	305	10.76
29195004	50	Single Becket	150	5.29
29195005	50	Double Becket	232	8.18
29195009	50	Single Becket & cam	320	11.29
29195010	50	Triple Becket & cam	511	18.02
29195021	50	Toghead	160	5.64
29195031	50	Single Fiddle	165	5.82
29195034	50	Single Fiddle Becket	175	6.17
29195037	50	Fiddle & cam	335	11.82
29195039	50	Fiddle Becket & cam	346	12.20
29196001	60	Single	215	7.58
29196002	60	Double	331	11.67
29196003	60	Triple	426	15.03
29196004	60	Single Becket	226	7.97
29196005	60	Double Becket	319	11.25
29196009	60	Single Becket & cam	414	14.60
29196010	60	Triple Becket & cam	710	25.04
29196021	60	Toghead	227	8.01
29196031	60	Single Fiddle	257	9.06
29196034	60	Single Fiddle Becket	269	9.49
29196039	60	Fiddle Becket & cam	460	16.22

Double

Triple

HTX Blocks

General Information

	SIZE 72		SIZE 90	
	metric	imperial	metric	imperial
Post Diameter	16.5 mm	2 1/32 in	19.75 mm	7/9 in
Shackle Pin Diameter	9.8 mm	3/8 in	10 mm	3/8 in
Max line size	14mm (12mm fiddle)	9/16 in (1/2 in fiddle)	16 mm	5/8 in
Working Load Limit	2000 Kg	4400 lb	3500 Kg	7700 lb
Breaking Load	4000 Kg	8800 lb	7000 Kg	15400 lb

Double Becket

HTX Specifications

PART NO	SIZE	DESCRIPTION	WEIGHT	
			g	oz
29197201	72	Single	445	15.70
29197202	72	Double	552	19.47
29197204	72	Single Becket	482	17.00
29197221	72	Toghead	410	14.46
29197231	72	Single Fiddle	530	18.69
29197234	72	Single Fiddle Becket	560	19.75
29197237	72	Fiddle & cam	748	26.38
29197239	72	Fiddle Becket & cam	776	27.37
29199001	90	Single	735	25.92
29199004	90	Single Becket	936	33.01

Single Becket

Control Blocks

Ideal for use with hand-held loads, Lewmar's Control Blocks feature lightweight, performance load-bearing capacity. MRT (Metal Replacement Technology) and a stainless steel central race and balls provide a weight advantage, while Long Fibre Technology offers exceptional strength and durability. The open design allows sand and salt to be flushed out easily, keeping maintenance simple.

Features

- Lightweight
- Very High Strength
- Impact Resistant
- Reduced Friction
- Easy Maintenance
- Optimised for hand control

Applications

- Ball bearing blocks are typically used for medium and dynamic loads in:
- Control line applications
- Mainsail sheets for dinghies and keelboats
- Spinnaker sheets, barber haulers
- Genoa sheets
- Dinghy applications

- **A** Long fiber cheek
- **B** Short fiber sheaves
- **C** Marked sheave – Showing line size and safe working load
- **D** Stainless Steel balls and ball groove – Avoids deformation and loss of performance

Choosing the right Control Block

APPLICATION	SIZE mm	BOAT LENGTH OVERALL m / ft 3.6 / 12	5.4 / 18	7.3 / 24
Main sheet – End boom: Single/Fiddle Blocks	30	■	■	
	40	■	■	■
Main sheet – End boom: Double/Triple Blocks	30	■	■	
	40		■	■
Halyard Blocks	30	■		
	40		■	
Mast Base and general control blocks	30	■	■	■
	40		■	■

30mm Control Blocks

29901321BK
Single

29901322BK
Double

29901323BK
Triple

29901328BK
Triple Cleat

29901320BK
Single Stand Up

29901314BK
Single Strap Block with Becket

29901324BK
Single with Becket

29901325BK
Double with Becket

29901326BK
Triple with Becket

29901330BK
Triple with Becket & Cleat

29901360BK
Cheekblock

29901363BK
Vertical Lead Block

29901365BK
Pivoting Exit Block

29900240BK
Tweeker Block

29901361BK
Through Deck Single

29901362BK
Through Deck Tandem

Additional Information

- Triple block fits block upstand 29904046 (see p.136)
- Use Cleat 29104100 (see p.161)
- Max line Size 8mm (5/16in)
- Compatible with snap shackle (see p.137)

29904046

Synchro Control 30mm Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		LENGTH		WEIGHT		SHACKLE POST DIA		SHACKLE PIN DIA	
		Kg	lb	Kg	lb	mm	in	g	oz	mm	in	mm	in
29901301BK	Single Stainless Steel Sheave	240	528	480	1056	54	2 1/8	36	1.2	7.1	2/7	4	1/6
29901321BK	Single	200	440	480	1056	68	2 43/64	28	1	7.1	2/7	4	1/6
29901322BK	Double	300	660	600	1320	68	2 43/64	47	1.65	7.1	2/7	4	1/6
29901323BK	Triple	500	1100	1000	2200	76	3	85	3	9.25	3/8	5	1/5
29901324BK	Single with Becket	200	440	480	1056	81	3 3/16	33	1.16	7.1	2/7	4	1/6
29901325BK	Double with Becket	300	660	600	1320	81	3 3/16	50	1.76	7.1	2/7	4	1/6
29901326BK	Triple with Becket	500	1100	1000	2200	90	3 35/64	90	3.17	9.25	3/8	5	1/5
29901328BK	Triple Cleat	250	550	1000	2200	76	3	135	4.76	9.25	3/8	5	1/5
29901330BK	Triple with Becket & Cleat	300	660	1000	2200	90	3 35/64	140	5	9.25	3/8	5	1/5
29901320BK	Single Stand Up	200	440	480	1056	58	2 9/32	30	1	–	–	–	–
29901341BK	Single Strap Block	200	440	480	1056	54	2 1/8	26	0.92	–	–	–	–
29901314BK	Single Strap Block with Becket	200	440	480	1056	68	2 43/64	31	1.09	–	–	–	–
29901361BK	Through Deck Single	200	440	480	1056	76	3	26	0.92	–	–	–	–
29901362BK	Through Deck Tandem	200	440	480	1056	99	3 1/2	45	1.59	–	–	–	–
29901363BK	Vertical Lead Block	200	440	480	1056	45	1 1/2	48	1.69	–	–	–	–
29901365BK	Pivoting Exit Block	200	440	480	1056	68	2 43/64	80	2.82	–	–	–	–
29900240BK	Tweeker Block	120	265	240	529	53	2 3/16	28	1	–	–	–	–
29901360BK	Cheek Block	200	440	480	1056	50	2	18.5	0.65	–	–	–	–

40mm Control Blocks

29901441BK
Single Fixed Strap

29901447BK
Single Web

29901421BK
Single

29901422BK
Double

29901423BK
Triple

29901428BK
Single & Becket Cam

29901401BK
Single SS Sheave

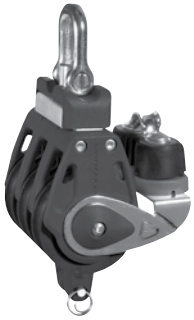
29901420BK
Single Stand Up

29901424BK
Single & Becket

29901425BK
Double & Becket

29901426BK
Triple & Becket

29901429BK
Triple & Cam



29901430BK
Triple Becket & Cam

29901460BK
Cheekblock

29901463BK
Single Vertical Lead Block

Additional Information

- Triple block fits block upstand 29904046 (see p.136)
- Use Cleat 29104100 (see p.161)
- Max line Size 10mm (3/8in)
- Compatible with snap shackle (see p.137)

29904046

Synchro Control 40mm Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		LENGTH		WEIGHT		SHACKLE POST DIA		SHACKLE PIN DIA	
		Kg	lb	Kg	lb	mm	in	g	oz	mm	in	mm	in
29901447BK	Single Web	240	528	800	1760	57	2 1/4	39.5	1.39	–	–	–	–
29901420BK	Single Stand Up	240	528	800	1760	74	2 29/32	54.0	1.9	–	–	–	–
29901441BK	Single Fixed Strap	240	528	800	1760	70	2 3/4	44.0	1.55	–	–	–	–
29901421BK	Single	240	528	800	1760	80	3 9/64	52.0	1.83	8.0	5/16	4	1/8
29901422BK	Double	480	1056	1200	2640	95	3 47/64	112.5	3.97	–	–	4	1/8
29901423BK	Triple	720	1584	1800	3960	102	4 1/64	187.5	6.61	11.5	7/16	6	1/4
29901424BK	Single & Becket	240	528	800	1760	98	3 55/64	56.5	1.99	8.0	5/16	4	1/8
29901425BK	Double & Becket	480	1056	1200	2640	111	4 23/64	116.5	4.11	–	–	4	1/8
29901426BK	Triple & Becket	720	1584	1800	3960	119	4 43/64	192.5	6.79	11.5	7/16	6	1/4
29901428BK	Single & Becket & Cam	240	528	800	1760	98	3 55/64	56.5	1.99	8.0	5/16	4	1/8
29901429BK	Triple & Cam	720	1584	1800	3960	102	4 1/64	247.5	8.73	11.5	7/16	6	1/4
29901430BK	Triple & Becket & Cam	720	1584	1800	3960	119	4 43/64	252.5	8.91	11.5	7/16	6	1/4
29901460BK	Cheekblock	240	528	900	1980	67	2 5/8	43.0	1.52	–	–	–	–
29901463BK	Single Vertical Lead block	240	528	900	1980	57	2 15/64	70.0	2.4	–	–	–	–
29901401BK	Single SS Sheave	400	880	800	1760	70	2 3/4	76.0	2.5	–	–	–	–

60mm Control Blocks

Ideal for use with hand loads. For winched loads, refer to the Synchro or Racing Ranges.

29901661BK
Single & Ratchet

29901659BK
Single & Becket Cam

29901660BK
Triple & Becket Cam

29901670BK
Triple, Rachet, Becket, Cam & Eye For Fine Tune

Synchro Control 60mm Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		LENGTH		WEIGHT		SHACKLE POST DIA		SHACKLE PIN DIA	
		Kg	lb	Kg	lb	mm	in	g	oz	mm	in	mm	in
29901659BK	Single & Becket & Cam	400	882	800	1764	147	5 25/32	279	9.8	9.5	3/8	5	3/16
29901660BK	Triple & Becket & Cam	1000	2204	2000	4409	166	6 17/32	514	17.3	10.0	6/16	6	1/4
29901661BK	Single & Ratchet	400	882	800	1764	124	4 7/8	126	4.3	9.5	3/8	5	3/16
29901670BK	Triple, Ratchet, Becket. Cam & eye for fine tune	1000	2204	2000	4409	166	6 17/32	538	18.2	10.0	6/16	6	1/4

Additional Information

- Fit block upstand: Singles 19811000 Doubles and Triples 29904050 (see Page 136)
- Use Cleat 29104110 (see Page 161)
- Max line size: 12mm (1/2")
- Max line size for ratchet blocks: 10mm (3/8")
- Compatible with snap shackle (see Page 137)
- Singles fit Size 1 Traveller Upstand Double & Triple fit Size 2 Traveller Upstand

Ocean Snatch Blocks

Ideal for general spinnaker use, the Snatch Block features the Lewmar Snap Shackle and soft, synthetic rubber cheeks to handle rough treatment. Where a snatch block is attached in a situation which will not permit full movement, such as through some toe rails, a shackle must be used to ensure full articulation.

19810600
Size 1 Snatch Block

19820600
Size 2 Snatch Block

19830500
Size 3 Snatch Block

Ocean Snatch Block Specifications

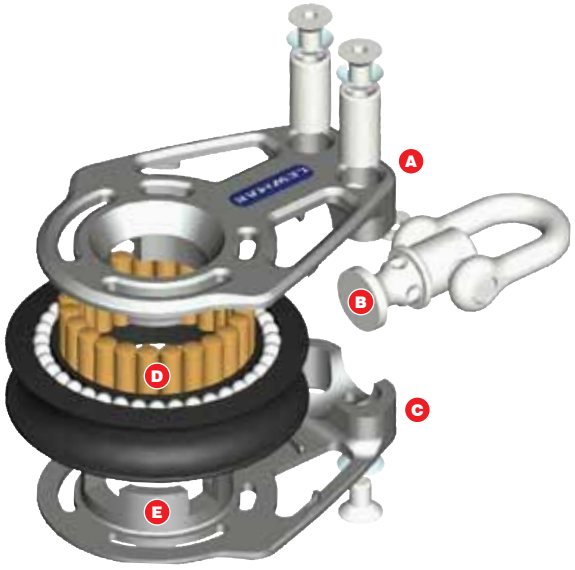
PART NO	SIZE	BEARING	SHEAVE MATERIAL	WORKING LOAD LIMIT		BREAKING LOAD		SHEAVE Ø		SHEAVE WIDTH		LINE SIZE		WEIGHT	
				Kg	lb	Kg	lb	mm	in	mm	in	mm	in	g	oz
19810600	1	Stainless Steel	Delrin	1135	2500	2270	5000	66	2 5/8	20	3/4	14	9/16	480	17.0
19820600	2	Stainless Steel	Delrin	1590	3500	3180	7000	80	3 1/8	20	3/4	16	5/8	880	31.0
19830500	3	Needle Roller	Aluminium	2155	4750	4310	9500	80	3 1/8	20	3/4	16	5/8	1040	36.5

Racing Blocks – Features

Lewmar Racing Blocks and Cars are designed to achieve the best strength-to-weight ratio within legal race limits. Features include alloy cheeks and composite sheaves which run on dual Delrin ball races. Available in a range of sizes and configurations.

Features

- Monocoque Construction
- 3 in 1 Head
- Torlon Rollers
- Delrin Thrust Balls
- Ratchet fiddle blocks feature alloy ratchet sheaves and recessed ratchet lever



A Flush fixings and radiused edges produce snag free cheeks.
B The three position shackle post has a drilled out head for further weight reduction.
C Monocoque construction offers the best strength to weight ratio by incorporating the head block and bearing surface into the cheeks.
D Torlon rollers and Delrin side thrust balls provide optimum bearing for rapid line handling. Torlon rollers on blocks above 80mm. Captive Delrin side thrust balls will not drop out when sheave is removed.
E Patented bayonet fixing means that central fastenings are not required and only two locating screws are needed in the head, further reducing weight and improving performance.

Choosing the right Racing Block

APPLICATION & SHEETING POSITION	SIZE	Description	BOAT LENGTH OVERALL m / ft: 7.3 / 24	8.5 / 28	10.3 / 34	11.5 / 38	13.4 / 44	14.6 / 48
Mainsheet Blocks End Boom Singles	60	HL Singles		■	■			
	80	Singles & Fiddles			■	■		
	80	HL Singles				■	■	
Mainsheet Blocks End Boom Doubles & Triples	60	HL Doubles & Triples				■	■	
	80	Doubles & Triples				■	■	
	80	HL Doubles & Triples					■	■
Mainsheet Blocks Mid Boom Singles	60	HL Singles	■	■				
	80	Singles & Fiddles		■	■			
	80	HL Singles			■	■		
Mainsheet Blocks Mid Boom Doubles & Triples	60	HL Doubles & Triples		■	■	■		
	80	Doubles & Triples			■	■		
	80	HL Doubles & Triples				■	■	■
Main & Genoa Halyard (Block & Padeye at Mast Base)	60	HL Single Shackle		■	■			
	80	Singles Shackle		■	■			
	80	HL Single Shackle				■	■	
Spinnaker Mast Top Blocks	60	HL Singles		■	■	■		
	80	Singles				■	■	
	80	HL Singles					■	■
Spinnaker Mast Sheets Blocks/ Guy Blocks	60	HL Singles		■	■			
	80	Singles/Fiddle/Rachet			■	■	■	
	80	HL Singles					■	■
Spinnaker Genoa Footblock 90˚ Deflection	60	HL Singles			■	■	■	■
	80	Singles					■	■
	80	HL Singles						■
Boom Vang (First Block in Cascade)	60	HL Singles	■	■				
	80	HL Singles			■	■		

60mm Racing Blocks

29901611BK
Single

29901614BK
Single & Becket

29941611BK
High Load Single

29901612BK
Double

29901600BK
Single Stand Up

29901647BK
High Load Web Block

29901631BK
Single Fiddle

29901624BK
Single, Fiddle Ratchet, Becket & Cam

Additional Information
Stand up blocks fitting details:
Base diameter 58mm (2 5⁄16 in). Fixings 4 x M6 (1⁄4 in)

60mm Racing High Load Block Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		MAX LINE SIZE		LENGTH		WEIGHT		SHACKLE POST DIA		SHACKLE PIN DIA	
		Kg	lb	Kg	lb	mm	in	mm	in	g	oz	mm	in	mm	in
29901600BK	60mm Single Stand Up	800	1763	1600	3527	12	½	123	4 7⁄8	283	10.0	–	–	–	–
29901611BK	60mm Single	800	1763	1600	3527	12	½	123	4 3⁄4	162	5.7	11.0	3⁄8	6	1⁄4
29941611BK[1]	60mm High Load Single	1200	2640	2400	5280	12	½	123	4 3⁄4	158	5.6	11.0	3⁄8	6	1⁄4
29901612BK	60mm Double	1440	3175	2880	6349	12	½	132	5 1⁄8	291	10.3	13.8	½	8	5⁄16
29901614BK	60mm Single & Becket	800	1763	1600	3527	12	½	141	5 5⁄8	170	6.0	11.0	3⁄8	6	1⁄4
29901647BK[1]	60mm High Load Web Block	1400	3086	2800	6172	12	½	94	3 11⁄16	120	4.2	–	–	–	–
29901631BK	60mm Single Fiddle	400	882	800	1764	10	3⁄8	169	6 5⁄8	174	6.1	10.0	3⁄8	5	3⁄16
29901624BK	60mm Single, Fiddle Ratchet, Becket & Cam	400	882	800	1764	10	3⁄8	189	7 ½	362	13.0	10.0	3⁄8	5	3⁄16

[1]Sheaves run on Torlon rollers with Delrin ball side thrust races. Alloy sheaves, alloy cheeks.
Also available in grey.

80mm Racing Blocks

29901811BK
Single

29901812BK
Double

29901813BK
Triple

29941800BK
High Load
Single Stand Up

29901830BK
Triple Ratchet,
Becket & Cam

29901821BK
Single Ratchet

29901814BK
Single & Becket

29901831BK
Single Fiddle

29901824BK
Fiddle, Ratchet,
Becket & Cam

29901834BK
Single Fiddle & Becket

80mm Racing Block Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		MAX LINE SIZE		LENGTH		WEIGHT		SHACKLE POST DIA		SHACKLE PIN DIA	
		Kg	lb	Kg	lb	mm	in	mm	in	g	oz	mm	in	mm	in
29901811BK	80mm Single	1000	2204	2000	4408	12	½	152	6	251	8.8	12.5	½	6	¼
29901812BK	80mm Double	1800	3968	3600	7936	12	½	160	6 ⅜	487	17.2	14	9⁄16	8	5⁄16
29901813BK	80mm Triple	2200	4849	4400	9698	12	½	160	6 ⅜	724	25.5	14	9⁄16	8	5⁄16
29901814BK	80mm Single & Becket	1000	2204	2000	4408	12	½	177	7	278	9.8	12.5	½	6	¼
29941800BK	80mm High Load Single Stand Up	2400	5280	4800	10560	14	9⁄16	155	6 ⅛	518	18.0	–	–	–	–
29941801BK	80mm High Load Single	2400	5280	4800	10560	14	9⁄16	160	6 ¼	337	12.0	15	9⁄16	8	5⁄16
29901821BK	80mm Single Ratchet	800	1764	1600	3527	12	½	152	6	291	10.3	12.5	½	6	¼
29901824BK	80mm Fiddle, Ratchet, Becket & Cam	1000	2204	2000	4409	12	½	240	9 ½	593	21.0	12.5	½	6	¼
29901830BK	80mm Triple Ratchet, Becket & Cam	2200	4849	4400	9698	12	½	185	7 ¼	976	34.4	14	9⁄16	8	5⁄16
29901831BK	80mm Single Fiddle	1000	2204	2000	4409	12	½	217	8 9⁄16	356	12.6	12.5	½	6	¼
29901834BK	80mm Single Fiddle & Becket	1000	2204	2000	4409	12	½	240	9 ½	382	13.5	12.5	½	6	¼

Also available in grey.

105, 130 and 155mm Racing Blocks

29941101BK
Single

29941104BK
Single Becket

Stand up blocks installed on Halberg Rassy 64
Photo: Martin Sebastian Kreplin

Additional Information
Stand up blocks fitting details:
For base dimension fixing details see Page 136

BLOCK SIZE	USE PAD EYE
105	29904060
130	29904053
155	29904054

Racing Block Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		MAX LINE SIZE		LENGTH		WEIGHT		SHACKLE POST DIA		SHACKLE PIN DIA	
		Kg	lb	Kg	lb	mm	in	mm	in	g	oz	mm	in	mm	in
29941100BK	105mm Single Stand Up	3750	8250	7500	16500	14	9/16	205	8 1/8	727	25.7	–	–	–	–
29941101BK	105mm Single	3750	8250	7500	16500	14	9/16	219	8 5/13	605	21.4	19.8	3/4	10	3/8
29941104BK	105mm Single Becket	3750	8250	7500	16500	14	9/16	247	9 3/4	640	22.6	19.8	3/4	10	3/8
29941130BK	130mm Single Stand Up	5000	11000	10000	22000	16	5/8	246	9 3/4	1404	49.6	–	–	–	–
29941131BK	130mm Single	5000	11000	10000	22000	16	5/8	245	10	952	33.6	21.8	7/8	12	1/2
29941150BK	155mm Single Stand Up	7500	16500	15000	33000	18	11/16	287	11 5/8	2396	84.7	–	–	–	–
29941151BK	155mm Single	7500	16500	15000	33000	18	11/16	287	11 1/4	1810	64.0	25.8	1	14	9/16
29941154BK	155mm Single Becket	7500	16500	15000	33000	18	11/16	333	13 1/8	1737	61.4	25.8	1	14	9/16

Also available in grey.

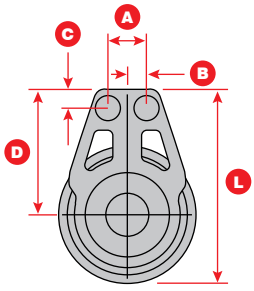
Racing Footblocks

High performance is intrinsic to the design of the Racing Footblock, including sheaves that run on Torlon rollers with dual Delrin ball side thrust races. Alloy sheaves and bayonet cheeks provide a lightweight, low maintenance solution.

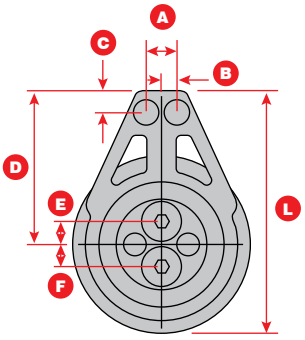
Selection Guide – Racing Footblocks

APPLICATION & SHEETING POSITION	SIZE	DESCRIPTION	WINCH SIZE							
			HAND LOAD	16	30	46	48	58	68	77
Genoa Footblock (Assumes 180° Line Deflection)	60	Footblock	■							
	60	HL Footblock		■	■					
	80	Footblock	■	■						
	80	HL Footblock			■	■	■			
	105	Footblock				■	■	■		
	130	Footblock					■	■	■	
	155	Footblock							■	■

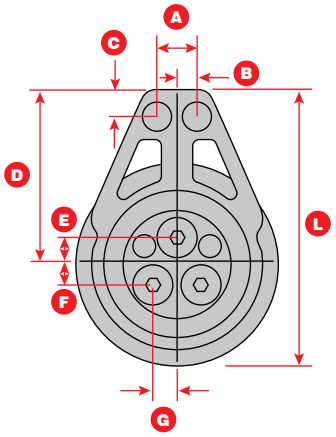
60mm–80mm Footblock



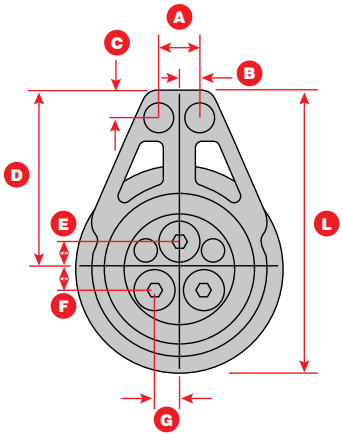
105mm–155mm Footblock



175mm Footblock



250mm Footblock



Racing Footblock Footprint Details

SIZE	L		A		B		C		D		E		F		G	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
60mm	85	3 1/3	20	4/5	10.0	2/5	16	5/8	55	2 1/6	–	–	–	–	–	–
80mm	111	4 3/8	26	1	13.0	1/2	20	4/5	71	2 4/5	–	–	–	–	–	–
105mm	148	5 5/6	35	1 3/8	17.5	2/3	27	1	95	3 3/4	14	1/2	13.6	1/2	–	–
130mm	181	7 1/8	40	1 4/7	20.0	4/5	33	1 2/7	111	4 1/3	18	5/7	18	5/7	–	–
155mm	216	8 1/2	54	2 1/8	27.0	1	50	2	138	5 3/7	20	4/5	20	4/5	–	–
175mm	243	9 4/7	33	1 2/7	16.5	2/3	23	1	152	6	25	1	13	1/2	26	1
250mm	348	13 5/7	44	1 3/4	22.0	6/7	29	1 1/7	210	8 1/4	28	1 1/8	28	1 1/8	28	1 1/8

HTX & Racing Footblocks 60 to 155mm

29946611BK
29946801
Racing High Load Single

29946802BK
Racing High Load Double

HTX Footblock

29906601BK
29906811BK
Racing Single

29906602BK
29906812BK
Racing Double

29906604/06BK
29906814/16BK
Racing Single Jamming Right/Left Hand

Racing Footblock Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		LINE SIZE		WEIGHT		FIXINGS *High Load versions come without fixings
			Kg	lb	Kg	lb	mm	in	g	oz	
29906601BK	60	Single	400	882	800	1764	12	1/2	160	5.6	3xM6
29906602BK	60	Double	400	882	800	1764	12	1/2	258	9.1	3xM6
29906604BK	60	Single Jamming - Left Hand	400	882	800	1764	12	1/2	181	6.3	3xM6
29906606BK	60	Single Jamming - Right Hand	400	882	800	1764	12	1/2	181	6.3	3xM6
29906621BK	60	Ratchet (Anticlockwise) Left Hand	400	882	800	1764	12	1/2	160	5.6	2xM6 / 1xM10
29906622BK	60	Ratchet (Clockwise) Right Hand	400	882	800	1764	12	1/2	160	5.6	2xM6 / 1xM10
29946611BK	60	High Load Single*	1400	3080	2800	6160	12	1/2	132	4.7	2xM6 / 1xM10
29906811BK	80	Single	1000	2204	2000	4404	14	9/16	279	9.8	3xM6
29906812BK	80	Double	1000	2204	2000	4404	14	9/16	415	15.0	3xM6
29906814BK	80	Single Jamming - Left Hand	1000	2204	2000	4404	14	9/16	299	11.0	3xM6
29906816BK	80	Single Jamming - Right Hand	1000	2204	2000	4404	14	9/16	299	11.0	3xM6
29946801BK	80	High Load Single*	2400	5280	4800	10560	14	9/16	268	9.5	2xM8 / 1xM12
29946802BK	80	High Load Double*	2400	5280	4800	10560	14	9/16	500	17.7	2xM8 / 1xM12
29946101BK	105	High Load Single*	3750	8250	7500	16500	14	9/16	490	17.3	2xM10 / 1xM12
29946102BK	105	High Load Double*	3750	8250	7500	16500	14	9/16	873	30.8	2xM10 / 1xM12
29946131BK	130	High Load Single*	5500	12100	11000	24200	16	5/8	732	25.9	4xM12
29946151BK	155	High Load Single*	7500	16500	15000	33000	18	11/16	1476	52.2	2xM12 / 2xM16

Maximum deck thickness for supplied fastenings 35mm
Also available in grey.

HTX Footblock Specifications

PART NO	SIZE	DESCRIPTION	WEIGHT	
			g	oz
29195061	50	HTX Footblock	145	5.11
29196061	60	HTX Footblock	158	5.57
29197261	72	HTX Footblock	283	9.98
29199061	90	HTX Footblock	672	23.70
29195064	50	HTX Footblock with jammers	107	3.77
29196064	60	HTX Footblock with jammers	170	6.00
29197264	72	HTX Footblock with jammers	320	11.29

Racing Halyard Blocks

Ideal for high, static loads, the Racing Halyard Block features impregnated composite bearings with dual Delrin side thrust races. The low-profile head fits into a pad eye providing the lowest lead to a winch, while the alloy sheave profile is designed to accommodate High Modulus Poly Ethelyne (HMPE) fibre lines such as Spectra, Dyneema, or Vectran.

High-Load Halyard

Fixed Halyard

Racing Halyard Block Specifications

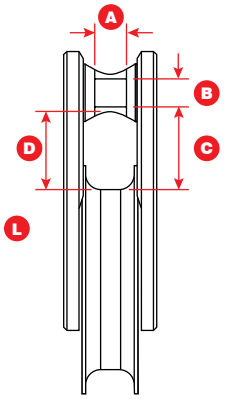
PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		MAXIMUM LINE SIZE		WEIGHT		LENGTH		HEAD DETAILS A		B		C		D	
			Kg	lb	Kg	lb	mm	in	g	oz	mm	in	mm	in	mm	in	mm	in	mm	in
29942601BK	60	High-Load Halyard	1400	3080	2800	6160	12	1/2	146	5.2	95	3 3/4	12.8	1/2	8.5	21/64	25.3	1	24.0	15/16
29902800BK	80	Fixed Halyard	2500	5500	5000	11000	14	9/16	300	10.6	120	4 3/4	–	–	–	–	–	–	–	–
29942801BK	80	High-Load Halyard	2500	5500	5000	11000	14	9/16	274	9.7	120	4 3/4	14.4	9/16	11.0	7/16	28.0	1 3/4	27.4	1 3/32
29902100BK	105	Fixed Halyard	4000	8817	8000	17637	16	5/16	629	22.2	149	5 7/8	–	–	–	–	–	–	–	–

Also available in grey.

Racing Runner Blocks

Ideal for free running at low initial load, the Racing Runner Block features sheaves which run on an impregnated bearing with dual side thrust bearings.

Runner Block



Head Details

Racing Runner Block Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		MAXIMUM LINE SIZE		WEIGHT		LENGTH		HEAD DETAILS A		B		C		D	
			Kg	lb	Kg	lb	mm	in	g	oz	mm	in	mm	in	mm	in	mm	in	mm	in
29902808BK	80	Runner	2000	4409	5000	11023	14	9/16	256	9.0	120	4 3/8	11	7/16	11	7/16	28.6	1 9/64	27.8	1 3/32
29902809BK	80	Runner & Becket	2000	4409	5000	11023	14	9/16	265	9.4	148	5 3/8	11	7/16	11	7/16	28.6	1 9/64	27.8	1 3/32
29902108BK	105	Runner	2560	5643	6400	14110	16	5/8	448	15.8	154	6 1/8	13	33/64	13	33/64	34.0	1 11/32	32.0	1 1/4
29902138BK	130	Runner	4000	8817	10000	22046	18	11/16	776	27.4	188	7 3/4	16	5/8	16	5/8	34.0	1 11/32	32.0	1 1/4

Also available in grey.

Custom Skeletal Block Range

Drawing upon the latest cutting-edge design and material advances, the Skeletal Block offers 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 Skeletal Block 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, the Skeletal Block is more compact than an equivalent typical block. Available in aluminium, stainless steel, or titanium finish and in a range of sizes.

For detailed information, consult our Custom Component Guide.

Block Upstands

1981 1000
1982 1000

2990 4046

2990 4050

2939 3000

Block Upstand Specifications

PART NO	TO SUIT BLOCK SIZE	WORKING LOAD LIMIT		WEIGHT		BASE DIA	
		Kg	lb	Kg	lb	mm	in
29904046	30 & 40mm Control	400	990	24	0.8	1 3/16	1/8
29904050	60mm Control & 60mm Synchro	400	990	24	0.8	1 3/4	3/16
19811000	60mm Control Singles/Fiddles	800	1760	120	4.0	2 1/4	1/4
19821000	60mm Low-Load Singles	1100	2420	130	4.5	2 1/4	3/8
	72mm Synchro	–	–	–	–	–	–
	80mm Low-Load Racing Singles/Fiddles	–	–	–	–	–	–
29393000	90 Synchro Upstand	2000	4400	310	11.0	2 1/7	–

Pad Eyes

2990 4060

2990 4053

2990 4054

2990 4040

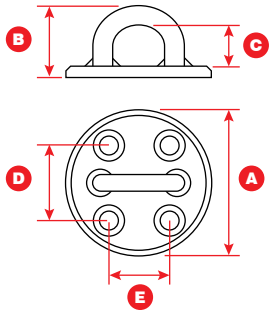
2990 4041

Pad Eye Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		WEIGHT		BAR DIA		BASE DIA	
			Kg	lb	Kg	lb	g	oz	mm	in	mm	in
29904060	60/80	Halyard Pad Eye	3200	7054	6400	14110	154	5.4	10.0	3/8	66	2 5/8
29904053	105	Halyard Pad Eye	5000	11023	10000	22046	435	15.3	12.7	1/2	98	3 7/8
29904054		Halyard Pad Eye	7500	16535	15000	33069	787	27.8	15.8	5/8	115	4 1/2
29904040		Gibb Diamond Pad Eye	1135	2502	2270	5004	45	1.6	6.0	7/32	60 x 38	2 3/8 x 1 1/2
29904041		Gibb Square Pad Eye	3180	7011	6360	14021	227	8.0	9.0	5/16	70 x 70	2 3/4 x 2 3/4

Fixing and Dimensions

PART NO	A		B		C		D		E		FIXINGS	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
29904060	66	2 19/32	33	15/16	18	23/32	34	1 11/32	28	13/32	4xM8	4x 5/16
29904053	98	3 27/32	48	1 7/8	28	13/32	50	2 31/32	42	1 21/32	4xM12	4x 7/16
29904054	115	4 17/32	58	2 5/16	34	15/16	60	2 11/32	48	1 7/8	4xM12	4x 7/16
29904040	38	1 1/2	24	15/16	14	9/16	23	15/16	46	1 13/16	4xM5	4x 3/16
29904041	70	2 3/4	37	1 7/16	21	7/8	38	1 1/2	38	1 1/2	4xM8	4x 5/16



Custom Pad Eyes

Featuring a single, through-deck base fixing, the Lewmar Pad Eye offers a smaller, more compact footprint than an equivalent multiple-fixed model. The interchangeable tops provide a choice of configuration that can be customised for each specific requirement, from a fixed eye for a web block to a removable loop. Each Pad Eye is compatible with the Skeletal Block Range, complementing the styling and finish to provide a seamless control solution.

For detailed information, consult our Custom Component Guide.

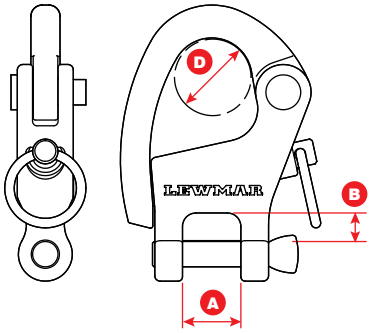
Lewmar Synchro Snap Shackles

2992 5040

2992 6040

2992 7240

2992 9040



Lewmar Snap Shackle Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		PIN DIA		A		B		D	
			Kg	lb	Kg	lb	mm	in	mm	in	mm	in	mm	in
29925040	50	Synchro Snap Shackle	450	990	900	1980	4	1/8	9.0	3/8	4.5	3/16	12	1/2
29926040	60	Synchro Snap Shackle	800	1760	1600	3520	5	3/16	12.0	1/2	6.0	1/4	14	9/16
29927240	72	Synchro Snap Shackle	1100	2420	2200	4840	6	1/4	13.0	1/2	6.5	1/4	18	11/16
29929040	90	Synchro Snap Shackle	2000	4400	4000	8800	9.5	3/8	17.5	11/16	7.5	5/16	22	7/8

Traveller Systems – Make sail control easy!

Page 141

Ocean Size 0

- Ideal for cruising yachts up to 8.5 m (28ft)
- Internal control sheave prevents snagging
- Proven performance
- Ocean Car can be adapted to run on curved track
- Now available in black

Page 147

HTX Size 1 & 2

- Ideal for cruiser/racer yachts
- Complements HTX Block Range
- Unique triple ball race for reduced friction
- Minimal parts enhance performance and reliability
- Captive Ball

Page 151

NTR Size 1, 2 & 3

- Popular choice for cruising and racing yachts
- Modular system suits any configuration
- Compatible with Ocean Range Track
- Larger sheaves results in efficient rope handling

Page 153

T-Track

- Specialised genoa systems
- Recently restyled to enhance strength and performance
- Available in 25mm through to 65mm
- Choice of wide range of end stops

Page 155

Custom/Racing

- Custom hardware for yachts up to 67m (220ft)
- Ideal for high-performance racing yachts
- Features patented double ball race
- Carries high load with low friction
- Tailored to specific applications
- Choice of finishes to suit individual requirements

Traveller Systems – Selection Guide

This selection guide is designed to be used as a quick reference only. For more detailed product information visit www.lewmar.com. Calculations are based on the average modern cruising yacht. Sail area, different rigs, heavy or light displacement, multihull or monohull, are all factors which effect a yacht's specifications. Loadings should be obtained from the designer and matched to the safe working load of the hardware. Please contact your Lewmar agent if you have any questions regarding the correct hardware for your boat.

Cars Selection Guide

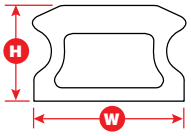
APPLICATION & SHEETING POSITION	SIZE	TOWING PURCHASE (MAXIMUM AVAILABLE PURCHASE)	m ft	7.3 24	8.5 28	10.3 34	11.5 38	13.4 44	14.6 48	16.4 54	18.2 60	21.3 70	21+ 70+
Genoa	0	2:1											
End Boom Mainsheet	0	2:1											
Mid Boom or Multihull	0	2:1											
Genoa	1	4:1 or 2:1 to Winch											
End Boom Mainsheet	1	4:1											
Mid Boom or Multihull	1	4:1											
Genoa	2	4:1 or 2:1 to Winch											
End Boom Mainsheet	2	5:1											
Mid Boom or Multihull	2	5:1											
Genoa	3	5:1 or 2:1 to Winch											
End Boom Mainsheet	3	5:1 or 2:1 to Winch											
Mid Boom or Multihull	3	5:1 or 2:1 to Winch											

Track Selection Guide

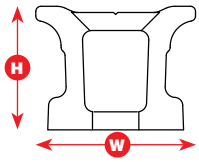
Drilled Track

Commonly used and particularly useful where through deck fixing is not possible, such as in double skinned boats, where fixing bolts are trapped into a plate in the deck.

- Different profile for Ocean/NTR and HTX cars
- Available in grey or black anodised
- Available in size 0 to 3



Ocean Track profile

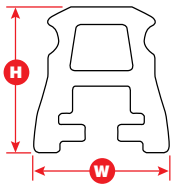


HTX Track profile

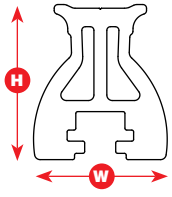
Beam track

Beam track is used when spanning cockpits and across companion way hatches. Three fixing bolts should always be used either side of the span and washers fitted under the head of the bolt and between track and deck.

- Different profile for Ocean/NTR and HTX cars
- Some beam track can only use metric fasteners
- Made of Aluminium 6082T6 extrusion
- Available in grey or black anodised
- Available in size 0 to 3



Ocean Track profile

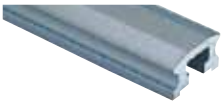


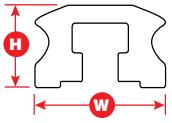
HTX Track profile

Sliding bolt Track

Sliding bolt track have a smooth clean profile with no visible fixings and can be retro-fitted using original bolt holes – no need to worry about old track pattern holes matching up with a new track. The track is designed to permit a washer to fit on each bolt between the track and deck to ensure a secure seal.

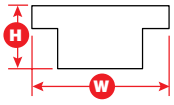
- Fit Ocean/NTR cars only
- Grey anodised finish
- Available in size 1 & 2





T-Track

- 32mm (1 ¼") T-Track is widely used on cruising boats where car sheeting positions change frequently



Size 0 Ocean Cars & Mainsheet System

For boats up to 8.5m/28ft. Use 50mm/60mm blocks. Suitable for 6mm (1/4") control line.

29020701BK
Short Car with Delrin Balls & Shackle

29030600BK
Mainsheet Car with Slide Rods, Shackle & Plunger

29030100BK
Mainsheet Car with Delrin Balls & Shackle , 1 pair control line sheaves

29170030BK
Control Line End Stop with Sheave

29170040BK
End Stop

29040600BK
Genoa Car with Slide Rods & Plunger

Ocean Size 0 Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		(L) LENGTH		(W) WIDTH		WEIGHT	
		kg	lb	kg	lb	mm	in	mm	in	g	oz
29020701BK	Short Car with Delrin Balls & Shackle	200	440	460	1010	71	2.79	51	2	142	5.59
29030100BK	Mainsheet Car with Delrin Balls & Shackle , 1 pair control line sheaves	450	990	900	1980	123	4.83	51	2	210	7.39
29030600BK	Mainsheet Car with Slide Rods, Shackle & Plunger	450	990	900	1980	123	4.83	51	2	225	7.92
29040600BK	Genoa Car with Slide Rods & Plunger	600	1325	1200	2650	123	4.83	51	2	427	15.03
29170030BK	Control Line End Stop with Sheave	200	440	460	1010	58	2.3	51	2	78	2.75
29170040BK	End Stop									10	0.35

Also available in grey

Size 0 Track Specifications and fixing details

PART NO	DESCRIPTION	TRACK SIZE	LENGTH		(H) HEIGHT		(W) WIDTH		WEIGHT (per metre)		MAX SPAN BETWEEN FIXINGS		FIXINGS	
			m	ft	mm	in	mm	in	g	oz	mm	in	Metric	Imperial
29160315BK	Beam Track	0	1.5	4'11"	24.7	0.97	24	0.44	954	33.65	400	16	Hex Hd M6	1/4"
29160415BK	Drilled Plunger Track	0	1.466	4'11"	11.0	0.43	19	0.75	342	12.06	80	3.1	Csk Hd M5	–
29160420BK			2.026	6'7"										

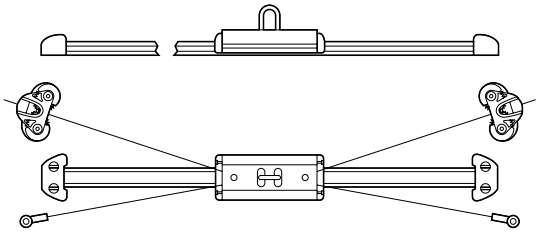
Also available in grey

Mainsheet Traveller Systems

Traveller kits are made up of all the necessary components to assemble a standard system. Each one comes with Lewmar's sliding bolt track, which allow you to retrofit the new track to your deck using the original bolt holes.

Size 0 Mainsheet System

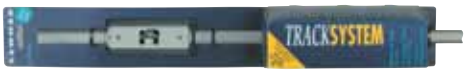
Lewmar makes selecting your mainsheet system simple — with complete Mainsheet System Kits. Lewmar's Size 0 Ocean Mainsheet System is a complete kit made specifically for yachts up to 28 feet (8.5m) long.



Size 0 Ocean Traveller Kit 2:1 Purchase System

PART NO	DESCRIPTION
2906 0152	Size 0 Ocean Traveller System
Comprises:	
2903 0100	1 x - Mainsheet Car
2917 0040	2 x - End Stop
2916 0112	1 x - 1.2m Sliding Bolt Track
2917 1010	1 x - Size 1 Dead Eye
2990 4100	2 x - Small Composite Cleat
2990 4104	2 x - Small Cam Fairlead

BOAT SIZE	UP TO 8.5M	UP TO 28FT
Track: Beam, Drilled or Sliding Bolt		
Max. Mainsail Area:		
End Boom:	16m²	170ft²
Mid Boom:	12m²	130ft²
Safe Working Load:	400kg	990lbs



2906 0152 Mainsheet Traveller Kit Size 0

Size 1 Mainsheet System

In the Size 1 kit, you'll find all the components necessary to assemble a standard system for yachts up to 36 feet (11m) long.

Size 2 Mainsheet System

Like the size 1 system, the Size 2 Mainsheet system comes with everything you need for a complete standard system, including the sliding bolt track. A Size 2 can fit yachts up to 49 feet (15m) long..

Size 1&2 Traveller Kit 4:1 Purchase System

	SIZE 1	SIZE 2
Traveller System	29461354	29462354
Comprises:		
1 x Mainsheet Car Shackle and 2 x Double Control Line Sheave, Cleats & Becket	29431916	29432916
2 x End stop with Double Control Line sheaves	29471032	29472032
1 x Sliding Bolt Track	29161115	29162118
Track Length	1.5m	1.8m

BOAT SIZE	UP TO 11M (36FT)	UP TO 14.6M (48FT)
Max. Mainsail Area:		
End Boom:	34m² (366ft²)	46m² (495ft²)
Mid Boom:	21m² (226ft²)	38m² (410ft²)
Safe Working Load:	900kg (1980 lb)	1000kg (2000 lb)

Size 1 & 2 Cars

Size 1 Traveller System

For boats up to 11m (36ft) upstands for 60mm blocks. Suitable for 8mm (5⁄16") control line. Fits all Ocean size 1 tracks.

Size 2 Traveller System

For boats up to 15m (49ft). Upstands for 72mm blocks, option on 29432424 to fit 90mm. Suitable for 10mm (3⁄8") control line. Fits all Ocean size 2 tracks.

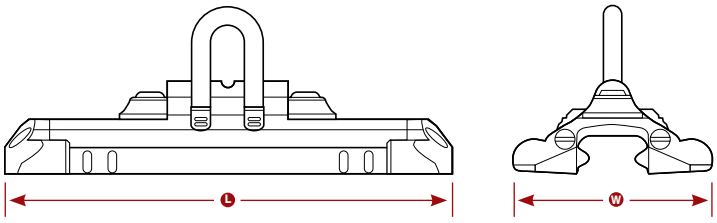
29431300
29432300
Short Car with Shackle

29431312
29432312
Car with Shackle,
2 Double CL Sheaves

29431315
Car with Shackle,
1 Pair CL Cheaves
and Beckets

29432412
29432424
Car Upstand and
2 Double CL Sheaves

Mainsheet Car – Dimension Diagram



Standard Systems Mainsheet Car – Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		L LENGTH		W WIDTH		WEIGHT	
			kg	lb	kg	lb	mm	in	mm	in	g	oz
Size 1 Torlon Ball (TB) Cars												
29431311	1	TB Car with Shackle and 1 Pair CL Sheaves	900	1980	1800	3960	162	6 3/8	71	2 3/4	374	13.2
29431315	1	TB Car with Shackle, 1 Pair CL Sheaves and Becket	900	1980	1800	3960	162	6 3/8	71	2 3/4	378	13.2
29431916	1	TB Car Shackle, 2 Double CL Sheaves, Becket and Cam	900	1980	1800	3960	162	6 3/8	97	3 3/4	799	28.2
29431415	1	TB Car Upstand 1 Pair CL Sheaves and Becket	900	1980	1800	3960	162	6 3/8	71	2 3/4	472	16.6
29431814	1	TB Car Upstand 2 Double CL Sheaves and Cam	900	1980	1800	3960	162	6 3/8	97	3 3/4	759	26.7
29441321	1	TB Car Genoa Stirrup 1 CL Sheave Port	900	1980	1800	3960	162	6 3/8	71	2 3/4	560	19.8
29441331	1	TB Car Genoa Stirrup 1 CL Sheave Starboard	900	1980	1800	3960	162	6 3/8	71	2 3/4	560	19.8
Size 1 Slide Rod (SR) Cars												
29441720	1	SR Car Genoa Stirrup Plunger Stop Port	1000	2200	2000	4400	148	5 13/16	50	2	480	16.8
29441730	1	SR Car Genoa Stirrup Plunger Stop Starboard	1000	2200	2000	4400	148	5 13/16	50	2	480	16.8
Size 2 Torlon Ball (TB) Cars												
29422300	2	TB Short Car with Shackle	1100	2420	3000	6600	140	5 1/2	92	3 5/8	386	13.6
29432311	2	TB Car with Shackle, 1 Pair CL Sheaves	1500	3300	3000	6600	210	8 5/16	92	3 5/8	747	26.3
29432312	2	TB Car with Shackle, 2 Double CL Sheaves	1500	3300	3000	6600	210	8 5/16	92	3 5/8	871	30.7
29432916	2	TB Car Shackle 2 Double CL Sheaves Becket and Cam (5:1)	1500	3300	3000	6600	210	8 5/16	120	4 3/4	1730	68.1
29432415	2	TB Car Upstand 1 Pair CL Sheaves and Becket	1500	3300	3000	6600	210	8 5/16	92	3 5/8	993	35.0
29432412	2	TB Car Upstand and 2 Double CL Sheaves	1500	3300	3000	6600	210	8 5/16	92	3 5/8	997	35.1
29432816	2	TB Car Upstand 2 Double CL Sheaves Becket and Cam (5:1)	1500	3300	3000	6600	210	8 5/16	120	4 3/4	1610	56.7
29432424	2	TB Car size 3 Upstand, 2 Double CL Sheaves	2000	4400	4000	8800	210	8 5/16	92	3 5/8	1050	37.0
29432832	2	TB Car Long 2 x Size 3 Upstand 2 Double CL Sheaves	2800	6160	5600	12320	307	12 1/16	92	3 5/8	1560	55.0
29442321	2	TB Car Genoa Stirrup 1 CL Sheave Port	1800	3960	3600	7920	210	8 5/16	120	4 3/4	1330	46.9
29442331	2	TB Car Genoa Stirrup 1 CL Sheave Starboard	1800	3960	3600	7920	210	8 5/16	120	4 3/4	1330	46.9
Size 2 Slide Rod (SR) Cars												
29442720	2	SR Car Genoa Stirrup Plunger Stop Port	1800	3960	3600	7920	194	7 5/8	65	2 5/8	1201	42.4
29442730	2	SR Car Genoa Stirrup Plunger Stop Starboard	1800	3960	3600	7920	194	7 5/8	65	2 5/8	1201	42.4

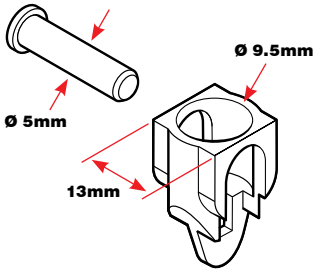
Customise your Car

29431814
Car Upstand, 2 Double CL Sheaves and Cam

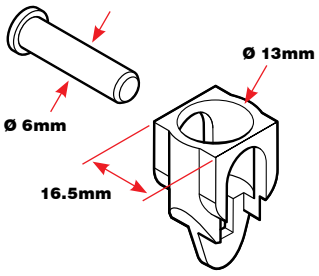
29432916
Car Shackle, 2 Double CL Sheaves, Becket and Cam

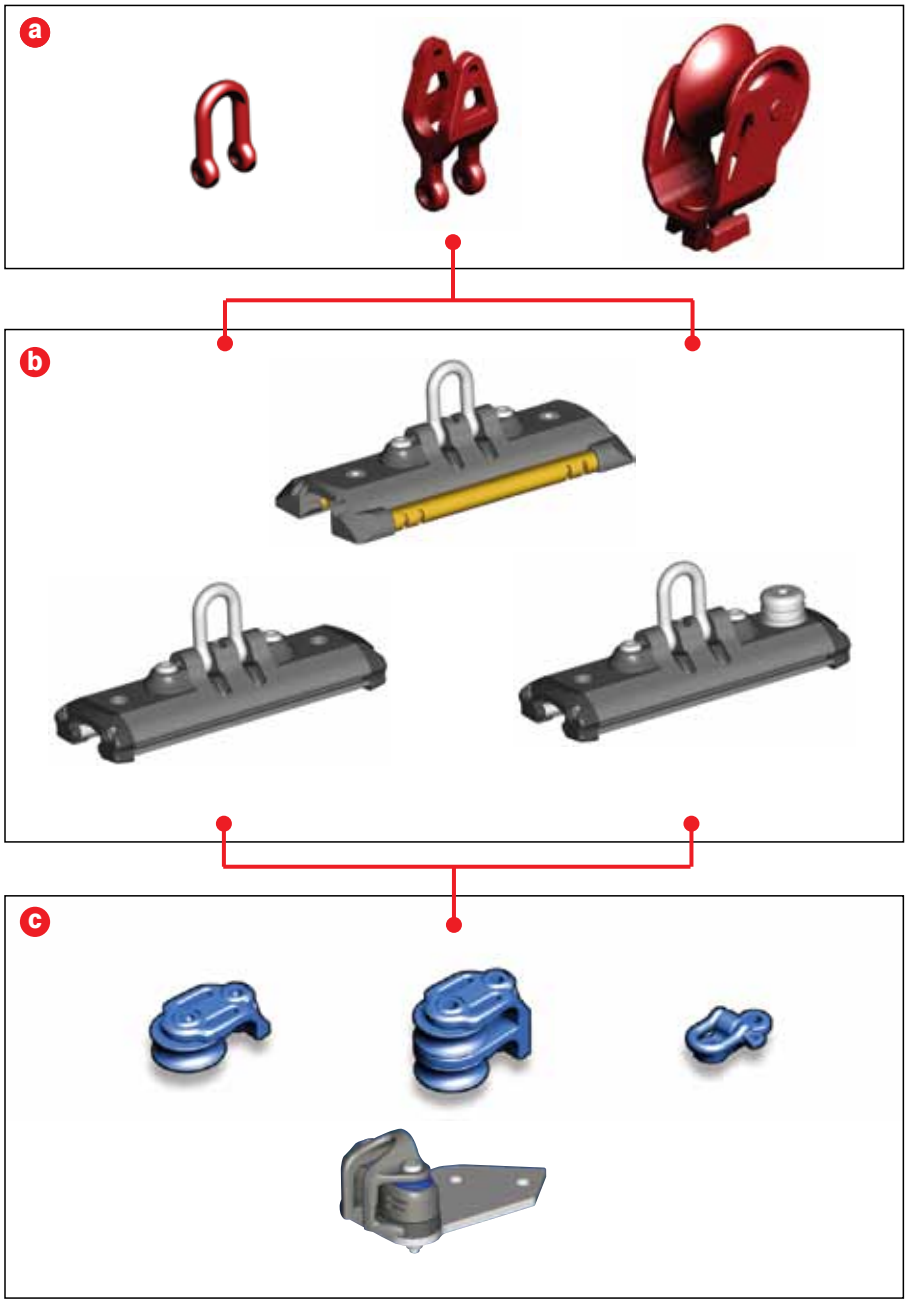
29441321
Car Genoa Stirrup, 1 CL Sheave

Size 1 Upstand Cup Detail



Size 2 Upstand Cup Detail





Customise your car

KEY	DESCRIPTION	SIZE 1 PART NO	SIZE 2 PART NO
A	Upstand	29171024	29172024
	Stirrup	28003225	28003226
B	Slide Rod Car with Shackle	29431500	29432500
	Slide Rod Car Plunger with Shackle	29441723	29442723
	TB Car with Shackle	29431300	29432300
C	Becket Assembly (pair)	29471010	29472010
	Single CL Sheave (pair)	29471011	29472011
	Double CL Sheave (pair)	29471012	29472012
	Cleats for End Stop (pair)	29471015	29472015
	Genoa Stirrup Assembly	28003225	28003226

Size 1 & 2 End Stops

29471030
29472030
Bare End Stop

29471037
29472037
Plunger Stop

29471031
29472031
End Stop with Single CL Sheave

29472501
Impact End Stop

29471032
29472032
End Stop with Double CL Sheave

29471035
29472035
End Stop with Single CL Sheave and Becket

29471836
29472836
End Stop with Double CL Sheave, Becket and Cleat Assembly

29471015
29472015
Cleat Assembly for End Stop (Pair)

Beckets & control line sheaves from 'Customise your system' on p144 fit these end stops.

Size 1 & 2 Endstops

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD LIMIT		LENGTH		WIDTH		WEIGHT	
			kg	lb	kg	lb	mm	in	mm	in	g	oz
Size 1												
29471015	1	Cleat Assembly for End Stop (pair)	180	396	360	792	47	1 7/8	59	2 5/16	123	4.3
29471030	1	Bare End Stop	585	1287	1170	2574	47	1.9	29	1.1	99	3.5
29471031	1	End Stop with Single CL Sheave	585	1287	1170	2574	75	2.9	50	2	140	4.9
29471032	1	End Stop with Double CL Sheave	585	1287	1170	2574	75	2.9	50	2	172	6.1
29471035	1	End Stop with Single CL Sheave & Becket	585	1287	1170	2574	47	1.9	29	1.1	165	5.8
29471036	1	End Stop with Double CL Sheave & Becket	585	1287	1170	2574	47	1.9	29	1.1	185	6.5
29471037	1	Plunger Stop	650	1430	1300	2860	43	1.7	50	2	83	2.9
29471836	1	End Stop with Double CL Sheave & Becket & Cleat Assembly (pair)	585	1287	1170	2574	75	2.9	78	3.1	258	9.1
29441701	1	End Stop Sheet Lead	1000	2200	2000	4400	162	1 3/8	50	2	480	16.8
Size 2												
29472015	2	Cleat Assembly for End Stop (pair)	180	396	360	792	69	2 3/4	97	3 3/4	368	12.9
29472030	2	Bare End Stop	750	1650	1950	4290	105	4 1/8	65	2 5/8	238	8.4
29472031	2	End Stop with Single CL Sheave	750	1650	1950	4290	105	4 1/8	65	2 5/8	301	10.6
29472032	2	End Stop with Double CL Sheave	750	1650	1950	4290	105	4 1/8	65	2 5/8	363	12.8
29472035	2	End Stop with Single CL Sheave & Becket	750	1650	1950	4290	105	4 1/8	65	2 5/8	331	11.7
29472036	2	End Stop with Double CL Sheave & Becket	750	1650	1950	4290	105	4 1/8	65	2 5/8	393	13.8
29472037	2	Plunger Stop	975	2145	1950	4290	87	3 3/8	65	2 5/8	261	9.2
29472836	2	End Stop with Double CL Sheave, Becket and Cleat Assembly (pair)	750	1650	1950	4290	105	4 1/8	112	4 5/8	602	21.2
29442701	2	End Stop Sheet Lead	1800	3960	3600	7920	194	7 5/8	65	2 5/8	1134	40.0

Size 1 & 2 Spares and Accessories

29471041
29472041
Beam Track End Cover (Pair)

29171040
29172040
Track End Stop

29471027
29472027
Conversion Kit to Re-circulate Balls

29905200
HD Racing Impact End Stop

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Size 1 & 2 NTR Spares and Accessories – Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		L LENGTH		W WIDTH		WEIGHT	
			kg	lb	kg	lb	mm	in	mm	in	g	oz
Size 1												
29171040	1	Track End Stop	250	550	500	1100	–	–	–	–	22	0.77
29905105	1	Impact End Stop	500	1100	560	1230	40	1 1/2	46	1 3/4	24	0.8
29471041	1	Beam Track End Cover (pair)	–	–	–	–	13	1/2	50	2	12	0.4
29471027	1	Conversion Kit to Re-circulate Balls	–	–	–	–	–	–	–	–	–	–
29471063	1	Short Car Link	1150	2530	2300	5060	71	2 3/4	25	1	160	5.6
Size 2												
29172040	2	Track End Stop	–	–	–	–	–	–	–	–	30	1.1
29905200	2	HD Racing Impact end stop (needs extra drilling in track)	1250	2755	3300	7275	114	4 1/8	–	–	158	5.6
29472027	2	Conversion Kit to Re-circulate Balls	–	–	–	–	–	–	–	–	–	–
29472038	2	Friction Stop	975	2145	1950	4290	87	3 3/8	65	2 5/8	261	9.2
29472041	2	Beam Track End Cover (pair)	–	–	–	–	22	7/8	65	2 5/8	26	0.9
29472062	2	Car Link with Sz3 Upstand (90mm Synchro/80mm 2G Racing)	1500	3300	3000	6600	–	–	–	–	639	22.5
29472063	2	Short Car Link (90mm Synchro/80mm 2G Racing)	2200	4840	4400	9680	–	–	–	–	383	13.5
29472064	2	Dog Bone Car Link (Standard and Short Car Link)	1500	3300	3000	6600	–	–	–	–	110	3.8

Ocean/NTR Size 1 & 2 Track Specifications and fixing details

PART NO	DESCRIPTION	TRACK SIZE	LENGTH		H HEIGHT		W WIDTH		WEIGHT (per metre)		MAX SPAN BETWEEN FIXINGS		FIXINGS	
			m	ft	mm	in	mm	in	g	oz	mm	in	Metric	Imperial
29161315	Beam Track	1	1.5	4'11"	30	1.18	30	1.18	1084	38.27	700	27	Hex	5/16"
29160320	Beam Track	1	2	6'7"									Hd M8	
29162315	Beam Track	2	1.5	4'11"	35	1.38	35	1.38	1560	54.91	800	31	Hex	-
29162320	Beam Track	2	2	6'7"									Hd M10	
29162115	Sliding Bolt Track	2	1.5	4'11"	18	0.71	30	1.18	839	29.56	800	31		5/16"
29162120	Sliding Bolt Track	2	2	6'7"	18	0.71	30	1.18	839	29.56	800	31	Hex	5/16"
29162130	Sliding Bolt Track	2	3	9'10"	18	0.71	30	1.18	839	29.56	800	31	Hd M8	5/16"
29161415	Drilled Plunger Track	1	1.526	5'	13	0.5	23	0.9	530	18.65	100	4	Hex	1/4"
29161420	Drilled Plunger Track	1	2.026	6'8"	13	0.5	23	0.9	530	18.65	100	4	Hd M6	1/4"
29161430	Drilled Plunger Track	1	3.026	9'11"	13	0.5	23	0.9	530	18.65	100	4		1/4"
29162415	Drilled Plunger Track	2	1.532	5'	15	0.56	30	1.18	764	26.95	100	4	Hex	5/16"
29162420	Drilled Plunger Track	2	2.032	6'3"	15	0.56	30	1.18	764	26.95	100	4	Hd M8	5/16"
29162430	Drilled Plunger Track	2	3.032	10'	15	0.56	30	1.18	764	26.95	100	4		5/16"

HTX Size 1 & 2 Cars

Lewmar introduces the new HTX Traveller Range to complement the HTX Block Range. This new Range of travellers has come from many years of design and manufacturing experience and collaboration with boat builders, designers, and sailors. At the core of the HTX Traveller Range is the Captive Ball Traveller. Featuring the neat, stylish retention of the ball bearings within the car, the Captive Ball Traveller is simple to install and easy to remove for cleaning and maintenance without the risk of losing ball bearings.

- Ideal for boats up to 15 metres (49 foot)
- Minimalistic car body made of fewer parts
- Compact, one-piece aluminium body and composite end caps designed with smoother lines
- Available in multiple configurations, including single or double control line sheaves, becket, and cam cleat
- Compatible slide-rod Genoa car with stirrup
- Two individual ball races: the first allows fast movement of the car under vertical load, and the second, unique Lewmar feature allows smooth running of the car under deflection
- Larger balls means more ball surface exposure, increasing overall efficiency
- Ball bearings circulate through an open structure allowing easy cleaning when installed
- New dowel mechanism provides smooth ball circulation
- Upstand receives shackle or lashed rope, removing need for a becket above the control line sheaves
- Patent pending

291222301
Short Car with Shackle

291223306
Car with Shackle with Double CL Sheaves

291213308
Car with Shackle, Single CL Sheave and Becket

291223306
Car Upstand with Double CL Sheaves

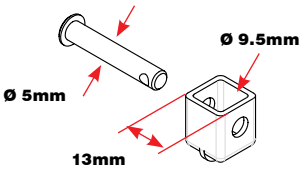
291213412
Car Upstand with Double CL Sheaves and Cam

291213315 291223315
Car with Shackle, Double CL Sheaves, Becket and Cam

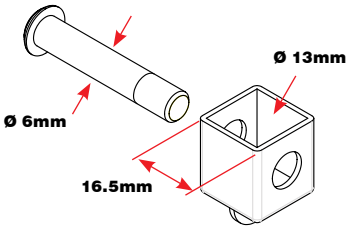
291214305 291224305
Car Genoa Stirrup, 1 CL Sheave

HTX Size 1 & 2 Cars

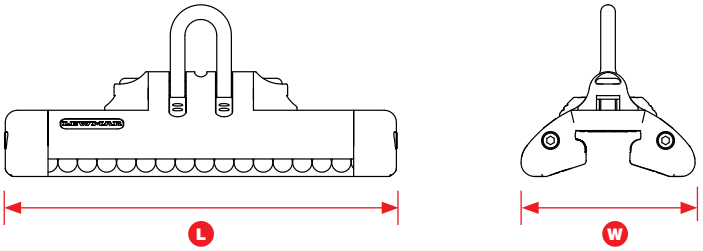
HTX Size 1
Upstand Cup Detail



HTX Size 2
Upstand Cup Detail



Mainsheet Car – Dimension Diagram



HTX Systems Mainsheet Car – Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		L LENGTH		W WIDTH		WEIGHT	
			kg	lb	kg	lb	mm	in	mm	in	g	oz
Size 1 Torlon Ball (TB) Cars												
291213305	1	TB Car with Shackle and 1 Pair CL Sheaves	1100	2420	2200	4840	160	6 5/16	71	2 13/16	450	15.9
291213308	1	TB Car with Shackle, 1 Pair CL Sheaves and Becket	1100	2420	2200	4840	160	6 5/16	71	2 13/16	510	18.0
291213315	1	TB Car Shackle, 2 Double CL Sheaves, Becket and Cam	1100	2420	2200	4840	167	6 9/16	98	3 7/8	750	26.5
291213408	1	TB Car Upstand 1 Pair CL Sheaves and Becket	1100	2420	2200	4840	160	6 5/16	71	2 13/16	545	19.2
291213412	1	TB Car Upstand 2 Double CL Sheaves and Cam	1100	2420	2200	4840	167	6 9/16	98	3 7/8	780	27.5
291214305	1	TB Car Genoa Stirrup 1 CL Sheave Port	1100	2420	2200	4840	160	6 5/16	71	2 13/16	650	22.9
291213305	1	TB Car Genoa Stirrup 1 CL Sheave Starboard	1100	2420	2200	4840	160	6 5/16	71	2 13/16	650	22.9
Size 1 Slide Rod (SR) Cars												
291214537	1	SR Car Genoa Stirrup Plunger Stop Port	1100	2420	2200	4840	160	6 5/16	71	2 13/16	630	22.2
291215537	1	SR Car Genoa Stirrup Plunger Stop Starboard	1100	2420	2200	4840	160	6 5/16	71	2 13/16	630	22.2
Size 2 Torlon Ball (TB) Cars												
291222301	2	TB Short Car with Shackle	1500	3300	3000	6600	140	5 1/2	85	3 3/8	525	18.5
291223305	2	TB Car with Shackle, 1 Pair CL Sheaves	2000	4400	4000	8800	205	8 1/16	85	3 3/8	880	31.0
291223306	2	TB Car with Shackle, 2 Double CL Sheaves	2000	4400	4000	8800	205	8 1/16	85	3 3/8	980	34.6
291223315	2	TB Car Shackle 2 Double CL Sheaves Becket and Cam (5:1)	2000	4400	4000	8800	225	8 7/8	132	5 3/16	1580	55.7
291223408	2	TB Car Upstand 1 Pair CL Sheaves and Becket	2000	4400	4000	8800	205	8 1/16	85	3 3/8	1310	46.2
291223406	2	TB Car Upstand and 2 Double CL Sheaves	2000	4400	4000	8800	205	8 1/16	85	3 3/8	1250	44.1
291223415	2	TB Car Upstand 2 Double CL Sheaves Becket and Cam (5:1)	2000	4400	4000	8800	225	8 7/8	132	5 3/16	1880	66.3
291224305	2	TB Car Genoa Stirrup 1 CL Sheave Port	2000	4400	4000	8800	205	8 1/16	85	3 3/8	1600	56.4
291225305	2	TB Car Genoa Stirrup 1 CL Sheave Starboard	2000	4400	4000	8800	205	8 1/16	85	3 3/8	1600	56.4
Size 2 Slide Rod (SR) Cars												
291224537	2	SR Car Genoa Stirrup Plunger Stop Port	2000	4400	4000	8800	205	8 1/16	85	3 3/8	1500	52.9
291225537	2	SR Car Genoa Stirrup Plunger Stop Starboard	2000	4400	4000	8800	205	8 1/16	85	3 3/8	1500	52.9

HTX Size 1 & 2 End Stops

291219905 291229905
Bare End Stop

291218806 291228806
End Stop with Double CL Sheave

291228818
Impact End Stop

291218808 291228808
End Stop with Single CL Sheave and Becket

291218815 2991228815
End Stop with Double CL Sheave and Becket and Cleat Assembly

291219905 291229905
Cleat Assembly for End Stop

HTX Size 1 & 2 Endstops

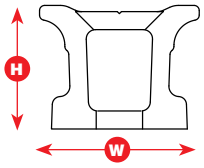
PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		LENGTH		WIDTH		WEIGHT	
			kg	lb	mm	in	mm	in	g	oz
Size 1										
291219905	1	Cleat Assembly for End Stop (pair)	200	440						
291218801	1	Bare End Stop	500	1100	83	3 1/4	71	2 13/16	190	6.7
291218805	1	End Stop with Single CL Sheave	500	1100	83	3 1/4	71	2 13/16	210	7.4
291218806	1	End Stop with Double CL Sheave	500	1100	83	3 1/4	71	2 13/16	240	8.5
291218808	1	End Stop with Single CL Sheave & Becket	500	1100	83	3 1/4	71	2 13/16	240	8.5
291218809	1	End Stop with Double CL Sheave & Becket	500	1100	83	3 1/4	71	2 13/16	270	9.5
291218837	1	Plunger Stop	500	1100						
291218815	1	End Stop with Double CL Sheave & Becket & Cleat Assembly (pair)	500	1100	83	3 1/4	98	3 7/8	365	12.9
291218817	1	End Stop Sheet Lead	500	1100						
Size 2										
291229905	2	Cleat Assembly for End Stop (pair)	300	660						
291228801	2	Bare End Stop	1000	2200	103	4 1/16	85	3 3/8	350	12.3
291228805	2	End Stop with Single CL Sheave	1000	2200	103	4 1/16	85	3 3/8	400	14.1
291228806	2	End Stop with Double CL Sheave	1000	2200	103	4 1/16	85	3 3/8	450	15.9
291228808	2	End Stop with Single CL Sheave & Becket	1000	2200	103	4 1/16	85	3 3/8	450	15.9
291228809	2	End Stop with Double CL Sheave & Becket	1000	2200	103	4 1/16	85	3 3/8	500	17.6
291228837	2	Plunger Stop	1000	2200						
291228815	2	End Stop with Double CL Sheave, Becket and Cleat Assembly (pair)	1000	2200	103	4 1/16	132	5 3/16	740	26.1
291228817	2	End Stop Sheet Lead	1000	2200						

HTX Track End Stop

Track End Stop

HTX Tracks – Specifications

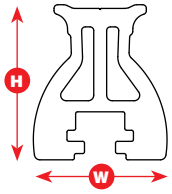
PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		LENGTH		WIDTH		WEIGHT	
		Kg	lb	Kg	lb	mm	in	mm	in	g	oz
Size 1											
291218801	Track End Stop	250	550	500	1100	40	1 5/8	57.5	2 1/4	20	0.7
Size 2											
291228801	Track End Stop	250	550	500	1100	45	1 3/4	65	2 1/2	40	1.4



HTX Track Drilled

HTX Drilled Track Specifications and Fixing Details

PART NO	TRACK SIZE	ACTUAL LENGTH		HEIGHT		WIDTH (base)		WIDTH (O/All)		WEIGHT (per metre)		FIXINGS		FIXINGS	
		m	ft	mm	in	mm	in			g	oz	mm	in	Metric	Imperial
2918 1415	1	1.526	5'	20	0.78	22.0	0.86	25	0.98	658	23.21	100	4	M6	1/4"
2918 1420	1	2.026	6'8"	20	0.78	22.0	0.86	25	0.98	658	23.21	100	4	M6	1/4"
2918 1430	1	3.026	9'11"	20	0.78	22.0	0.86	25	0.98	658	23.21	100	4	M6	1/4"
2918 2415	2	1.532	5'	24	0.94	26.4	1.04	31	1.22	933	32.91	100	4	M8	5/16"
2918 2420	2	2.032	6'3"	24	0.94	26.4	1.04	31	1.22	933	32.91	100	4	M8	5/16"
2918 2430	2	3.032	10'	24	0.94	26.4	1.04	31	1.22	933	32.91	100	4	M8	5/16"



HTX Beam Track

HTX Beam Track Specifications and Fixing Details

PART NO	TRACK SIZE	ACTUAL LENGTH		HEIGHT		WIDTH (base)		WEIGHT (per metre)		FIXINGS		FIXINGS	
		m	ft	mm	in	mm	in	g	oz	mm	in	Metric	Imperial
2918 1315	1	1.5	4'11"	31	1.22	27.8	1.09	1092	38.52	700	27	M8	5/16"
2918 1320	1	2.0	6'7"	31	1.22	27.8	1.09	1092	38.52	700	27	M8	5/16"
2918 2315	2	1.5	4'11"	40	1.57	35.1	1.38	1697	59.86	800	31	M10	3/8"
2918 2320	2	2.0	6'7"	40	1.57	35.1	1.38	1697	59.86	800	31	M10	3/8"

NTR Size 3 Mainsheet Cars

Ideal for boats up to 22 metres (72 foot), each NTR Size 3 Car has a fully-machined ball race. NTR Size 3 Mainsheet Cars operate to a Working Load Limit of 2.5T and are compatible with Size 2 Control Sheaves. All Size 3 NTR Cars are suitable for use with Size 3 Track, apart from the Genoa Plunger Stop which requires a drilled plunger track.

29423400BK
NTR TB Car Short Upstand

29423301BK
NTR TB Short Car with Shackle

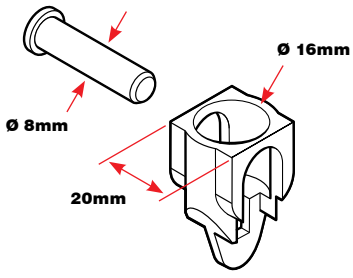
29433400BK
NTR TB Car with Upstand

29433300BK
NTR TB Car with Shackle

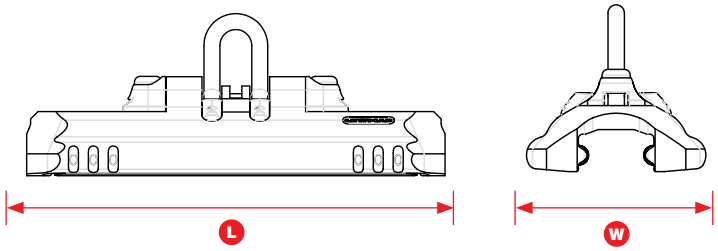
29433314BK
NTR TB Car with Shackle,
2 Double CL Sheaves

29433416BK
NTR TB Car with Upstand,
2 Double CL Sheaves & Becket

Size 3 Upstand Cup Detail



Mainsheet Car – Dimension Diagram



NTR Size 3 Mainsheet Car – Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		L LENGTH		W WIDTH		WEIGHT	
		Kg	lb	Kg	lb	mm	in	mm	in	g	oz
Mainsheet Torlon Ball (TB)Cars											
29423400BK	TB Car Short Upstand	2000	4400	4000	8800	150	5 15/16	88	3 1/2	781	27.3
29423301BK	TB Short Car with Shackle	2000	4400	4000	8800	150	5 15/16	88	3 1/2	–	–
29433400BK	TB Car with Upstand	2500	5500	5000	11000	215	8 1/2	88	3 1/2	743	26.0
29433300BK	TB Car with Shackle	2500	5500	5000	11000	215	8 1/2	88	3 1/2	924	32.3
29433314BK	TB Car with Shackle, 2 Double CL Sheaves	2500	5500	5000	11000	215	8 1/2	88	3 1/2	993	34.8
29433416BK	TB Car with Upstand, 2 Double CL Sheaves & Becket	2500	5500	5000	11000	215	8 1/2	88	3 1/2	1790	62.6

Also available in grey

Size 3 Genoa Cars, End Stops & Accessories

29443311BK
TB Genoa with CL Sheave

29443700BK
SR Genoa Car with Plunger for track with 12mm holes

29443702BK
SR Genoa Car with Plunger (Composite Sheave) for track with 12mm holes

29473032BK
Double CL End Stop

29473035BK
Single CL End Stop with Becket

29173040BK
Simple End Stop

29473037BK
Plunger End Stop for track with 12mm holes

29473030BK
Impact End Stop

29473036BK
Double CL End Stop with Becket

Size 3 Genoa Car & Accessories – Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		L LENGTH		W WIDTH		WEIGHT	
		Kg	lb	Kg	lb	mm	in	mm	in	g	oz
Size 3 Torlon Ball (TB) Genoa Cars											
29443311BK	TB Genoa with CL Sheave	3500	7700	7000	15400	215	8 1/2	88	3 1/2	1565	54.8
29443611BK	5T Genoa with CL Sheave	5000	11000	10000	22000	320	12 5/8	88	3 1/2		
Size 3 Slide Rod (SR) Genoa Cars											
29443700BK	SR Genoa Car with Plunger for track with 12mm holes	3500	7700	7000	15400	180	7 1/16	70	2 13/16	1410	49.4
29443700CBK	SR Genoa Car with Ocean Plunger for track with 9.5mm holes	3500	7700	7000	15400	180	7 1/16	70	2 13/16	1410	49.4
29443702BK	SR Genoa Car with Plunger (Composite Sheave) for track with 12mm holes	2250	4950	4500	9900	180	7 1/16	70	2 13/16	1079	37.8
End Stops											
29173040BK	Simple End Stop	-	–	–	–	–	–	–	–	42	1.5
29473032BK	Double CL End Stop	800	1760	1600	3520	93	3 11/16	70	2 13/16	390	13.7
29473035BK	Single CL End Stop with Becket	800	1760	1600	3520	93	3 11/16	70	2 13/16	381	13.3
29473036BK	Double CL End Stop with Becket	800	1760	1600	3520	93	3 11/16	70	2 13/16	460	16.1
29473135BK	High Load, Single CL End Stop with Becket	3000	6600	6000	13200	140	5 1/5	70	2 13/16	537	18.8
29473030BK	Impact End Stop	2200	4840	4400	9680	93	3 11/16	70	2 13/16	247	8.7
29473037BK	Plunger End Stop for track with 12mm holes	2000	4400	4000	8800	80	3 3/16	70	2 13/16	298	10.4
29473037CBK	Plunger End Stop Ocean for track with 9.5mm holes	2000	4400	4000	8800	80	3 3/16	70	2 13/16	298	10.4
Accessories											
29473041BK	Beam Track End Cover	-	–	–	–	–	–	–	–	42	1.5
29473063BK	Short Car Link for 105mm Synchro or Racing	3750	7700	7500	15400	–	–	–	–	455	16.0
29473024BK	Upstand Kit NTR	2500	5500	5000	11000	–	–	–	–	274	9.7

Also available in grey

NTR Size 3 Track Specifications & Fixing Details

PART NO	DESCRIPTION	TRACK SIZE	LENGTH		H HEIGHT		W WIDTH		WEIGHT (per metre)		MAX SPAN BETWEEN FIXINGS		FIXINGS	
			m	ft	mm	in	mm	in	g	oz	mm	in	Metric	Imperial
29163315BK	Beam Track	3	1.5	4'11"									Hex	-
29163320BK	Beam Track	3	2	6'7"	55	2.16	50	1.97	3640	128.13	900	35	Hd M12	
29163330BK	Beam Track	3	3	9'10"										
29163615BK*	Drilled Plunger Track	3	1.548	5'1"	21	0.84	35	1.38	968	33.88	100	4	Hex	3/8"
29163620BK*	Drilled Plunger Track	3	2.048	6'9"									Hd M10	
29163630BK*	Drilled Plunger Track	3	3.048	10'1"										

Also available in grey

Genoa T-Track Cars

All Lewmar Track cars fit the industry standard 32mm (1 1/4"). The cars are available in three styles and cover three different loading levels to suit boats from 9m (30ft) up to 15.5m (50ft).

Features

- Precision Workmanship
- Three Styles
- Simple to fit
- Low Maintenance

29041700
Plunger Car

29042700
Stainless Steel
Stirrup, plunger car

29042705
Tri-Roller Genoa Car

29172015
Control Line End Stop

29172016
Track End Stop

Genoa Cars & T-Track Accessories – Specifications

PART NO	SIZE	DESCRIPTION	WORKING LOAD LIMIT		BREAKING LOAD		LENGTH		WIDTH		WEIGHT	
			Kg	lb	Kg	lb	mm	in	mm	in	g	oz
29041700	1	Plunger Car	900	1980	1800	3960	111	4 3/8	56	2 1/4	540	19.1
29042700	2	Stainless Steel Stirrup, plunger car	1500	3300	3000	6600	120	4 11/16	56	2 1/4	719	25.3
29042704	2	Control Line Sheave Car	1500	3300	3000	6600	128	5	56	2 1/4	719	25.3
29042705	2	Tri-Roller Genoa Car	1500	3300	3000	6600	147	5 3/4	64	2 1/2	767	27.1
29172117	2	Slider with Shackle and Plunger	1500	3300	3000	6600	120	4 11/16	56	2 1/4	480	17.0
29043702	3	Stainless Steel Stirrup, Plunger Car	2350	5170	4700	10340	170	6 3/4	56	2 1/4	1199	47.3
29172015		Control Line End Stop	–	–	–	–	–	–	–	–	120	4.2
29172016		Track End Stop	–	–	–	–	–	–	–	–	19	0.7

32mm T-Track

PART NO	NOMINAL LENGTH		HEIGHT		WIDTH		WEIGHT (PER METRE)		MAX SPAN BETWEEN FIXINGS		FIXINGS	
	m	ft	mm	in	mm	in	mm	in	g	oz	Metric	Imperial
29166215	1.5	4'11"										
29166225	2.5	8'2"	15	5/8	32	1 1/4	865	30.5	100	4	CSK	5/16"
29166230	3.0	9'10"									M8	

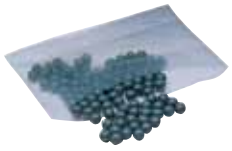
Car Accessories

Bearing Specifications

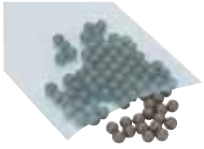
PART NO	DESCRIPTION	WHERE USED	DIAMETER	
			mm	in
Torlon Balls for Ocean & NTR Cars				
29171021	Torlon Balls (per 100)	SZ1 Ocean and NTR Cars	6.4	¼
29172021	Torlon Balls (per 100)	SZ2 Ocean and NTR Cars	7.8	5⁄16
29173021	Torlon Balls (per 100)	SZ3 Ocean and NTR Cars	9.5	⅜
29174021	Torlon Balls (per 100)	SZ4 Ocean	12.7	½
Delrin Balls for Blocks				
29175022	Delrin Balls (per 100)	60HL Footblocks	3.2	⅛
29170022	Delrin Balls (per 100)	60LL+80HL+105 +130 Blocks/Footblocks	4.6	3⁄16
29171022	Delrin Balls (per 100)	80LL+105+155 +175 Blocks/Footblocks	6.4	¼

PART NO	DESCRIPTION	WHERE USED	DIAMETER	
			mm	in
Slide Rods for Ocean Cars				
29170026	Slide Rods (per pair)	SZ0 Cars	4.6	3⁄16
29171026	Slide Rods (per pair)	SZ1 Cars	6.4	¼
29172026	Slide Rods (per pair)	SZ2 Cars	7.8	5⁄16
29173026	Slide Rods (per pair)	SZ3 Cars	9.5	⅜

PART NO	DESCRIPTION	BLOCK SIZE
		mm
Torlon Rollers for Racing Blocks & CL Sheaves		
29900010	Torlon Roller (per 22)	60
29900011	Torlon Roller (per 24)	80
29900012	Torlon Roller (per 35)	105
29900013	Torlon Roller (per 47)	130
29900014	Torlon Roller (per 50)	155
29900015	Torlon Roller (per 59)	175
29900016	Torlon Roller (per 68)	200
29900017	Torlon Roller (per 78)	225



Delrin Balls



Torlon Balls

Ocean Slide Rods

Ocean Cam Plate Available in Sizes 1–3

Ocean Traveller Car Accessories

PART NO	SIZE	DESCRIPTION
29170046	0	Rubber Buffer Kit
29171046	1	Rubber Buffer Kit
29172046	2	Rubber Buffer Kit
29173046	3	Rubber Buffer Kit
29171020	1	Stainless Steel Cam Plate (Sizes 0 and 1 are the same size)
29172020	2	Cam Plate
29173020	3	Cam Plate

Ocean Car Alloy End Cap Kit Available in Sizes 2 & 3

Ocean End Stop Rubber Buffer Kit Available in Sizes 0–3

Lewmar Custom Yacht Systems

On Deck Control Systems

Lewmar Custom 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.

Below Deck Sheeting System

Each element of the Lewmar Custom Hardware Range is compatible with its counterparts, resulting in the ability to supply a complete, bespoke sail control system. For example, an increasing emphasis on beautiful, sleek, minimalistic lines has resulted in the below-deck sheeting system, which offers a light-weight, fully-optimised system that does not clutter the clean lines of the deck. With a choice of configurations and finishes available, Lewmar can provide a system suited to your individual requirements.

For more information consult our Custom Component Guide.

Clutches – Features

Lewmar has redefined rope clutch technology with a variable geometry handle and unique grip pattern of dominos that prevent rope fray. This revolutionary new system has been independently tested time and again and has won awards for its innovative framework.

Features

- Full Range
- Easy Installation
- High holding Power
- Supplied with decals
- Domino mechanism

A Domino Cluster and longer holding pattern holds line under load without fraying the rope

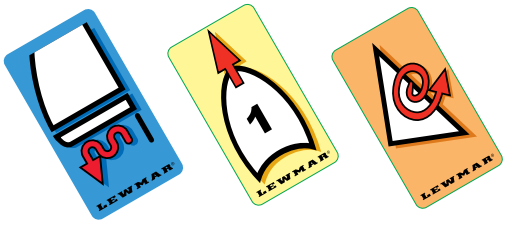
B Controlled Release – Pull back handle combined with patented clutch and release mechanism provides controlled release even at full holding load

C Handle has a solid link to the domino cluster

D Line Size – Clutches capable of holding lines from 6mm (1⁄4") to 14mm (9⁄16")

✘ Instead of just jamming the rope…

✓ … Lewmar's Domino mechanism flexes it for better grip and less rope wear. Dominos also allow multiple holding points.



Lewmar's award winning rope clutch can now be clearly marked and identified with our range of info-graphics specially designed to suit all sailing applications.

Clutch Selection Guide

Clutch Selection Guide

APPLICATION		BOAT LENGTH OVERALL									
	m ft	7.6 25	8.8 29	10.1 33	10.7 35	11.3 37	11.9 39	12.5 41	14.6 48	16.8 55	18.9 62	21.5 70
HALYARDS	Main	D1	D1	D1	D1	D1	D1	D1				
	Genoa	D1	D1	D1	D1	D1	D1	D1				
	Spinnaker	D1	D1	D1	D1	D1	D1	D1				
GOOSENECK	Reef Lines	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2	
	Outhaul	D1	D1	D1	D1	D1	D2	D2	D2			
	Flattener	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2	
POLE/BOOM LIFT	Spin Pole Uphaul	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2
	Spin Pole Down Haul	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2
	Heel Lift	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2
	Main Boom Topping Lift	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2
FURLING LINES	Genoa	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	
	Main	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	
SHEETS	Mainsheet 4:1 Purchase	D1	D1	D1	D1	D1	D2	D2	D2			
CONTROL LINES	Mainsheet Car (2:1 Purchase)	D1	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2
	Genoa Car (2:1 Purchase)	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	
	Pole Outhaul	D1	D1	D1	D1	D1	D1	D2	D2	D2	D2	D2
	Kicking Strap/Vang	D1	D1	D1	D1	D1	D1	D1	D1	D1	D2	

D1 Rope Clutch D2 Rope Clutch

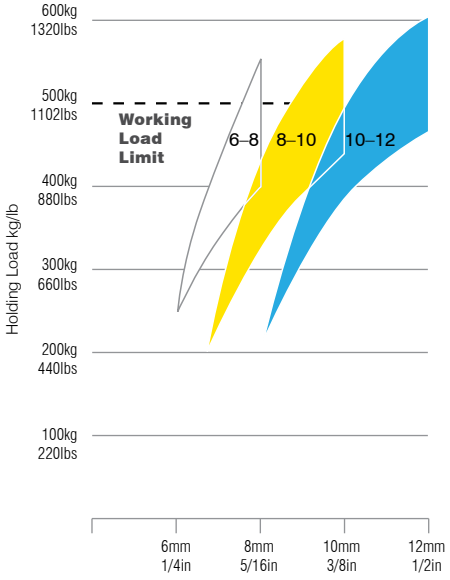
Holding Loads Explained

The holding load of each clutch is listed for the two main line sizes the clutch was designed to hold. The maximum and minimum listed are dependent on the line type used.

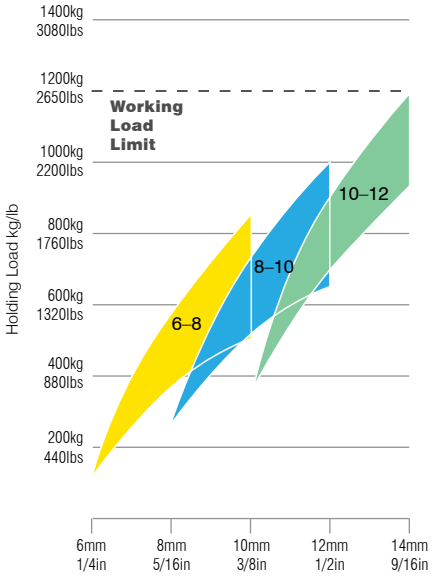
Rope clutches can handle one line size below the nominal range but at a reduced holding load, this can be useful for more lightly loaded applications such as control lines and down hauls. In virtually all cases the larger the line the better the holding capacity, so where the ultimate load is required the larger of the designated line should be used.

This graph shows the range of holding loads that can be achieved. A good quality hard cored line will hold better than a softer line. In some cases this may be higher than the rated Working Load Limit of the clutch but in all cases the line will slip before the Breaking Load is reached.

D1 Rope Clutch



D2 Rope Clutch



D1 Rope Clutch

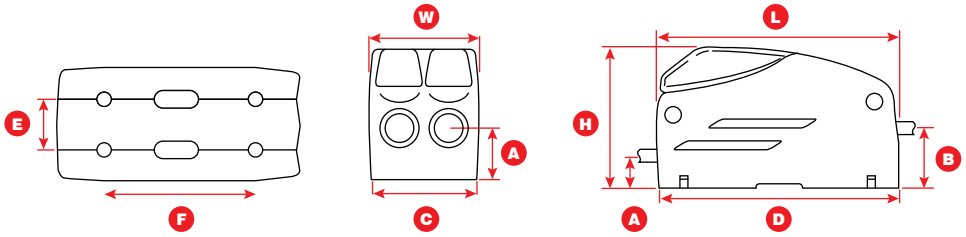
Features

- High load applications on boats up to 9.7m (32ft),low load and control line applications on larger boats
- Line sizes from 6mm (1⁄4") to 12mm (1⁄2"). Working Load Limit 500kg (1100lb)
- Minimum holding loads shown in table, for maximum loads see page 157
- Fixings and position as industry standard.

D1 Single Rope Clutch

D1 Double Rope Clutch

D1 Rope Clutch Dimensions



Notes:
Line entry and exit angle should not exceed 15° from the rope clutch centre line
Use Pan head M6 – 1/4" fixings – do not tighten beyond 10N.m Torque

D1 Rope Clutch Specifications

PART NO	SIZE	DESCRIPTION	LINE SIZE		MIN HOLDING LOAD		WEIGHT	
			mm	in	Kg	lb	g	oz
29101108	D1	6 - 8 Single Clutch	6–8	1⁄4–5⁄16	300	661	249	8.8
29101208	D1	6 - 8 Double Clutch	6–8	1⁄4–5⁄16	300	661	470	16.6
29101110	D1	8 - 10 Single Clutch	8–10	5⁄16–3⁄8	400	880	245	8.6
29101210	D1	8 - 10 Double Clutch	8–10	5⁄16–3⁄8	400	880	464	16.4
29101112	D1	10 - 12 Single Clutch	10–12	3⁄8–7⁄16	500	1100	242	8.5
29101212	D1	10 - 12 Double Clutch	10–12	3⁄8–7⁄16	500	1100	460	16.2
29100010	D1	Handle Kit	–	–	–	–	–	–

D1 Rope Clutch Dimensions

SIZE	L LENGTH		W WIDTH		H HEIGHT		A LINE ENTRY		B LINE EXIT		C		D		E		F	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Single	126	5	32	1 5⁄16	72	2 13⁄16	27	1 1⁄8	29	1 3⁄16	29	1 3⁄16	125	4 7⁄8	–	–	79	3 1⁄8
Double	126	5	57.85	2 5⁄16	72	2 13⁄16	27	1 1⁄8	29	1 3⁄16	55	2 3⁄16	125	4 7⁄8	26	1	79	3 1⁄8

D2 Rope Clutch

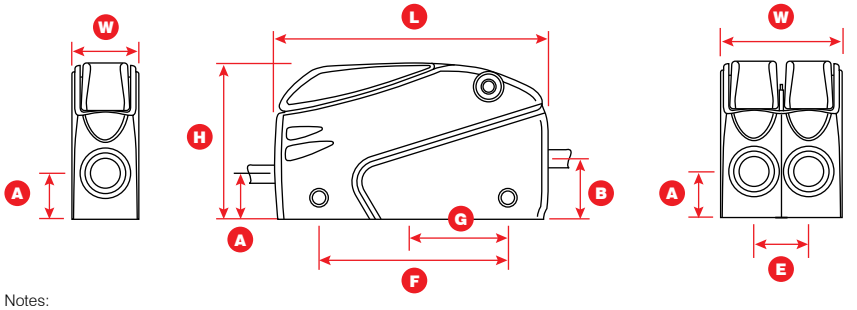
Features

- High load applications on boats up to 16.8m (55ft), low load and control line applications on larger boats
- Line sizes from 8mm (5⁄16") to 14mm (9⁄16"). Working Load Limit 1200kg(2650lb)
- Minimum holding loads shown in table, for maximum loads see page 157
- Fixings and position as industry standard.

D2 Single Rope Clutch

D2 Double Rope Clutch

D2 Rope Clutch Dimensions



Notes:
Line entry and exit angle should not exceed 15° from the rope clutch centre line.
Use Pan head M8 - 5/16" fixings - do not tighten beyond 22 N.m Torque
2500 2323 Label Function Sheet

D2 Rope Clutch Specifications

PART NO	SIZE	DESCRIPTION	LINE SIZE		MIN HOLDING LOAD		WEIGHT		SWL	
			mm	in	Kg	lb	g	oz	Kg	lb
29101410	D2	8-10 Single Clutch	8–10	5⁄16–3⁄8	500	1102	648	22.8	1200	2650
29102410	D2	8-10 Double Clutch	8–10	5⁄16–3⁄8	500	1102	1216	42.9	1200	2650
29101412	D2	10-12 Single Clutch	10–12	3⁄8–1⁄2	700	1550	633	22.3	1200	2650
29102412	D2	10-12 Double Clutch	10–12	3⁄8–1⁄2	700	1550	1176	41.5	1200	2650
29101414	D2	12-14 Single Clutch	12–14	1⁄2–9⁄16	1000	2204	623	22	1200	2650
29102414	D2	12-14 Double Clutch	12–14	1⁄2–9⁄16	1000	2204	1139	40.2	1200	2650
29101501	D2	Handle Kit					N/A			

D2 Rope Clutch Dimensions

SIZE	L LENGTH		W WIDTH		H HEIGHT		A LINE ENTRY		B LINE EXIT		C FIXING POINT		D FIXING POINT		E FIXING POINT	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Single	156	6 1⁄8	38.0	1 1⁄2	88	3 3⁄8	26	1	32	1 5⁄16	–	–	107	4 1⁄4	70	2 11⁄16
Double	156	6 1⁄8	68.5	2 1⁄16	88	3 3⁄8	26	1	32	1 5⁄16	30.5	1 3⁄16	107	4 1⁄4	70	2 11⁄16

Organisers

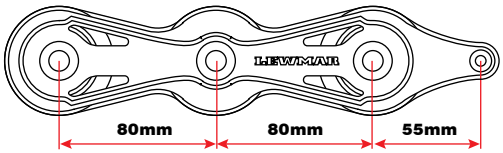
All organisers have space to pass two lines between each sheave

Synchro Organiser Features Flush fixings

- Bushed sheaves with side thrust ball bearings
- Wide rope entry

2991 6042
Synchro Six Sheave
Double Stacked

2991 6060
Synchro Three
Sheave Single



Synchro Organisers Specifications

PART NO	SHEAVE DIA		NO OF SHEAVES	WORKING LOAD LIMIT		MAX WORKING LOAD OF SHEAVE		BREAKING LOAD		MAX BREAKING LOAD OF SHEAVE		MAX LINE SIZE		LENGTH		WEIGHT		FIXINGS (NOT INLUDED)	
	mm	in		Kg	lb	Kg	lb	Kg	lb	Kg	lb	mm	in	mm	in	g	oz	mm	in
29916042	60	2 3/8	6	3700	8156	1100	2420	7400	16312	2200	4849	12	1/2	256	10 1/16	602	21.2	M10	3/8
29916060	60	2 3/8	3	2550	5500	1100	2420	5000	11000	2200	4849	12	1/2	256	10 1/16	329	12.9	M10	3/8

Ocean Organiser Features Bushed Sheaves

- Tough interchangeable acetal or alloy sheaves (40mm only)
- Stackable

2913 9114
Ocean 60mm Four Sheave

29139122
Two Sheave Organiser

Ocean Organisers Specifications

PART NO	SHEAVE DIA		NO OF SHEAVES	WORKING LOAD LIMIT		MAX WORKING LOAD OF SHEAVE		BREAKING LOAD		MAX BREAKING LOAD OF SHEAVE		MAX LINE SIZE		LENGTH		WEIGHT		FIXINGS (NOT INLUDED)		SHEAVE CENTRES	
	mm	in		Kg	lb	Kg	lb	Kg	lb	Kg	lb	mm	in	mm	in	g	oz	mm	in	mm	in
29139122	40	1 5/8	2	1005	2215	750	1654	2010	4431	1500	3307	10	3/8	142	5 5/8	123	271	M8	5/16	47	1 7/8
29139123	40	1 5/8	3	1507	3322	750	1654	3015	6646	1500	3307	10	3/8	189	7 3/8	206	454	M8	5/16	47	1 7/8
29139124	40	1 5/8	4	2010	4431	750	1654	4020	8861	1500	3307	10	3/8	236	9 1/3	275	606	M8	5/16	47	1 7/8
29139125	40	1 5/8	5	2512	5537	750	1654	5025	11076	1500	3307	10	3/8	283	11 1/8	352	776	M8	5/16	47	1 7/8
29139126	40	1 5/8	6	3015	6646	750	1654	6030	13292	1500	3307	10	3/8	330	13	425	937	M8	5/16	47	1 7/8
29139112	60	2 3/8	2	2400	5290	1200	2645	4800	10580	2400	5290	14	9/16	231	9 1/8	325	11.46	M10	3/8	72	2 27/32
29139113	60	2 3/8	3	3000	6613	1200	2645	6000	13226	2400	5290	14	9/16	303	12	435	15.34	M10	3/8	72	2 27/32
29139114	60	2 3/8	4	3600	7935	1200	2645	7200	15871	2400	5290	14	9/16	375	14 3/4	551	19.43	M10	3/8	72	2 27/32
29139115	60	2 3/8	5	4200	9258	1200	2645	8400	18516	2400	5290	14	9/16	447	17 5/8	637	22.46	M10	3/8	72	2 27/32
29139116	60	2 3/8	6	4800	10580	1200	2645	9600	21161	2400	5290	14	9/16	519	20 1/2	775	27.33	M10	3/8	72	2 27/32

Cleats

Made from state-of-the-art materials developed by the automotive industry and refined for the marine market, Lewmar cleats enhance performance in durability, strength and lubrication.

Features

- Low line entry load
- High holding load
- Constant tension springs
- Wash-out bearing slots
- Split base fairlead to facilitate continuous line installations

Angle wedges included in package of
2910 4100
2910 4110

2910 4100
2910 4110

2990 4117
2990 4118

2990 4126

2910 4104
2910 4114

2910 4115
2910 4116

2910 4103
2910 4113

Cleat Specifications

PART NO	DESCRIPTION	WORKING LOAD LIMIT		LINE SIZE		FIXING PITCH		FIXING SIZE		WEIGHT	
		Kg	lb	mm	in	mm	in	mm	in	g	oz
29104100	Small Composite Cleat	120	264	2–8	5⁄64–5⁄16	27	1 1⁄16	M4	5⁄32	17.5	0.6
29104110	Medium Composite Cleat	180	396	4–12	5⁄32–1⁄2	38	1 1⁄2	M5	3⁄16	48.5	1.7
29904126	Swivel Cam Base for 60/80mm blocks	300	661	4–10	5⁄32–7⁄16	4 x 19	4 x 3⁄4	M5	3⁄16	302	10.7
29104104	Fairlead to fit 29104100	–	–	2–8	5⁄64–5⁄16	–	–	–	–	6.0	0.2
29104114	Fairlead to fit 29104110	–	–	4–12	5⁄32–1⁄2	–	–	–	–	14.0	0.5
29104115	Small Feeder Loop	–	–	2–8	5⁄64–5⁄16	–	–	–	–	6.0	0.2
29104116	Medium Feeder Loop	–	–	4–12	5⁄32–1⁄2	–	–	–	–	10.0	0.35
29104103	Small Eye Strap (Pair)	–	–	2–8	5⁄64–5⁄16	27	1 1⁄16	M4	5⁄32	6.0	0.2
29104113	Medium Eye Strap (Pair)	–	–	4–12	5⁄32–1⁄2	38	1 1⁄2	M5	3⁄16	18.0	0.6
29904117	Medium Bull's Eye (Pair)	–	–	12	1⁄2	25	1	M4	5⁄32	12.0	0.4
29904118	Large Bulls Eye	–	–	18	3⁄4	32	1 1⁄4	M5	3⁄16	32.0	1.1

Black cleat and fairlead also available

Technical Reference – Choosing the right purchase system

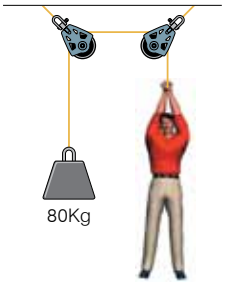
Lewmar manufactures a diverse range of blocks to suit all marine applications. This guide aims to help you to choose the best purchase system and the appropriate Lewmar products to suit your application.

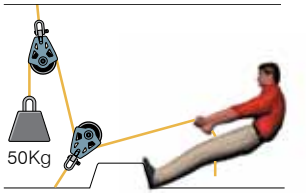
Why do we need purchase systems?

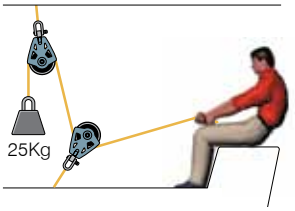
As a guide, the average person can:

- Pull vertically down a force equivalent to their body weight (for a short period)
- When fully braced, pull intermittently sideways with one hand to 25kg and with two hands to 50kg
- Adjust control lines frequently loaded to 25kg
- Exert 15kg single-handed and 25kg double-handed on a winch handle

Human force can be multiplied through a purchase system made up of block systems and/or winches, enabling comfortable operation of high-loaded sailboat controls.



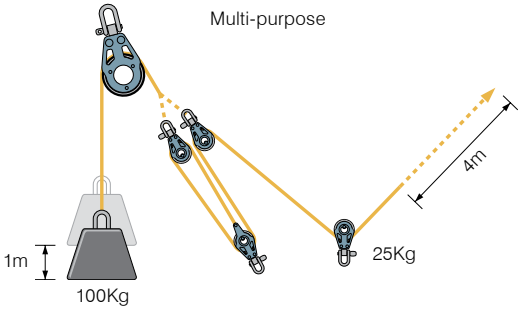




Which purchase system?

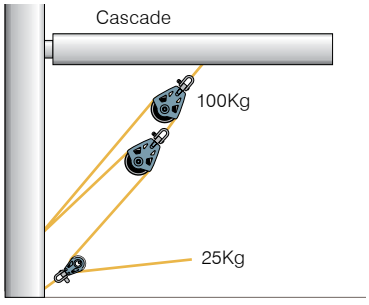
Multi-Purchase System

- Ideal for mainsheet traveller systems
- Provides full range of adjustment



Cascade System

- Ideal for a vang system
- Achieves a smaller range of adjustment
- Provides high purchase with minimum blocks
- Line type and diameter can be specified in line with load on each part of system
- Enables control lines to be led to either side of the boat, for example, with a backstay adjustor
- All blocks must be free to travel their full working length without danger of catching

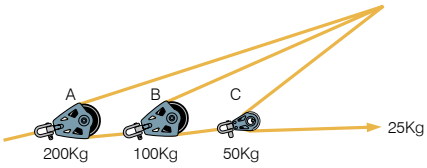


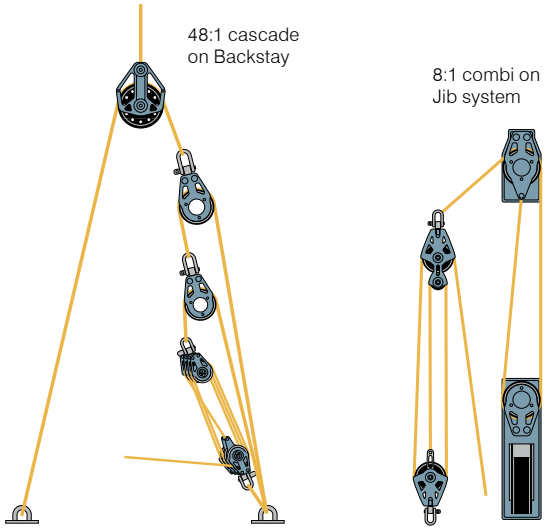
Some typical systems in use on current boats

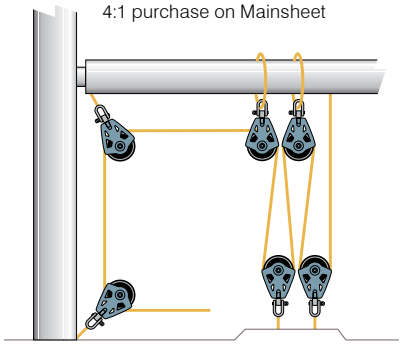
	BACKSTAY	MAINSHEET TRAVELLER	MAINSHEET COARSE TUNE	EXTRA PURCHASE FOR MAINSHEET FINE TUNE	JIB TRAVELLER	VANG	CUNNINGHAM
Racing dayboat (e.g. Etchells 22)	16:1 cascade	2:1	2:1	4:1 multi-purchase	Plunger	8:1 combination	4:1 cascade
Small cruiser (e.g. Hunter 32)	Fixed	2:1	4:1 multi-purchase	–	Plunger	4:1 multi-purchase	N/A
Small racing yacht (e.g. Mumm 30)	16:1 combination	8:1 multi-purchase	6:1 multi-purchase	4:1 multi-purchase	8:1 combination	20:1 combination	4:1 cascade
Medium cruiser (e.g. Oceanis 393)	Fixed	4:1	4:1	N/A	2:1 with plunger	5:1	N/A
Medium racing yacht (e.g. Farr 40)	Hydraulic	12:1 combination	2:1 Winched	N/A	12:1 combination	36:1 combination	6:1 combination
Large cruiser (e.g. HR 53)	Hydraulic	6:1	4:1 Winched	N/A	2:1 with plungers	8:1	4:1
Large racing yacht (e.g. Farr 52)	Hydraulic	2:1 Winched	2:1 Winched	N/A	2:1 Winched	Hydraulic	6:1 combination

Combination Cascade / Multi Purpose System

- Achieves compromise between power and range requirements
- Ideal for use on backstay, jib, and mainsheet controls

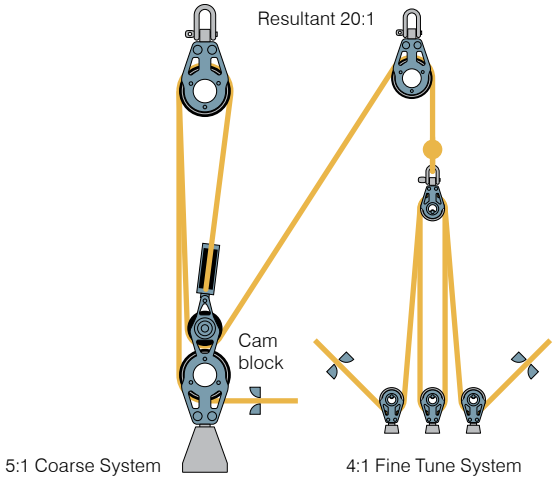






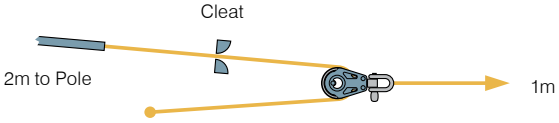
Coarse/Fine Tune System

- Coarse purchase ideal for racing mainsheet systems
- Used for moving large amounts of unloaded mainsheet during mark rounding
- Combination fine purchase perfect for playing the mainsheet when beating



Reverse Purchase

- Ideal for an asymmetric pole launch system
- Offers fast movement and a greater range on lightly-loaded systems
- Cleat is located on control line, which is loaded to twice the pole launch rope



How much purchase power is needed?

To identify the amount of purchase power required, carry out the following calculation:

$$\frac{\text{Output Force}}{\text{Input from Control Line/Winch}} = \text{Purchase Required} \qquad \frac{200\text{kg}}{25\text{kg}} = 8{:}1$$

The table gives some examples of typical purchases used by Lewmar customers.

Typical purchase systems

BOAT SIZE	4m/13ft	6m/20ft	8m/26ft	10m/33ft	12m/39ft	14m/45ft	16m/53ft
Mainsheet – Hand	3:1	4:1	4:1	5:1–10:1	8:1– 24:1	–	–
Mainsheet – Winched	–	–	–	3:1	4:1	4:1	4:1
Vang – Cruising	4:1	4:1	4:1	6:1	8:1	10:1	10:1
Vang Racing	5:1	6:1	8:1	12:1	24:1	36:1	48:1
Car tow – Cruising	–	–	2:1	2:1	2:1	3:1	3:1
Car tow – Racing	–	2:1	3:1	6:1	10:1	2:1 (winch)	2:1 (winch)

Winched purchases

To identify the amount of purchase power required in winched purchase, first calculate the winch output:

$$\text{Winch Model Number} \times \begin{matrix}\text{x 15kg (single-handed operation)} \\ \text{x 25kg (double-handed operation)}\end{matrix} = \text{Winch Output}$$

$$\frac{\text{Output Force}}{\text{Winch Output}} = \text{Purchase Required}$$

The table suggests the pulling power that can be generated.

Typical winch output loads

WINCH SIZE	30	40	45	50	55
One handed input – 15 Kg on handle = Winch output load	450kg	600kg	660kg	720kg	–
Two handed input – 25 Kg on handle = Winch output load	–	–	1100kg	1200kg	1350kg

Which Bearing?

APPLICATION	BEARING	RECOMMENDED LEWMAR RANGE
Frequently adjusted, free, fast-running systems such as sheets or control lines	Ball Bearing Sheave	Control Block
High-static loadings, adjusted less frequently and mainly cleated, such as halyards	Free Spin Bearing	Synchro Block
Frequently adjusted, high loaded systems, using modern line technology with high load on reduced line diameters.	Free spin bearing with ball bearing side thrust.	HTX Block
A combination of the above	Torlon Roller Bearing	Racing Block

Which Size/Load Block?

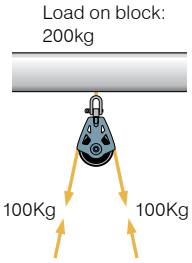
- Each Lewmar block has a specified Working Load Limit (WLL), listed in the product specification table
- Match the input from Control Line/Winch to the WLL of the block
- Note that the line's angle of deflection around the sheave affects the load exerted on the block (see table below)

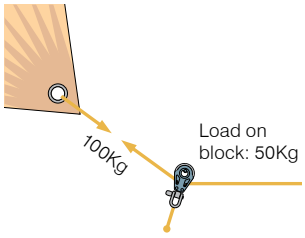
CHANGE OF ANGLE	BLOCK LOAD AS % OF LINE LOAD	CHANGE OF ANGLE	BLOCK LOAD AS % OF LINE LOAD
180°	200%	90°	141%
170°	199%	80°	129%
160°	197%	70°	115%
150°	193%	60°	100%
140°	187%	50°	84%
135°	184%	45°	76%
130°	181%	40°	68%
120°	173%	30°	52%
110°	164%	20°	35%
100°	153%	10°	17%
		0°	0%

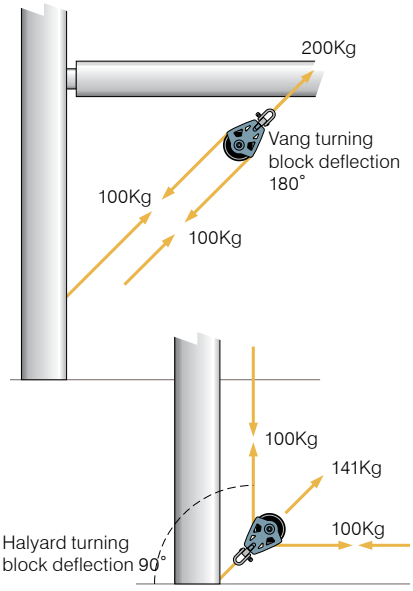
VERTICAL GENOA SHEET ANGLE	TOW LOAD AS % OF SHEET LOAD
70°	65%
60°	50%
50°	35%
40°	25%
Mainsheet traveller towing load	
Guide % of mainsheet load	25%

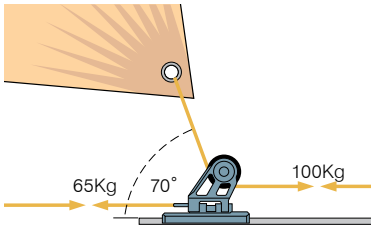
Additional Recommendations

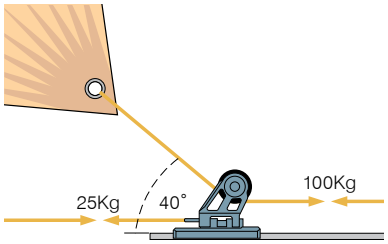
- Always choose a sheave diameter at least 7x the line diameter
- Ensure that blocks are always fitted so they align with the lines passing through them, particularly on multiple blocks and where lines are periodically slack
- All Lewmar products have been designed, tested, and developed to achieve best possible efficiency; however, no purchase system is 100% efficient. The force achieved at the working end of the purchase will be slightly less than the human load multiplied by the purchase. When calculating the purchase required to achieve a known load, we would recommend allowing a factor of 1.05 per block. Multiply by the number of 180° turns in the rope make in a system to be certain of 'fingertip' control.





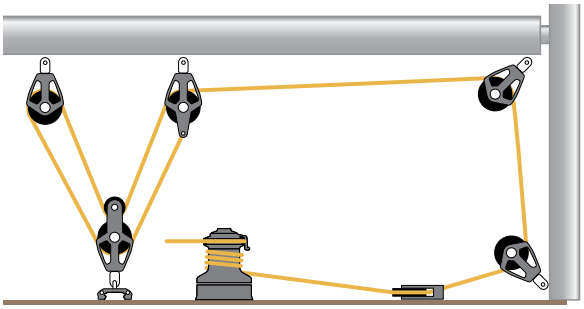




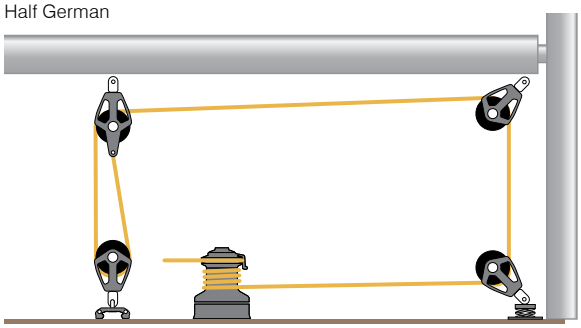


Mainsheet Systems – Typical Arrangement

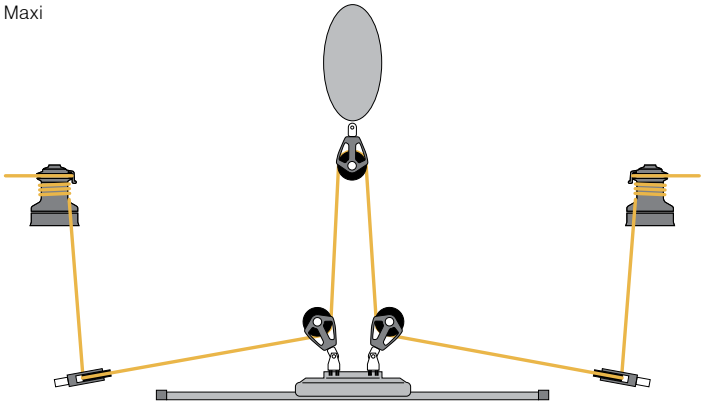
4:1 Dedicated Winch



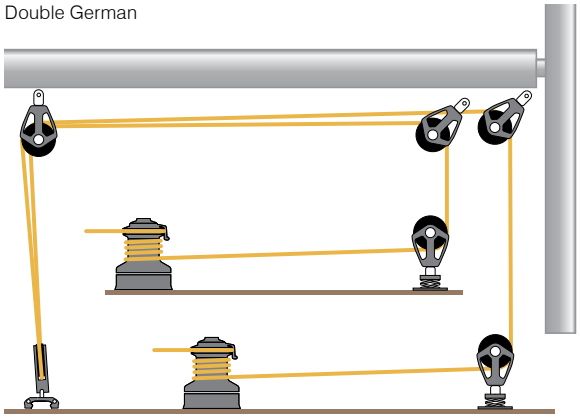
Half German



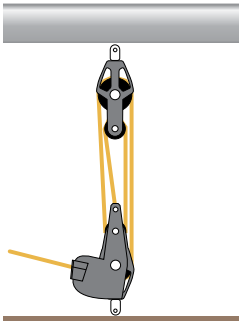
Maxi



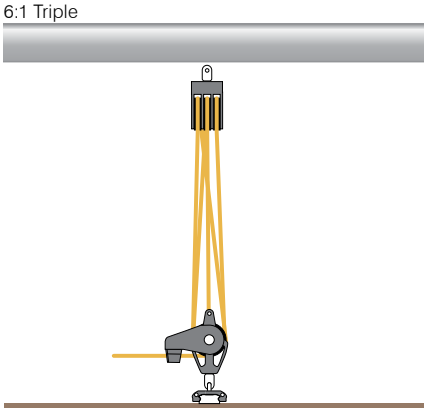
Double German



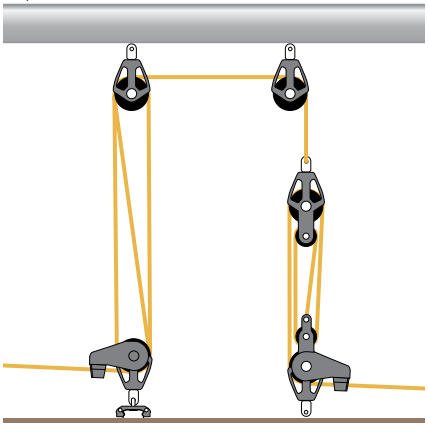
4:1 Fiddle



6:1 Triple

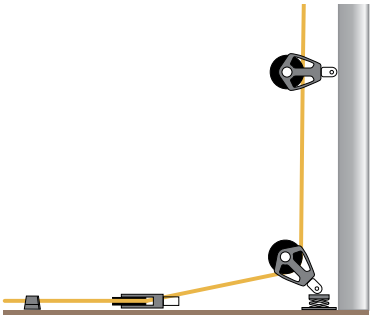


6:1/24:1

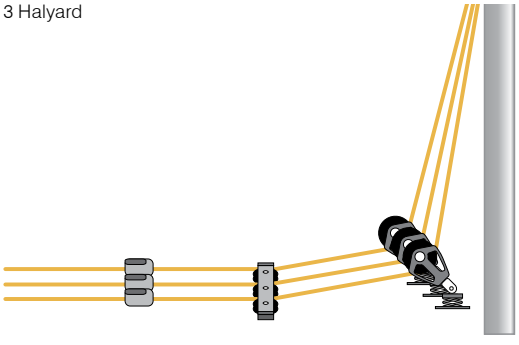


Halyards

Single Halyard

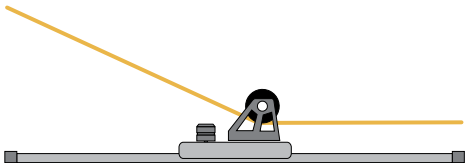


3 Halyard

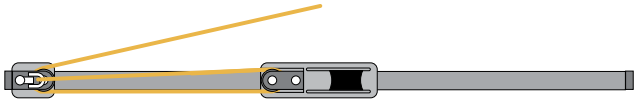


Genoa Systems

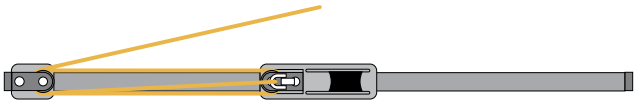
Plunger Car



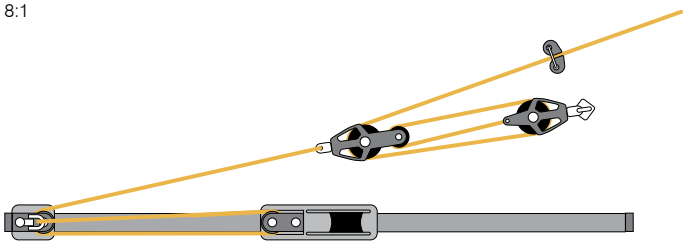
2:1



3:1

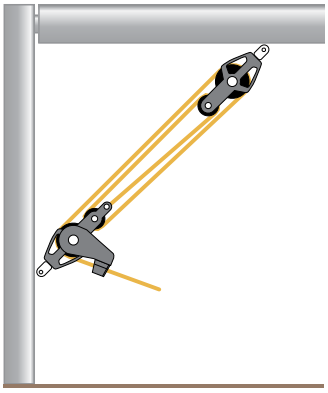


8:1

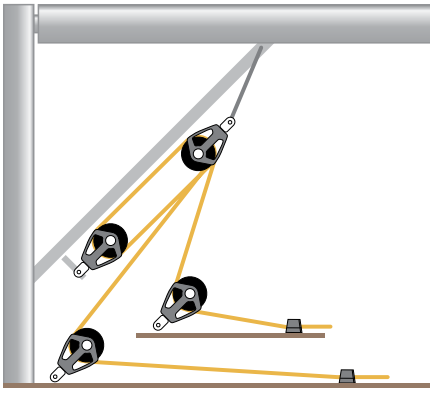


Boom Vang

4:1 Fiddle

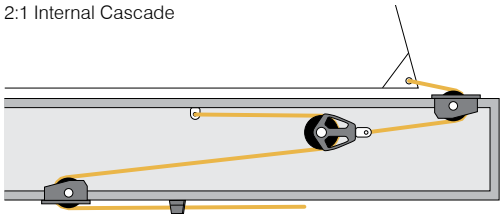


6:1 Double Ended

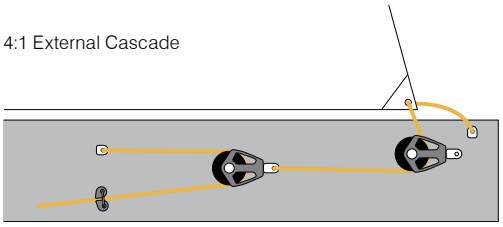


Outhaul

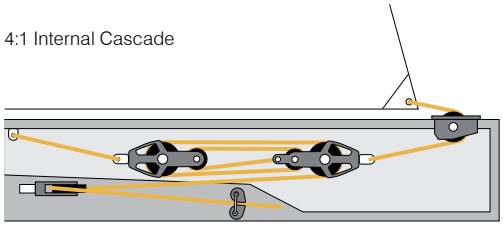
2:1 Internal Cascade



4:1 External Cascade

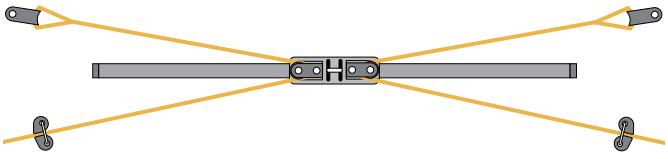


4:1 Internal Cascade

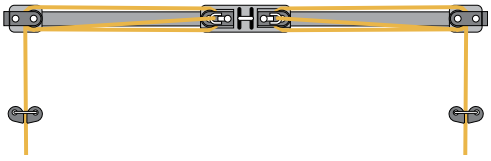


Traveller Systems

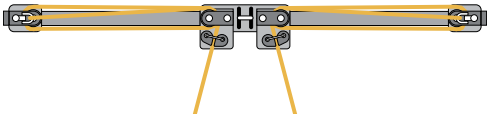
2:1



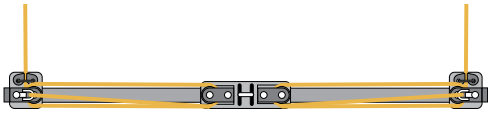
3:1



5:1

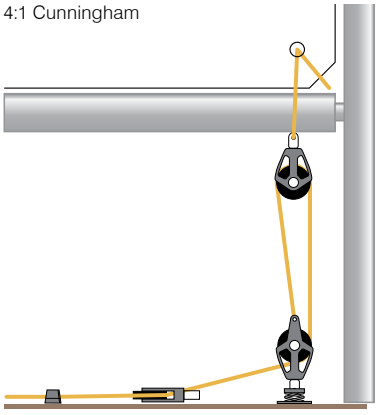


4:1

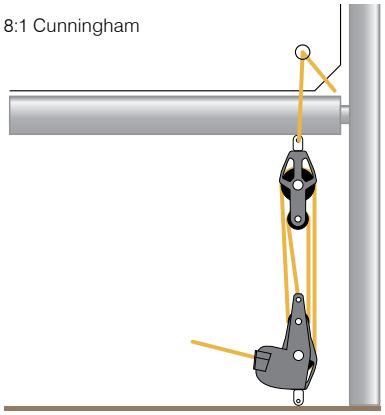


Cunningham

4:1 Cunningham

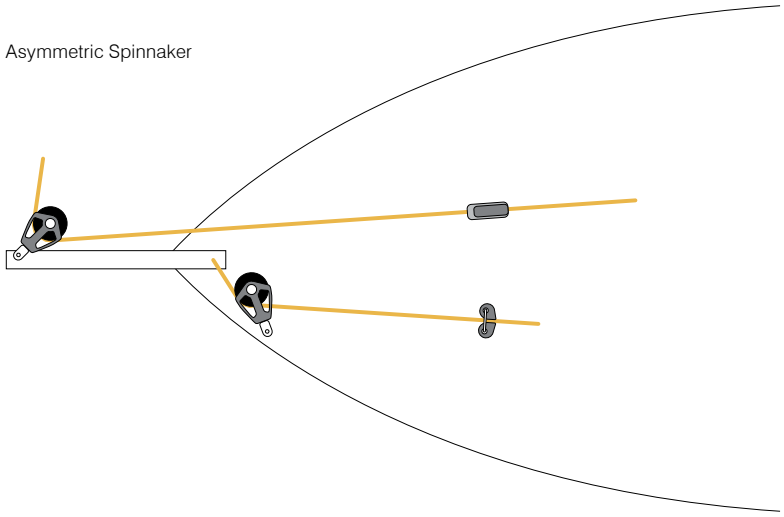


8:1 Cunningham

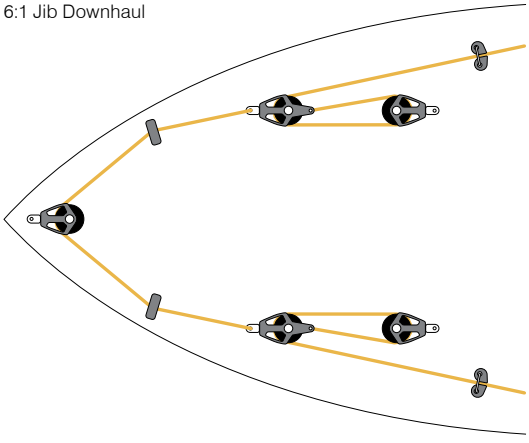


Miscellaneous

Asymmetric Spinnaker



6:1 Jib Downhaul



6:1 Right Angle Backstay

Steering

Lewmar's steering systems have been world leaders for over 50 years, and constantly evolving to meet the performance and aesthetic needs of both cruisers and elite racers. Each product is thoroughly tested (CE Certified) in the most adverse conditions possible and then finished with care to suit every type of yacht.

The Lewmar Steering Range

Wheels
- Choice of wheels to suit any application
- 25mm/1" tapered keyed shaft ensures positive fit
- Compatible with all Lewmar Steering Systems
- Full range of accessories available

Page 171

Pedestals
- Range of standard and custom pedestals
- Modern composite construction guards against corrosion
- Custom pedestals available for bespoke specification
- Range of accessories available, including guardrails

Page 175

Instrument Pods
- Choice of instrument pods to suit any electronic configuration
- Pods available as retrofit or complete assembly option

Page 180

Cockpit Accessories
- Range of cockpit tables in different finishes
- Tables and pods designed to complement Lewmar Pedestal Range

Page 182

Steering Systems
- Comprehensive range of steering systems with accessories
- Constellation – Open Wire Steering and Conduit
- Cobra – Rack and Pinion
- Mamba – Rotating Torque Tube and Bevelhead

Page 183

Autopilot Drives
- Simple installation
- Compatible with main electronic suppliers
- All units feature electromechanical clutch
- Low current draw

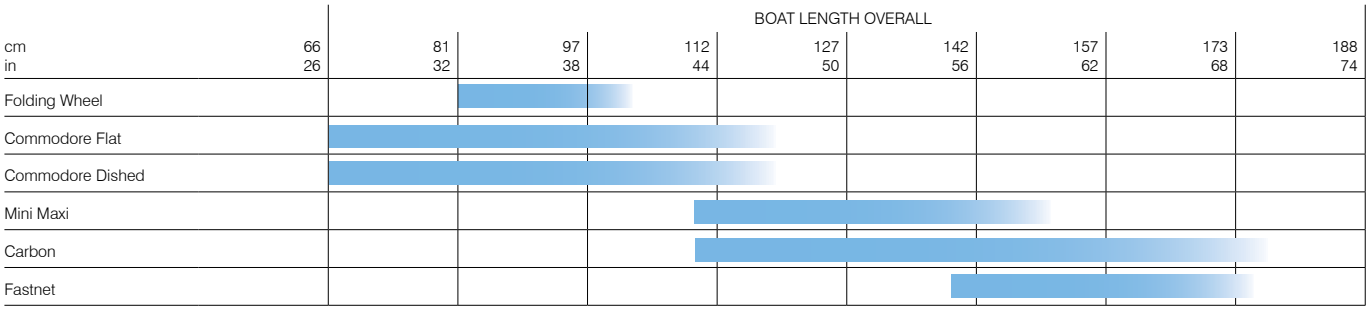
Page 194

Rudder bearing
- Range of rudder bearings complement Lewmar Steering Systems
- Suitable for tiller-steered and wheel-steered yachts
- Full range of accessories

Page 197

Wheels

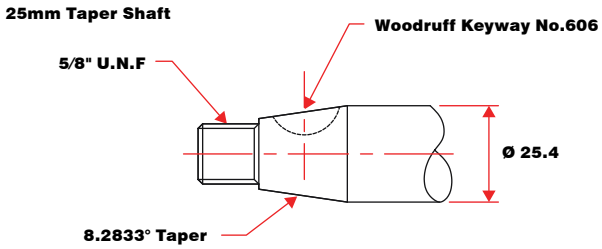
Wheel Selection Guide

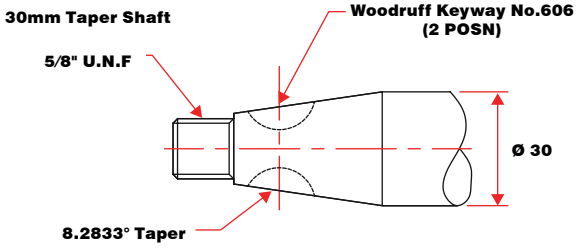


Lighter shading represents the upper limit of model. If in doubt, move up a model.

The Lewmar Steering Wheel Shaft

All Lewmar wheels listed in this catalogue have the 25mm/1" taper shaft. Angle of taper ensures the wheel is easily removable. Larger wheels (1.6m and up) can also be supplied with the 30mm/1 3/16" taper shaft. The folding wheel dual-hub aso fits a 25mm/1" parallel shaft. Lewmar uses industry standard 25mm/1" tapered keyed shaft to ensure positive fit of the steering wheel. The 30mm/1 3/16" taper shaft is only used in custom super yacht systems.





Folding Wheel

Lewmar's innovative and patented Folding Wheel is now available at your local retailer. Its unique, fast-action folding system is a concept in space-saving technology. Conventional wheels significantly restrict your cockpit space, but the Lewmar Folding Wheel breaks down that barrier. Ideal for a wide range of yachts, including those with twin-wheeled layout. The Folding Wheel has a two-turn, buttress-threaded, split-spoke design, and a unique hinging system with fast-action handgrip release. This allows you to easily fold and unfold the wheel, using a simple twist of the composite handgrip. At a fraction of the cost of custom versions, the Folding Wheel is appealing to both production boat builders and owners looking to improve their deck layouts.

Folding Wheel

PART NO.	DESCRIPTION	SIZE		FIT SHAFT
		mm	in	
89700375	Folding Wheel 6 spoke Hide Cover	813	32	1" Taper
89700376	Folding Wheel 6 spoke Hide Cover	914	36	1" Taper
89700377	Folding Wheel 6 spoke Hide Cover	1016	40	1" Taper
89700520	Folding Wheel 6 spoke Hide Cover	1066	42	1" Taper
89700406	Folding Wheel 6 spoke Hide Cover Dual Hub	813	32	1" Taper & 1" parallel
89700407	Folding Wheel 6 spoke Hide Cover Dual Hub	914	36	1" Taper & 1" parallel
89700408	Folding Wheel 6 spoke Hide Cover Dual Hub	1016	40	1" Taper & 1" parallel
89700521	Folding Wheel 6 spoke Hide Cover Dual Hub	1066	42	1" Taper & 1" parallel

The Commodore™ Wheel

Durable and elegantly styled, the Commodore is a standard choice for yachtsmen the world over. Choose from sizes ranging in diameter from 66cm (26") to 122cm (48").

CommodoreTM Wheel – supplied with hide cover

PART NO.	DESCRIPTION	SIZE	
		mm	in
89700264	5 spoke flat leather fitted	66	26
89700265	5 spoke flat leather fitted	71	28
89700266	5 spoke flat leather fitted	76	30
89700267	5 spoke flat leather fitted	81	32
89700268	5 spoke flat leather fitted	91	36
89700297	5 spoke dished leather fitted	66	26
89700298	5 spoke dished leather fitted	71	28
89700299	5 spoke dished leather fitted	76	30
89700300	5 spoke dished leather fitted	81	32
89700301	5 spoke dished leather fitted	91	36
89700593	5 spoke dished leather fitted	102	40
89700024	8 spoke flat, leather fitted	107	42
89700025	8 spoke flat, leather fitted	122	48
89700063	8 spoke dished, leather fitted	107	42
89700064	8 spoke dished, leather fitted	122	48

The Mini Maxi™ Wheel

The Mini Maxi™ wheel is designed for use where a larger wheel is required or for exceptional rigidity. The Mini Maxi™ wheel is available up to 1524mm/60" diameter.

Mini Maxi™ Wheel – Supplied with Hide Cover and Spats

PART NO.	DESCRIPTION	SIZE	
		mm	in
89700092	Mini Maxi™ 10 spoke	91	36
89700093	Mini Maxi™ 10 spoke	102	40
89700094	Mini Maxi™ 10 spoke	107	42
89700095	Mini Maxi™ 10 spoke	122	48
89700096	Mini Maxi™ 10 spoke	132	52
89700097	Mini Maxi™ 10 spoke	137	54
89700098	Mini Maxi™ 10 spoke	152	60
89700063	8 spoke dished, polished	107	42
89700064	8 spoke dished, polished	122	48

Custom Wheel

Y-Spoke Carbon Wheel

Lewmar manufactures a range of custom wheels. The Y-Spoke Carbon Wheel combines ultimate weight saving with sleek and slender styling. Ideal for Grand Prix race yachts or as a solution to increasing demand for race technology on cruising yachts. These wheels are built and supplied to order in a variety of sizes ranging from 1m/39" to 1.8m/71".

Y-spoke carbon wheel

Fastnet Wheel

The lightweight and stylish Fastnet Wheel is made from Aluminium 6082. The wheels are supplied powder-coat painted, or with leather stitched to the wheel rim in a range of colours. The Fastnet wheel range starts at 122cm/48" with incremental sizes up to 175cm/69".

Fastnet Wheel

Other Custom Wheels

Lewmar designs custom wheels to fit a pedestal specific to the customer's requirement. 3D modelling is used to ensure that the wheel fits first time, even in tight spaces.

Custom carbon wheels

Custom dished wheel designed to mount on the back face of the customer's own pedestal for which they have a registered trademark.

Flightdeck® pedestal system

Wheel Accessories

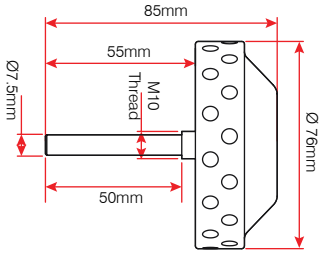
Multi Tooth Wheel Disengagement Units

This is a quick, safe and efficient way to disengage the steering wheel whilst still allowing the system to operate. This is particularly useful when using a dual wheel system or operating the steering by Autopilot. The unit incorporates precision multi tooth gears to ensure zero backlash or play.

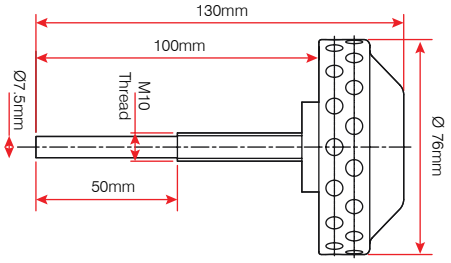
Note: This product cannot be retrofitted to an existing wheel and must be requested when ordering a new wheel. This multi-tooth disengagement unit can be added to any style newly built Lewmar wheel. For prices and part numbers of wheels incorporating this product please speak to a Lewmar representative.

Brake Spinner

A brake spinner is used to lock the wheel and rudder when in port or at anchor. Lewmar uses a powerful and progressive through shaft friction brake. It is specific to the type of wheel used. For more information and part numbers, refer to wheel section on Page 171 to Page 173.



8910 0143
Brake Spinner



89100144
Brake Spinner

PART NO.	FINISH	FOLDING/COMMODORE WHEEL	MINI MAXI WHEEL
89100143	Stainless Steel	✓	
89800053	White Composite	✓	
89100144	Stainless Steel		✓

Rail Mount Wheel Holder

The Rail Mount Wheel Holder can be used on most boat rails to store the wheel when not in use, thus providing a clear area in the cockpit.

Features

- Manufactured in 316 investment cast Stainless Steel
- Designed to suit 25mm/1" taper or Parallel steering wheel shaft
- Will fit 25mm/1", 28.6mm /1 1/8" & 32mm/11/4" diameter rails

89400327
Rail Mount Wheel Holder

Quick Release Bi-square Wheel Nuts

The quick release wheel nut – with a standard winch handle bi-square. As you always have a winch handle on hand, this is a quick and simple way to remove your wheel. The quick release wheel nut is available in 316 grade stainless steel, to mirror polish finish.

Quick Release Nuts

PART NO.	TO SUIT WHEEL TYPE
89700161	Commodore™ wheel
89700162	Mini Maxi™ Fastnet/Carbon

Pedestal Selection

Pedestal Selection Guide

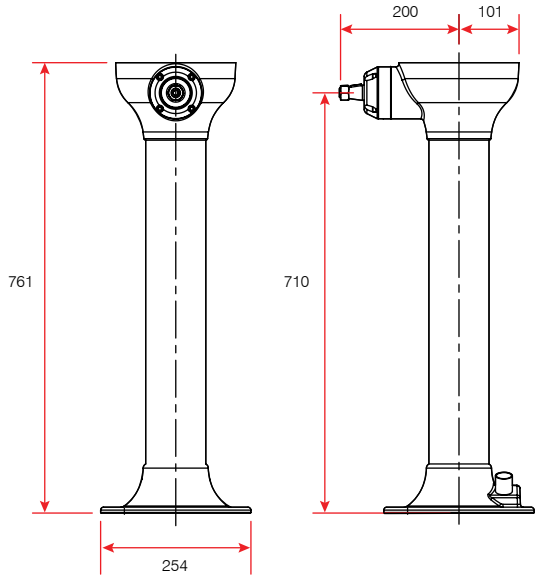
	AFT COCKPIT					CENTRE COCKPIT		TILLER-WHEEL COVERSIONS	
Pedestal	For Boats Up to 60ft Constellation	For Boats Up to 60ft Cobra	For Boats Up to 60ft Cobra	For Boats Up to 60ft Cobra	For Boats Up to 200ft Mamba	For Boats Up to 80ft Constellation	For Boats Up to 80ft Mamba	Constellation	Mamba
Enguard	•	•		•	•	•	•	•	•
Integra		•		•	•	•	•	•	•
Royale	•	•	•		•	•	•		
Maximum Wheel Size	2 m (78 in)	1.2 m (48 in)	1.2 m (48 in)	2 m (78 in)	2 m (78 in)	2 m (78 in)	2 m (78 in)	2 m (78 in)	1.2 m (48 in)

- Lewmar pedestals are manufactured from modern composites, which guard against electrolytic action and the corrosive nature of salt water
- All standard Lewmar pedestals measure 710mm/28" from the base to centre of steering shaft. Custom pedestal heights are available upon request
- All Lewmar pedestals are available in Constellation Cobra and Mamba steering systems
- Guardrails are not included. For guardrail options refer to Page 179.
- Lewmar offers a comprehensive range of pedestal accessories and options from guardrails and engine control to compasses, cockpit tables and instrument pods.

Enguard Pedestal

The Enguard pedestal incorporates an integral guardrail pedestal base, which minimises the footprint area the pedestal takes-up on the deck. The Enguard pedestal can be found fitted to many production boats around the world such as Hunter and Northshore.

Enguard Pedestal Dimensions



Features

- Integrated guardrail base providing compact and rapid installation
- Wide range of accessories available
- Custom heights available

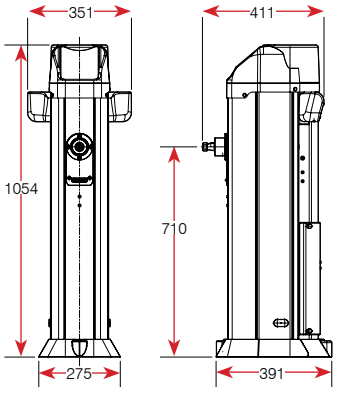
Integra Pedestal

The Integra pedestal is the latest in Lewmar's range of integrated pedestal steering systems. The Integra offers quick and easy above deck access to fit Lewmar's patented autopilot drive motor. The integra pedestal can be found fitted to many production boats around the world such as Hunter, Delphia, Northshore and Linjett.

Features

- Compass mounting platform and integrated housing
- Ability to mount 1 single instrument to the uPVC top moulding
- Pre-installed single lever engine control
- All Integra Cobra pedestals have the ability to install an integrated autopilot drive
- Removable access door for quick and simple autopilot installation.
- Harness bolts supplied as standard on the forward and aft side of the pedestal deck flang
- Pedestal pre-drilled for cockpit table mounting
- Pedestal stop ring included

Integra Pedestal Dimensions



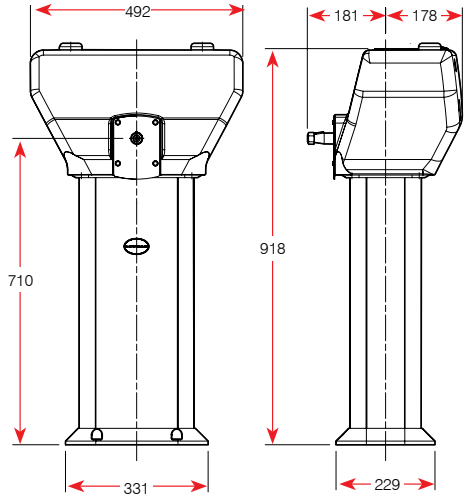
Royale Pedestal

The Royale is an evolution of the console style pedestal range. The Royale head provides maximum flexibility for instrument mounting. The Royale pedestal can be fitted to many production boats around the world such as Harmony, Tartan and Najad.

Features

- Mounting areas for single lever engine control on port or starboard
- Accepts 4 Industry standard 110mm / 4.25" yachting instruments
- Flush mount compass platform

Royale Pedestal Dimensions



Custom Pedestal

Gunfleet *Flightdeck®*
For the Gunfleet 43 project, Lewmar designed and specified all of the internal components to fit the customer's own pedestal.

Bavaria Pedestal
- Custom steering pedestals designed for the Bavaria range of twin helm yachts.
- Aluminium base provides excellent strength and rigidity with minimal weight.
- The GRP head can easily be trimmed to fit the customer's choice of instruments.

Pedestal Accessories

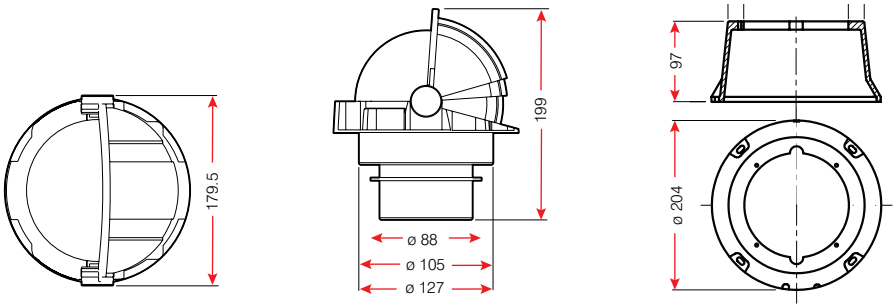
Compasses

The Lewmar 135 Compass is a stylish, precision instrument to compliment any cockpit. The high quality compass is manufactured with precision components. The compass utilises a real sapphire to ensure ultimate reliability and durability. The diaphragms, made of Viton®, are fully waterproof and absorb the fluid variations resulting from differing temperatures and air pressure. Every compass complies with rigorous vibration, temperature, stability and precision specifications.

Lewmar 135 Compass flush mounted in pedestal

Features

- Apparent diameter of card: 130mm
- Flush mounting or pedestal mounting (with the addition of a binnacle)
- Minimal flushmount depth
- Double lighting (12 or 24 V mounting)
- Unique 'Lewmar' binnacle
- Black card
- 5 year warranty



PART NO.	MODEL 135 COMPASS
89400000	Flush Mount 135 Compass with hood
89400001	135 Compass complete with Binnacle Housing
89400002	Binnacle only

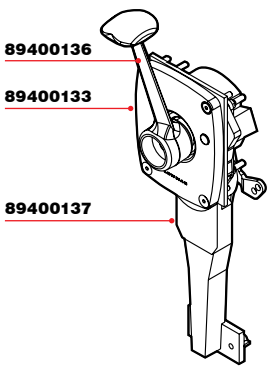
Engine Control Mechanism

Lewmar offers engine and gear controls to complement the steering pedestal of your choice. The engine control designed exclusively for Lewmar is non-magnetic and can be guardrail or pedestal mounted without interfering with the compass.

89400136
Single Lever Engine Control

Features

- Housed in pod
- Guardrail Mounted
- Bulkhead mounted fascia plate
- Exclusive design for Lewmar
- Non-magnetic
- 316 stainless steel cranked handle



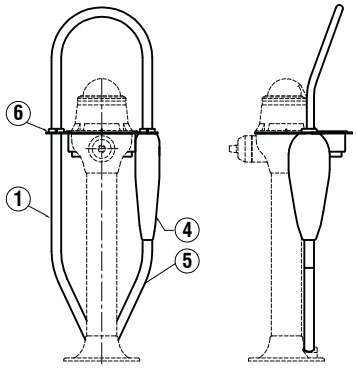
PART NO.	DESCRIPTION
89400109	Control Mech kit Cranked Handle and Fascia Plate
89400084	Engine control Housing to suit Morse SL3 Mechanism
89400136	Handle Cranked Stainless Steel
89400137	Mechanism Only (No Handle)
89400146	Fitting Kit for Control Mechanism
89400196	Control Mech Cranked Handle & Pod Assembly
89800013	Rubber Button and Plunger Kit
89400316	Control Mechanism Crank Handle

89800013
Rubber button plunger kit

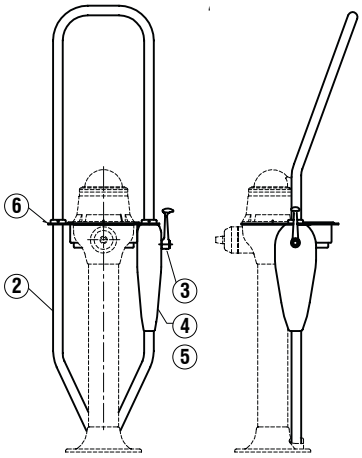
Guardrails

Lewmar Guardrails are designed to protect the compass and pedestal and to provide assistance while moving about the cockpit.Our wide range of straight, kickback and extended guardrails, are manufactured from 32mm/1.25" heavy duty 316 stainless steel tube. The extensive choice of guardrails is complemented by our instrument pod range, see Page 180.

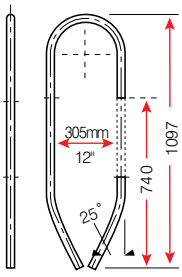
Enguard Guardrail



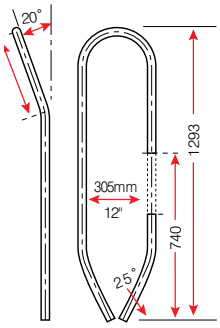
89400125
Enguard Guardrail Kit



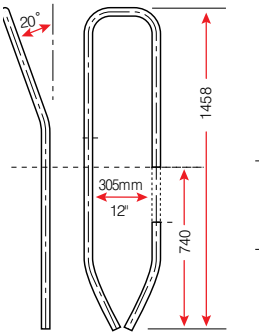
Enguard extended kickback guardrail shown with all accessories



89400031



89400033

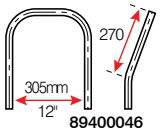


89400035

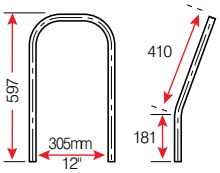
Guardrail Kits & Spares

PART NO.	DESCRIPTION	KEY
89400125	Enguard Guardrail Kit, with Kickback, Engine Pod, Top Plate & Cup holder	
89400031	Guardrail Straight (Stbd)	
89400033	Guardrail Kickback (Stbd)	1
89400035	Guardrail Extended Kickback (Stbd)	2
89400109	Control Mechanism	3
89400084	Engine Pod	4
89400120	Drop Tube	5
89400122	Top Plate & Cup Holder	6

Royale Guardrail



89400046



89400047

Royale Guardrail

PART NO.	DESCRIPTION
89400046	Kickback rail
89400047	Extended kickback rail

Instrument Pods

Helm Pod

With great new design features, the Lewmar Helm Pod is a perfect choice for all cockpit configurations. Options to fit radar displays, chart plotters and standard navigation instruments.

- Range of Models to fit up to 15" displays with options to install a combination of instruments and displays at the helm.
- Universal Helm Fixing fits pedestal rails from 25mm to 33.7mm (0.98" – 1.33"). Using a unique clamping system, the Pod can fit rail widths from 178mm (7") upwards.
- Secure & Watertight Install- Saddle system supports the stainless tubing enabling a secure and rigid fit onto any pedestal and also ensures a watertight seal at cable entry
- No Drill Fixing Kit- Customised U-bolts fit around rail and through the saddles into the back of the pod eliminating the need for time consuming and awkward drilling of the stainless rail.
- Hassle Free Install & Service- Fixings fit from back to front cutting their threads into injection moulded ABS inserts designed into the Pod front. This design allows for a quick and safe install and repeat servicing.
- Increased Protection Pod seal is manufactured from a high tear strength silicone, it has a very high resistance to heat and UV so you can have confidence that it won't deteriorate over time.
- Supplied Uncut

PART NO	DESCRIPTION
89400423	up to 8" display
89400425	10&12" display
89400427	15" display
89400429	4 x standard instruments
89400430	System pod

Mast Pod

- The Mast Pod range offers a choice of sizes to allow installation of up to 4 standard or larger 20/20 maxi style instruments at the mast.
- Whether racing or cruising, our Mast Pods give you the best view of your instruments.
- Universal Mount – The range has been designed to fit mast sizes from 76mm (3") to 223mm (8.8"). Mast arms pivot about semi circular washers and an additional cross-brace provides stiffness preventing sideways movement.
- Range of Models – Models to mount up to 4 standard navigation instruments and 3 or 4 x 20/20 maxi style instruments
- Increased Protection – Pod seal is manufactured from a high tear strength silicone, it has a very high resistance to heat and UV so you can have confidence that it won't deteriorate over time. Supplied Uncut as standard.

PART NO	DESCRIPTION
89400434	4 x standard instruments
89400432	3 or 4 x maxi instruments

Instrument Pods

Deck Pod

- Solve the challenge of finding a level mounting surface to install your displays onto your powerboat, RIB or sailboat wheelhouse.
- The range includes options to install radar displays, chart plotters and standard navigation instruments
- Swivel & Tilt Base – One handed quick release action. Simply release the lever, swivel and tilt to suit your requirements before locking back into position
- Best viewing angle – An adjustable ball joint allows range of movement and multiple mounting angles
- Added Strength – Inner bracing plate secures the Deck Pod base to the pod and gives increased rigidity to the assembly eliminating potential damaged from shock and vibration
- Increased Protection – Pod seal is manufactured from a high tear strength silicone, it has a very high resistance to heat and UV so you can have confidence that it won't deteriorate over time.
- Supplied Uncut – Deck pods are supplied uncut as standard

PART NO	DESCRIPTION
89400435	up to 8" display
89400437	10&12" display
89400439	15" display

Flex Mount

- View your instruments from the perfect angle by using the Flex mount in combination with the Lewmar Helm Pod.
- The Flex-Mount System gives you more options for installing your electronics – simply clamp onto your existing rail or steering binnacle and install the Helm Pod as normal.
- Easy to use quick release lever – tilt display forward / back for improved instrument viewing
- Cables exit the back of the Pod and into the pedestal / rail using watertight grommet
- Fits 1" and 1 1/4" rail sizes and requires minimum of 60mm (2.4") of straight rail to mount
- Three models available to suit 8" - 10" and 12" Helm Pod

PART NO	DESCRIPTION
89400440	8" helm pod
89400441	10 & 12" helm pod
89400442	15" helm pod

Classic Pod

- Fits directly to the Enguard and Classic style pedestals, via a special top plate.
- Offers increased mounting space for instruments, on the pedestal.
- Available with kickback guardrail for the inclusion of additional instrument pod options.
- Compass mounting point

89400100 – Classic Pod

Stainless Steel GPS/ Mobile Phone Holder

- Manufactured from 316 investment cast stainless steel
- Pod arm will fit 1", 1⅛" and 1¼" diameter guardrail tubes
- All wiring of products mounted to the pod arm are hidden internally.

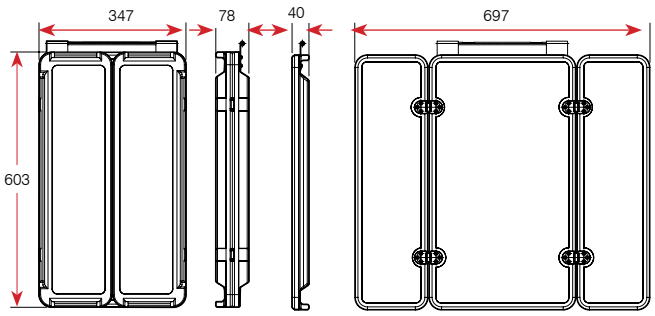
89400328 – Stainless Steel GPS/Mobile Phone Holder

Cockpit Accessories

Cockpit Table

Lewmar offers a range of tables in teak or manufactured from uPVC with high strength composite core supplied with bracket, support and fitting instructions.

- Double-leaf fold out
- All teak from sustainable forests
- Suits all Lewmar pedestal types
- Quick release hinge for simple storage
- Folds against pedestal
- Teak model supplied unvarnished

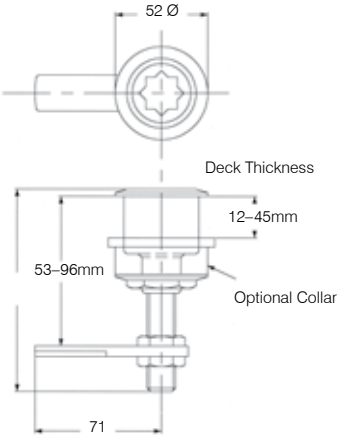


PART NO.	DESCRIPTION
89400283	Table kit for Classic pedestal unvarnished
89400284	Table kit for Enguard pedestal unvarnished
89400285	Table kit for Reliant/Athena pedestal unvarnished
89400286	Table kit for Royale pedestal unvarnished
89400365	Table kit for Integra pedestal unvarnished
89400013	Table Composite double leaf with mounting kit for Enguard pedestal
89400014	Table Composite double leaf with mounting kit for Reliant pedestal
89400024	Table Composite double leaf with mounting kit for Royale pedestal
89400420	Universal table mounting kit to suit Enguard, Reliant, Royale and Integra Pedestals

Stainless Steel Cockpit Locker Latch

The Lewmar locker latch is a high quality product designed for any boat. Easy operation via a winch handle is standard.

89400061
Cockpit Locker Latch Stainless Steel



Features

- 316 investment cast product
- Easy installation
- Watertight ‘0’ ring seal
- Easy operation via winch handle
- Adjustable deck thickness

Steering Systems

Lewmar offers a comprehensive range of steering equipment based on 3 different mechanical concepts.

- Constellation™
  Open Wire Steering & Conduit
- Cobra™
  Rack & Pinion
- Mamba™
  Rotating Torque Tube & Bevelhead

This product portfolio offers today's boat builders a solution for any steering. installation.

lewmar.com

Steering Manuals and installation guides can be found at lewmar.com

Constellation™ – Wire Steering

Wire steering systems are suitable for yachts from 7m /25' to Maxi's. This diversity has enabled us to develop the Constellation system with feedback from various types of boat builders. Wire systems are ideal for aft cockpit installations, either single or tandem. Wire-in conduit systems are also available for centre cockpit installations. The conduit system overcomes the difficulties that are experienced when using open wire in centre cockpit installations.

Cobra™ – Rack & Pinion

Cobra uses rack and pinion in the head of the pedestal to provide the necessary mechanical advantage required for sensitive steering. Cobra has been designed for use in aft cockpit sailboats and is a world leader in its field. Lewmar also offers customised Cobra systems for use in non aft cockpit applications.

Mamba™ – Rotating Torque Tube & Bevelhead

The ultimate steering system providing feedback and strength; both benefits are inherent to gearbox and bevelhead steering systems. Mamba is a suitable steering system for a diverse range of sailboats from blue water cruisers to America's Cup contenders. It offers unique features such as power assisted steering whilst retaining versatility in the type of installation it can be used in i.e. Tandem systems.

Constellation™ Systems

Constellation™ is made up of a complete range of wire steering systems, offering award winning design and high quality construction, for vessels up to 18m/60'. The systems have been developed in conjunction with both production boat yards and the world's racing community. All aluminium parts are etched, alochromed and stoved using powder coated polyester resins.

- Simple installation with minimal components.
- Classic 'tried and tested' chain and wire arrangement
- Open wire arrangements for aft cockpit boats with a wire in conduit option for centre cockpit
- Range of sprocket / quadrant ratios available for different steering speeds and loads
- Autopilot units can be easily incorporated into the system

Constellation™ Open Wire Systems

Aft Cockpit Radial Steering Systems

The simplest wire system available for aft cockpit yachts with vertical, or near vertical, rudders using a radial quadrant in conjunction with a cross wire idler, (universal idler if the pedestal is mounted aft of the rudder stock). Dependent on sheave and quadrant sizes, this equipment can be employed on sailing yachts up to approximately 18m /60'.
Please note the sheaves are fully adjustable in the angular mode to obtain perfect lead from sheave to quadrant. The splay angle is dependent on the distance from pedestal centre to rudder stock and the quadrant diameter.

Features

- Steering shaft supported in triple high efficiency ball bearings, ensuring no axial and radial play
- Cross wire idlers, bevelled & adjustable to ensure perfect cable alignment
- Composite construction quadrants for maximum reliability and compactness
- Range of terminal units, sheaves, bulkhead steerers, quadrants and accessories
- Efficient installation
- Multiple pedestals sprocket options, dependent on boat size
- Electrostatically applied, polyester coating for maximum corrosion protection
- Integrated autopilot drive kit for mounting drive units

Constellation™ Wire-in Conduit Systems

Due to their ease of installation, wire-in conduit systems have largely replaced open wire for centre cockpit yachts. Advances in conduit technology have resulted in Constellation™ systems that are simple to install and easy to maintain. Self contained sheave assemblies have been developed to fit into the conduit route, eliminating the requirement for reinforced pads. Lewmar offer a range of components to complete your wire-in conduit installation, including conduit end fittings, conduit greasers and terminal units to align the cables with the quadrants. Most common conduit installation for centre cockpit yachts up to 12m/40'. To achieve the maximum sensitivity and life from a conduit system please follow the following rules:

1. Keep the number of bends to a minimum.
2. Do not exceed 270° of total curves.
3. Avoid 'S' bends.
4. Orientate the quadrant to achieve the best conduit lead.
5. Minimum bend radius 200mm/8".

Features

- Simple to install
- Ultimate reliability
- Pedestal or bulkhead mounting for wheels
- Heavy duty double armoured conduit with low-friction liner to ensure efficiency
- In-line conduit greasers

Constellation™ Chain & Wire Accessories

Breaking Strength

The figures shown in the tables below indicate the minimum breaking load of Lewmar cables and chain. Due to the reduction in strength caused by cable fatigue over time, the Working Load Limit should never exceed 25% of the breaking strain shown, i.e. Safety Factor = 4.

A 305mm/12" radius quadrant used in conjunction with 6mm/0.23" wire is suitable for the rudder torque, as in the example calculation shown on the right.

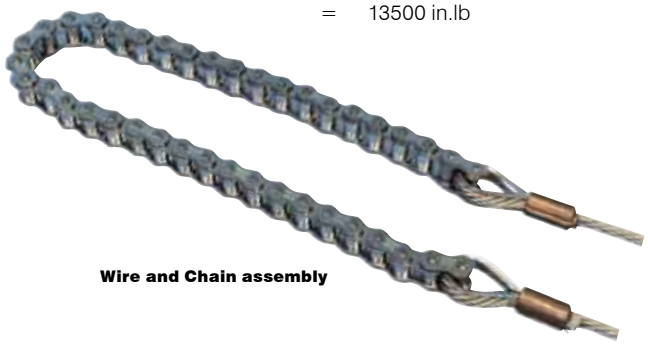
Torque = Breaking Load x Radius x Safety Factor

Metric Example
= 2040Kg x 0.305m x 0.25
= 155 mKg

Imperial Example
= 4500lb x 12" radius x 0.25
= 13500 in.lb

Features

- Precision engineered in non magnetic stainless steel
- 2 off master links for easy connection to the cable
- Custom length chain sets available on request
- Cable supplied in 7 x 19 stainless steel stranded construction
- Cable can be supplied to be finished with eyebolts and thimbles
- Fully assembled with pre-swaged eyebolts available



Wire and Chain assembly

Steering Cable 7 x 19 Stranded Stainless Steel

PART NO.	CABLE DIAMETER		BREAKING LOAD	
	mm	in	kg	lb
89100077	5	0.1	1406	3100
89100078	6	0.2	2040	4500

Steering cable supplied per meter with no termination

Non-Magnetic Stainless Steel Roller Chain Assemblies

PART NO.	ANSI SPEC	PITCH INCHES	BREAKING LOAD	
			kg	lb
89100090	ANSI 50	5⁄8	2267	5000
89100093	ANSI 60	3⁄4	3175	7000

Pre-swaged cables can be supplied on request

Constellation™ Quadrant, Sprocket & Chain Kit Specification Table

The table (following) illustrates the turns at the helm for a range of standard sprocket and quadrant sizes. Lewmar Steering offer custom quadrants in 6082T6 alloy or composite up to 1020mm/40" radius. We can also offer custom sprockets with any number of teeth in 15.87mm/5/8" or 19.05mm/3/4" or 25.4mm/1" pitch stainless steel or 60802T6 high strength aluminium.

PART NO. APPROPRIATE CHAIN KIT		QUADRANT TYPE	SPROCKET SIZE VS TURNS HO/HO FOR 72° RUDDER TRAVEL			
5⁄8" P SPROCKET	3⁄4" P SPROCKET		5⁄8" P 11T	5⁄8" P 13T	5⁄8" P 15T	3⁄4" P 11T
89100090	89100093	152mm/6" radius 260°	1.08	0.92	0.79	0.9
89100090	89100093	190mm/7.5" radius 80°	1.35	1.14	1.0	1.12
89100090	89100093	203mm/8" radius 260°	1.44	1.22	1.06	1.2
89100090	89100093	228mm/9" radius 260°	1.62	1.37	1.18	1.35
89100090	89100093	254mm/10" radius 260°	1.8	1.52	1.32	1.5
89100090	89100093	304mm/12" radius 80°	2.2	1.86	1.61	1.8
89100090	89100093	304mm/12" radius 260°	2.2	1.86	1.61	1.8
89100091	89100094	381mm/15" radius 80°	2.71	2.29	1.98	2.25
89100091	89100094	381mm/15" radius 260°	2.71	2.29	1.98	2.25
89100091	89100094	457mm/18" radius 80°	3.25	2.75	2.38	2.7
89100091	89100094	457mm/18" radius 260°	3.25	2.75	2.38	2.7
89100092	89100095	508mm/20" radius 80°	3.61	3.05	2.64	3
89100092	89100095	609mm/24" radius 80°	4.35	3.68	3.19	3.6
89100100	89100096	762mm/30" radius 80°	5.44	4.6	4.0	4.5

Conduit

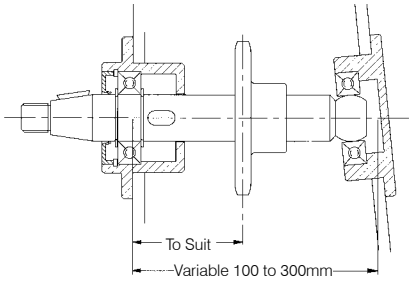
PART NO.	DESCRIPTION
89100069	Conduit (Sold per meter)
89100116	Conduit end fitting

Constellation™ Bulkhead Steerers

The Bulkhead steerer incorporates twin high efficiency ball races, which are double sealed and pre-lubricated for a long and maintenance free life.

Self Aligning Steerer

- Self Aligning ball to take up misalignment or draft angle when installing within a console.
- Compact installation with a minimum distance of 100mm/4" between bulkhead faces.
- Available with sliding sprocket to aid line up with multiple sheaves.
- Steering shaft supported by high efficiency sealed-for-life bearings.
- Through-shaft mounted friction brake.
- Forward & aft flange housing manufactured in polymer composite material
- Incorporates twin high efficiency, double sealed ball races
- Rapid and simple installation
- Stainless steel backing plate for maximum rigidity
- Variety of sprocket sizes
- Custom steering shafts available



Constellation™ Sheave Assemblies

Lewmar offers an extensive range of open wire sheave assemblies from 102mm (4in) to 254mm (10in) diameters in different configuration: upright, flush, flat, articulated, Idlers and conduit to sheave adaptor.

- Available in bronze, aluminium and A100 glass reinforced nylon.
- High operation efficiency and sensitive steering operation – sheaves run on 45mm/1.77" caged roller bearings
- All open wire sheave assemblies incorporate wire guides to prevent cable jump
- Idlers are designed to prevent chafing when the cable straightens into the sheave track.

Single Articulated Sheave

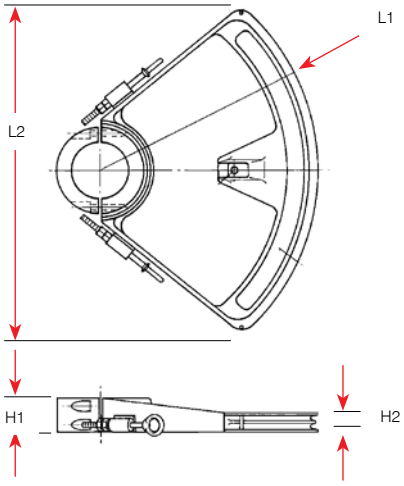
Double Upright Sheave Assembly

Cross Wire Idler

Double Conduit to Sheave adaptor

Constellation™ Quadrants

Lewmar offers a range of unique, composite 80° and 260° quadrants.



Features

- Fabricated from 6082 aluminium alloy
- Strong yet ductile, almost impossible to fracture under impact loading
- Compact, where transom space is restricted
- Attachment point for linear drives on larger quadrants
- Quadrants with integral stopping surfaces for use against the rudder stop
- Radial versions supplied pre-drilled for optional bolt on stop block
- Generous groove depths and a large guide bend radii, for longevity of the cable.
- 80° quadrants supplied with cable retaining pins to prevent cable jump

Eye bolt tensioner kits

Eye bolt/cable tensioner are not supplied with quadrants and must be ordered separately
89100196 — Eye bolt tensioner kit for 6mm wide cable

80° Composite High Strength Quadrants

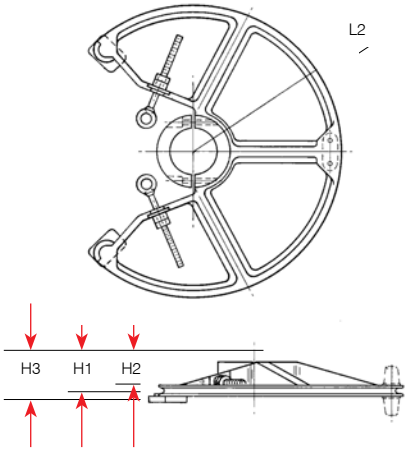
OPERATING RADIUS		MAXIMUM BORE SIZE Ø		H1 BOSS HEIGHT		H2 BOSS HEIGHT		L1 MAXIMUM RAD WIDTH		L2 MAXIMUM RAD WIDTH	
mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
190	7.5	80	3	60	2.4	35	1.3	195	7.7	290	11.0
228	9	80	3	60	2.4	35	1.3	233	9	350	13.7
305	12	80	3	60	2.4	35	1.3	308	12	456	18.0
305	12	100	4	60	2.4	35	1.3	308	12	456	18.0
381	15	80	3	60	2.4	35	1.3	382	15	564	22.0
381	15	100	4	60	2.4	35	1.3	382	15	564	22.0
457	18	100	4	60	2.4	35	1.3	465	18	718	28.0
457	18	125	5	100	4.0	42	1.6	465	18	718	28.0
508	20	125	5	100	4.0	42	1.6	512	20	815	32.0
609	24	125	5	100	4.0	42	1.6	615	24	938	37.0

Quadrants can be supplied pilot bored or machined to suit

260° Composite High Strength Quadrants

OPERATING RADIUS		MAXIMUM BORE SIZE Ø		H1 BOSS HEIGHT		H2 BOSS HEIGHT		L1 MAXIMUM RAD WIDTH		L2 MAXIMUM RAD WIDTH	
mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
152	6	80	3	60	2.3	48	1.8	60	2.3	155	6
203	8	80	3	60	2.3	48	1.8	60	2.3	210	8
254	10	80	3	60	2.3	48	1.8	60	2.3	260	10
254	10	100	4	60	2.3	48	1.8	60	2.3	260	10
305	12	100	4	60	2.3	50	2.0	62	2.4	315	12
381	15	125	5	100	4.0	86	3.0	98	3.8	390	15
457	18	125	5	100	4.0	86	3.0	98	3.8	470	18.5

Quadrants can be supplied pilot bored or machined to suit



Cobra™ Systems

With over 40 years technological development, Cobra™ has become the first choice for boat builders worldwide for aft cockpit vessels. Cobra™ systems are the world leader in terms of performance, reliability and appearance, for Rack and Pinion.

- Typically designed for aft cockpit boats with a short distance between the helm and the rudder
- Simple installation providing a direct feel and rudder response
- Adaptable for twin helm / twin rudder solutions
- Compact installation for boats with minimal space available
- Strong and light – no parts to fret or chafe
- Minimum maintenance
- Smoother operation
- Greater torque capability
- Full CE Certification available

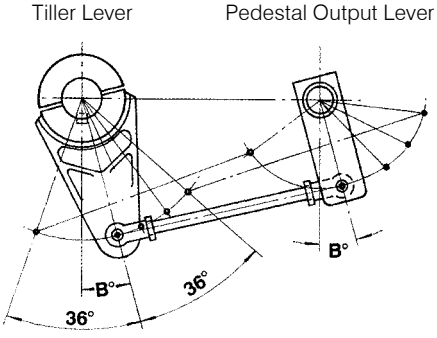
Principle of Operation

The principle of the Cobra™ steering system is based on the precision gearcut circular rack and pinion in the head of the pedestal, providing the necessary mechanical advantage (See wide angle Geometry below). The quadrant gear is connected to a stainless steel downtube, at the base of which is an output lever. This connects to a similar lever, mounted on the rudder stock, via a fully adjustable draglink.

All shaft work is carried through high efficiency sealed ball races and the mesh of gears is controlled via shims under the input, eliminating any lost motion. The input socket also houses a powerful and progressive friction brake for dampening the wheel, when at anchor, for example.

Wide Angle Geometry

The lever geometry for Lewmar transmission systems is based on the principle of Wide Angle Geometry. This results in a very direct steering at amidships and a more indirect and powerful steering at full rudder. Due to this unique feature, the total number of turns of the wheel on a transmission steering system can be reduced by 30-40% compared to a cable system with the same maximum rim loads. This effect is achieved by an unequal length of the output and tiller lever. The output lever has 134mm centres and the tiller lever 203mm. The diagram to the right shows the mechanical advantage (lever reduction) in relation to the rudder angle. Around amidships the reduction is quite constant, and above 15 degrees rudder the mechanical advantage nearly doubles compared to the amidships advantage. The consequence of wide angle geometry is the offset angle of the levers in amidships position. This offset angle is necessary to achieve the same travel to port and starboard. The offset angle varies with the distance from the output lever to the tiller lever. Offset angles can be avoided when the complete gearbox is put on an offset distance.



Cobra™ Steering

Different gear ratios can be used to suit all applications

Cobra™ Steering

TYPE	GEAR RATIO	MECHANICAL ADVTANAGE AT MIDSHIPS	TURNS HO/HO	MAX RUDDER TORQUE		TYPICAL BOAT SIZE	
				Nm	ft.lb	m	ft
Cobra™ Cruising	5:1	8:1	1.77	2943	2170	13.7	45
Cobra™ Base Unit	5:1	8:1	1.77	2943	2170	13.7	45
Cobra™ Racing	4:1	6:1	1.4	4557	3360	16.7	55
Cobra™ Ocean	6.7:1	10.2:1	2.45	4905	3617	18.3	60

Cobra™ Racing

4:1 gear ratio provides the ultimate in feel and responsiveness.

- Incorporates reinforced components to handle the higher torque demands of a large wheel installation
- More direct gear ratio offering 1.5 turns lock to lock
- Can be reduced to less than 1 turn where required
- Larger diameter pinion for greater strength and more direct steering
- Light, strong pedestal shell incorporating 101mm/4" diameter tube
- Optimised gear quadrant in super nickel aluminium bronze.

Cobra™ Ocean

6.7:1 Gear ratio for Blue Water yachts, with smaller wheels requiring a greater number of turns lock to lock.

- For yachts up to 18m/60'
- Suitable for maximum rudder torque of 4905Nm/3618 lb ft
- Additional space for a larger gear set
- 2.4 turns lock to lock
- Larger bearings and a 60mm/2.3" stainless steel down shaft
- Royale and Ranger pedestals specific to the Cobra™ Ocean system

Cobra™ Steering

Cobra™ Installation Guidelines
L1 Standard pedestal height
L1 = 710mm/28".
Range from 178mm/7" to 915mm/36".

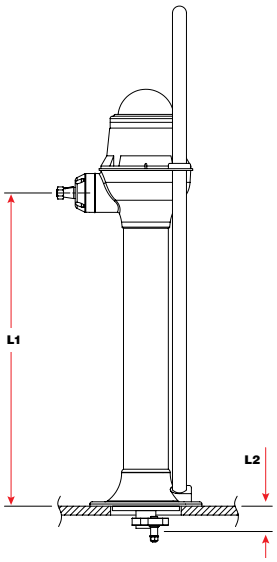
L2 Standard under deck dimension
L2 = 102mm/4". The minimum dimension is governed only by the thickness of the cockpit sole. Where an extended L2 under deck is required, it may be necessary to also add a torque snubber plate.

L3 The distance between the centre of pedestal and the rudder stock, L3 can vary between 120mm /5" – 2000mm/79". Draglinks are made to specification and are adjustable by 20mm/0.78" upon installation.

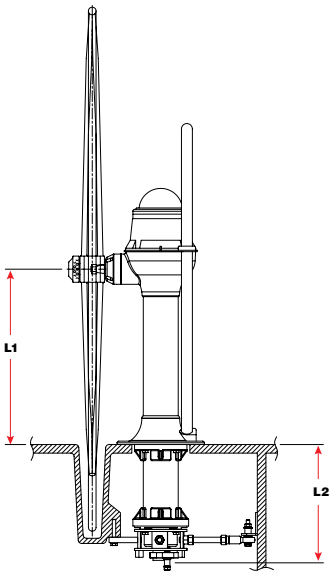
The draglink should not exceed an angle of 5° from the horizontal.

A standard Cobra™ installation can accommodate a rudder rake up to a maximum of 30°. This does however depend on the boat size and type, and the length of L3. Where this angle exceeds 20°, please consult our technical department.

As standard, all levers are mounted to the starboard side and the pedestal is mounted forward of the rudder stock.



Frequently the space directly below the cockpit floor is limited and this special bearing arrangement reduces the intrusion into the accommodation.

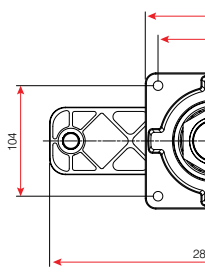


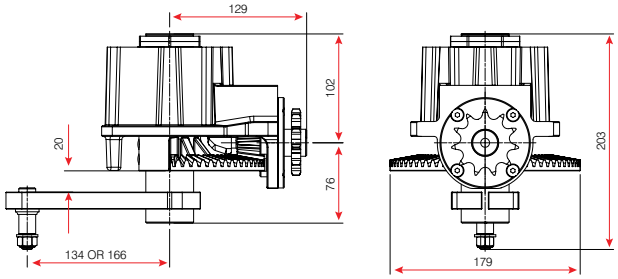
This illustrates the use of a wheel trough and shortened height pedestal which is particularly common on Cobra™ Racing installations where large wheels are fitted. Besides giving more mechanical purchase, the large diameter wheel enable the helmsman to sit out and still reach the helm. Please note that the use of a torque snubber plate may be necessary, to counteract the extra pitching movement caused by the large L2 dimensions (greater than 152mm/6").

Cobra™ System – Customised for specific installations

A Cobra™ system can be customised for twin rudder installations, bridge deck consoles, transom mount rudders and centre cockpit vessels Cobra™ offers a simple steering solution for this arrangement that ensure the rudders remain in phase and Ackerman effect can be achieved.

- One-piece Power input assembly, easy maintenance and gear adjustment
- High-efficiency double sealed deep groove ball bearings
- Powerful and progressive, front mount friction brake
- One-piece heavy duty stainless steel down tube
- Computer optimised gear quadrant design
- Gear quadrant secured via twin 10mm/0.39" stake pins with double shear
- High-strength stainless steel output level welded to down shaft
- Stainless steel rose jointed draglink
- Nybrol gear quadrant and pinion for ultra high strength
- Ability to withstand shock loads





Rack & Pinion Base unit
- Remote mountable rack & pinion gearbox
- Suitable for yacht up to 13.7m / 45'
- Direct gear ratio provides 1.77 turns lock to lock with 181 chain drive
- CE certified

Stop Rings

Limiting the amount of rudder travel is essential on all steering arrangements. The Cobra™ system provides an alternative and simpler to install device than conventional rudder stops – the stop ring. The stop ring, mounted directly below the pedestal, ensures that the output lever travel does not exceed the designed limit. Stops should operate adjacent to operating centres.

Note: Additional rudder stop can be fitted to tiller lever if a stop ring cannot be installed.

89000004
Stop Ring Cobra

Rod Ends

PART NO.	DESCRIPTION
82000356	Rod End AHFT10 Stainless Steel
82000357	Rod End AHFT12 Stainless Steel

Rods ends can be purchased separate from draglink assemblies as spare parts.

82000356
82000357
Rod Ends

Draglinks

PART NO.	DESCRIPTION	LENGTH ONE END LOOSE		SYSTEM TYPE
		mm	in	
89500011	Draglink Assemblies AHFT 10	1000	40	Cruising
89500012	Draglink Assemblies AHFT 10	2000	80	Cruising
89500013	Draglink Assemblies AHFT 12	1000	40	Racing and Ocean
89500014	Draglink Assemblies AHFT 12	2000	80	Racing and Ocean

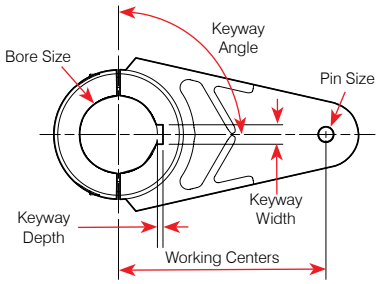
The draglinks specified above are supplied with one end fitting loose to enable the tube to be cut to size and welded. If the correct centres for the draglink are known contact your Lewmar dealer prior to order for the part number relating to the centre required.

Draglink complete with rod end

Tiller Levers

Lewmar also offers extended versions to enable the fitting of linear drive type autopilots at 250mm/10" and 350mm/13" centres, in conjunction with the standard 203mm/8" position for the steering draglink.

PART NO.	CAN BE MACHINED TO BORE SIZE		DESCRIPTION
	mm	in	
89500002	80	3	Tiller Lever
89500005	100	4	Tiller Lever
89500008	125	5	Tiller Lever



All above part numbers are for standard tiller levers supplied pilot offer a machining service to supply the tiller lever ready to suit the rudder stock of the boat, please contact your Lewmar distributor for part number and price prior to ordering.

Mamba™

The Mamba™ system provides the ultimate in marine steering, in terms of precision, feedback and strength. Mamba™ systems are chosen for a diverse range of sail and power craft such as blue water cruising yachts, pilot vessels, and sail training vessels.

- Uses rotating torque tubes and bevel gears to transmit the helmsman's input
- Reduction gearboxes can be incorporated in the system to reduce the load felt on the wheel
- Allows twin wheels and multiple rudders applications
- Favoured for its direct feel with almost zero backlash
- Autopilots can be coupled directly into the system giving added flexibility of setup
- Minimal maintenance
- Offers precise rudder feel
- Different gearbox options accomodate high rudder torques seen on larger boats

Principle of Operation

Mamba™ steering is a rotating torque tube and bevelhead system, transmitting the helmsman's input to a high efficiency reduction gearbox, mounted adjacent to the rudder stock. A tiller lever is fitted to the rudder stock and is driven by a similar lever integral to the gearbox, via a fully articulating jointed draglink. Two or three station systems, catamarans and tandem wheel steering systems are regularly supplied. The integration of autopilot drives and remote controlled disengagement units are simply achieved. The Mamba™ range of steering systems is offered in two sizes, BH10 and BH130, which are coupled with 12 models of reduction gearbox, providing equipment to suit all craft from 10.6m/35' to 61m/200'.In most cases, either high efficiency spur, or reduction gearboxes are chosen, offering between 1.0 and 26 turns lock to lock. Each option also provides a high reverse efficiency, transmitting rudder feel to the helmsman.

To simplify installations, Mamba™ equipment offers the following examples of versatility:

- Bevelheads can be supplied with 2, 3 or 4 steering shafts, permitting integration for secondary steering stations, tandem wheel arrangements and direct coupled autopilot drives.
- A choice of mounting plates and brackets for bevel and gearboxes.
- Availability of step ration gears to adjust overall steering ratio.

The lever geometry for Lewmar transmission systems is based on the principle of Wide Angle Geometry, refer to Page 188

Mamba™ – Bevelheads

BH10

Lewmar BH10 torque tubes are made of marine grade stainless steel depending on the specific installation requirements. Torque tubes are supplied in standard lengths with one end loose for welding by the installer. Or we offer fully welded torque tubes to pre-specified lengths

Additional information

1 Steering shafts can be made to customer's preferred length
2 Bevelheads are available with either rotation
3 Standard bevelheads have 1:1 ratio, but other ratios are available as detailed in specification
4 Mounting plate (or bracket) can be fitted to all faces to facilitate ease of mounting
5 All bevelheads can be configured to accept the Lewmar direct fit autopilot mount
6 For detailed dimensions contact a Lewmar representative
7 Due to the custom nature of this product, contact Lewmar for part number

BH130 – For boats 60ft and above

Lewmar BH130 torque tubes are made of marine grade stainless steel. Depending on the specific installation requirements, torque tubes are supplied in standard lengths with one end loose for welding by the installer. Or we offer fully welded torque tubes to pre-specified lengths

Universal Joints

Must be fitted at both ends of a torque tube. Where a self aligning bearing is used, one universal joint connects both torque tubes, as shown in illustrations. Self aligning bearings work up to an angle of 15°. AMK10 universal joints have a maximum permissible working angle of 25°. Where practical, the angle at each joint should be balanced.
The WUJ6 universal joint is suitable for use with large gearboxes 18, 20 and 45, see p191. It has a maximum permissible working angle of 25°. Where practical, the angle at each joint should be balanced.

Mamba Universal Joint and self aligning bearing

Mamba™ – BG Reduction Gearboxes

The BG Series of high efficiency reduction gearboxes employ bevel gears manufactured from either high alloy steel or nickel bronze alloy running in precision roller bearings. Gear casings are manufactured from marine grade aluminium and shaft work is stainless steel or nickel bronze alloy. All gearboxes are grease filled and shimmed for zero backlash.

BG Reduction Gearboxes

MECHANICAL GEARBOX TYPE	GEAR RATIO	ADVANTAGE AT MIDSHIPS	TURNS HO TO HO	MAXIMUM RUDDER TORQUE		• typical oat range	
				Nm	ft.lbs	m	ft
BG12	5:1	8:1	1.8	2943	2170	up to 14	up to 45
BG12/2	5:1	8:1	1.8	2943	2170	up to 14	up to 45
BG30	6.7:1	10.2:1	2.4	4905	3617	14-18	45'-60'

Additional information

1 Mechanical advantage and turns lock to lock are based on standard level geometry
2 Reduction gearboxes can be mounted anywhere within the general proximity of the rudder stock 0.2m/7" to 2m/6.5'
3 For detailed dimensions contact your Lewmar representative

89200034
Gearbox (BG12)

Mamba™ – WRG Reduction Gearboxes

The WRG series of high-efficiency gearboxes employs precision cut, stub tooth form, spur gears running in deep groove ball and roller bearings. Gear casing are manufactured from marine grade aluminium, and shaft work is in stainless steel or nickel bronze alloy. All gearboxes are CNC machined and grease filled to ensure a perfect fit and maintenance free life.

89200041
Gearbox (WRG12)

89200046
Gearbox (WRG18)

Additional information

1 Mechanical advantage and turns lock to lock are based on standard level geometry
2 Overall mechanical advantage and turns lock to lock can be altered via stepped ratio bevels in bevelheads within the system or by non-standard level centers.
3 Reduction gearboxes can be mounted anywhere within the general proximity of the rudder stock (0.2m/7" to 2m/6.5') For more details please refer to the installation and maintenance handbook.
4 Bevelheads can be directly integrated to all WRG series gearboxes
5 For detailed dimensions contact your Lewmar representative.

WRG Reduction Gearboxes

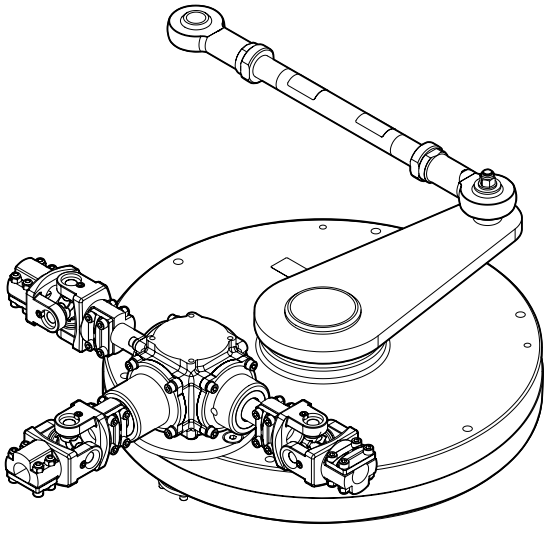
MECHANICAL GEARBOX TYPE	GEAR RATIO	ADVANTAGE AT MIDSHIPS	TURNS HO TO HO	MAXIMUM RUDDER TORQUE		TYPICAL BOAT RANGE	
				Nm	ft.lbs	m	ft
WRG11	5:1	8:1	1.8	2943	2170	11.5-14	38-45
WRG12	7:1	10.8:1	2.4.8	5150	3798	13-20	45-65
WRG18	10:1	15.2:1	3.5	10800	7965	18-27	60-90
WRG20	12.6:1	19.1:1	4.4	13700	10104	24-33.5	80-110
WRG45	13:1	20:1	4.6	24000	17701	20-46	90-120
WRG60	24.7:1	37.5:1	8.6	36250	26740	33-45	110-150
WRG90	65:1	96:1	21.6	53000	39090	36.5-61	120-200

Mamba™– Bevelhead Integration

Integration – WRG series of spur reduction gearboxes can be supplied with an integral bevelhead fitted to the input shaft as per illustrations below. The bevelhead can be mounted to either side of the reduction gearbox and rotated at any angle. Custom arrangements are available with great stand offs between the gearbox and bevelhead. Lewmar provides an in-house design service for Mamba™ installations.

Pedestal Gearbox Integration

Mamba™ pedestal – BG WRG Integration – For larger aft cockpit yachts, the WRG and BG series gearboxes can be directly mounted to the pedestal.
On the WRG12 gearbox and above – a torque adapter plate is provided to transmit the force directly to the underside of the cockpit floor.
For raked rudders (25° and above), it is normal to use the BG series of gearbox, see Page 192.



Gearbox WRG type showing directional movement of outer lever and torque tubes

Autopilot Drives

Our experience has given us insight into the challenges that occur when interfacing autopilot drives to the steering system and how important this aspect is to the correct operation of the autopilot. Our comprehensive range of mechanical and hydraulic autopilot drive units helps overcome typical installation problems.

- All units have an electromechanical clutch, virtually eliminating drag on the steering system
- All units are compatible with the majority of electronic suppliers, such as Raymarine, B&G and Simrad
- All drives have low current draw
- Drives available in 1/4, 1/2 and 1HP capacities, suitable for all Lewmar steering types.

Lewmar recommends the following Drive Units for your boat. If your boat is not listed here, please contact Lewmar for further information

BOAT BUILDER/MODEL	DESCRIPTION	PART NO.
Bavaria		
30, 33, 37, 39 Cruisers	Integra	89300136
42, 44, 46, 49, 50, Cruisers	Mamba™	89300137
Bavaria NC55	Direct	85008160 + 89500956
Dufour		
34	Constellation™	89300109
40, 44	Constellation™	89300086
385, 455	Constellation™	89300123
Gib Sea 43	Mamba™	89300137
Halberg Rassy		
40, 43	Mamba™	89300137
46, 48, 53 - 12v	Mamba™	89300137
46, 48, 53 - 24v	Mamba™	89300054
62	Mamba™	89300060
Hunter		
44, 49	Mamba™	89300137
45CC	Integra	89300113
Island Packet		
370	Direct	89300040
440	Direct	89300040
445	Mamba™	89300137
485	Mamba™	89300137

BOAT BUILDER/MODEL	DESCRIPTION	PART NO.
Najad		
400	Mamba™	89300137
460, 490, 511	Mamba™	89300137
Northshore		
Southerly 110	Direct	89300103 + 89300099
Southerly 32	Integra	89300104
Southerly 35RS	Direct	89300103 + 89300100
Southerly 38	Mamba™	89300157
Southerly 42	Mamba™	89300103
Vancouver 49	Mamba™	89300117
Oyster		
62, 655	Mamba™	89300060
72, 82	Mamba™	89300070
Tartan		
3400	Direct	89300039
3700	Direct	89300039
4100	Direct	89300039
4400	Direct	89300039

lewmar.com Autopilot drive manuals and installation guides can be found on the Lewmar website www.lewmar.com

Integra Drives

The Integra drive is available in three formats. The Cobra™ and Mamba™ versions mount directly inside the Integra pedestal. This unique installation is only available from Lewmar and provides the installer with a simple and quick installation with no complicated, labour intensive mounting platforms required. We also offer an Integra Sprocket version, which is very popular with Bavaria Cruising yachts from 9m to 12m (30ft to 39ft) in length.

Integra Drives

PART NO	DESCRIPTION
89300136	Bavaria Integra Drive
89300137	Mamba™ Integra Drive
89300104	Cobra™ Pedestal Integra Drive
89300113	Mamba™ Pedestal Integra Drive

Mamba™ Drives

These unique autopilot drives directly couple to Mamba™ systems, eliminating the need for separate platforms, chain and sprockets.

Mamba™ Drive Unit Specification

Spine Coupling Connection	HP	Voltage[1]	MAX OUTPUT TORQUE Nm	MAX OUTPUT TORQUE ft. lb	Speed RPM	MAX RUDDER TORQUE mkg	MAX RUDDER TORQUE ft. lb	Ave Current Consumption	WEIGHT kg	WEIGHT lb
3/4 × 48	1/4	12	169	125	10	248	1794	4A	9.0	19.8
3/4 × 48	1/4	24	169	125	10	248	1794	2.5A	9.0	19.8
3/4 × 48	1/4	24	169	125	10	248	1794	2.5A	9.0	19.8
3/4 × 48	1/2	24	183	135	13	426	3080	3.5A	10.5	23.1
3/4 × 48	1/2	24	183	135	13	426	3080	3.5A	10.5	23.1

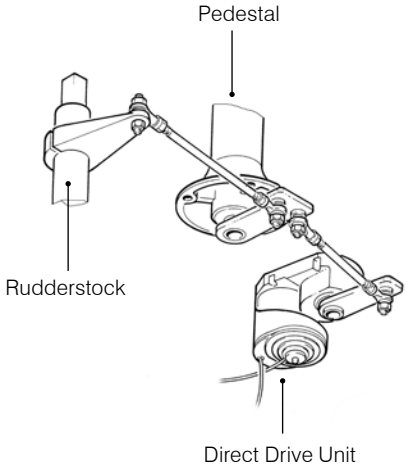
[1] Voltage refers to clutch

Direct Drives

Uniquely, the Direct Drive can operate onto the pedestal or gearbox output lever as an alternative to the rudder lever. This offers the installer and boat designer more options for layout as the Direct Drive can be mounted in any attitude.

Features

- Available in Constellation™, Cobra™ and Mamba™ steering systems
- Extremely powerful, delivering up to 2432Nm/1794ft. lb of torque
- Virtually zero drag – steering performance is not impaired
- Compact Direct Drive, enabling close mounting to the rudder stock, at any attitude



Direct drive connected to a tiller lever via a draglink

Direct Drive Unit Specification

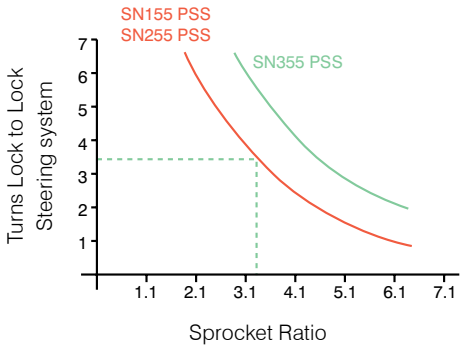
Output Lever Centre	HP	Voltage[1]	NO LOAD SPEED Ho–Ho	MAX RUDDER TORQUE mkg	MAX RUDDER TORQUE ft-lb	Average Current Consumption	WEIGHT kg	WEIGHT lb
166mm Lever	1/4	12	10s	248	1794	4A	8.8	19.4
166mm Lever	1/4	24	10s	248	1794	4A	8.8	19.4
166mm Lever	1/2	24	12s	345	2496	3.5A	24.8	55.0
166mm Lever	1/2	24	17s	493	3566	3.5A	45.5	100.0

[1] Volt in Relation zur Kupplung

Rotary Sprocket Drives – To suit Constellation™ & Mamba™

Lewmar offer 3 sizes of powerful and compact rotary drive units, which employ conventional chain and sprocket connection to the steering system. The high efficiency, twin stage, epicyclic gearbox is grease filled, which allows mounting in any attitude. The wide mounting platform is slotted to aid chain tensioning. Rotary drives are generally used on cable and push-pull steering systems and it is necessary to calculate the correct driven sprocket, which is dependent on the turns (mechanical advantage) of the steering system. Lewmar can supply fully machined sprockets for your steering system in steel or stainless steel upon request, as well as chain and master links.

Please refer to the graph to calculate the correct sprocket size. The turns lock to lock is referred to at the position on the steering where the driven sprocket is to be mounted.



Rotary Sprocket Drive Unit Specification

Sprocket Size	Type	POWER HP	VOLTAGE[1]	MAX OUTPUT TORQUE Nm	MAX OUTPUT TORQUE ft. lb	NO LOAD SPEED RPM	MAX RUDDER TORQUE mkg	MAX RUDDER TORQUE ft. lb	AVGE CURRENT CONSUMPTION	WEIGHT kg	WEIGHT lb
5/8" P 9T Sprocket	SN255PSS	1/4	12	43	32	44	207	1500	4.0A	8.8	19.4
5/8" P 9T Sprocket	SN255PSS	1/4	24	43	32	44	207	1500	2.5A	8.8	19.4
5/8" P 9T Sprocket	SN355PSS	1/2	24	47	35	55	332	2400	3.5A	10.0	22.0
5/8" P 9T Sprocket	SN455PSS	1	24	466	344	18	1660	12055	6.0A	30.0	66.1

[1] Volt in Relation zur Kupplung

Rudder Bearing Solutions

Lewmar offers a range of rudder bearing and rudder stocks to complement yacht steering systems. Lewmar's rudder bearings come in two basic types – plain roller and self-aligning roller. We can provide a rudder bearing solution for any yacht, whether it is tiller steered or a Grand Prix racer. Lewmar roller bearings are designed for production yachts as well as custom one-off yachts. Choose from our range or speak to your Lewmar representative for a specification and design to suit your rudder bearing requirements.

Plain roller bearing with deck cover and thrust race

Upper Bearings

- Manufactured in 6082 aluminium and anodised
- Suit rudder stock diameters 50–109 mm (2 – 4 5⁄16 in)
- Easy to install flanged housing
- Model with a deck cover offers integral locking ring and vertical thrust race
- No grease or maintenance required

Plain roller bearing

Features precision Delrin rollers with low friction co-efficient
Add picture of Plain roller bearing + Plain roller bearing with deck cover and thrust race as per p.200

Self aligning roller bearings

Self aligning roller bearings

Bearing includes self aligning ball and precision Delrin rollers
pictures on p200 + 201

Lower Bearings

- Suit rudder stock diameters 50mm–109mm (2 – 4 5⁄16 in)
- No Grease or Maintenance required

Aluminium roller bearing

- Manufactured in 6082 aluminium and anodised
- Accepts sealing system for lip seals or rudder tube and gaitor
- Low friction co-efficient

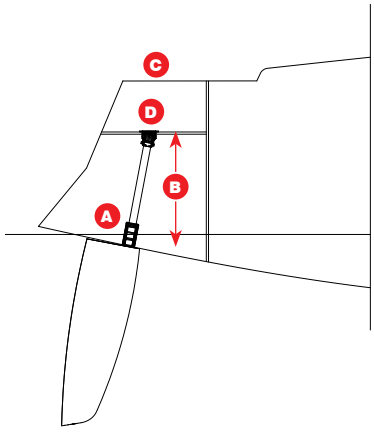
Self aligning GRP tube bearing

- Manufactured with a GRP tube for easy laminating on installation
- Bearing includes s/a ball and precision Delrin rollers
- Accepts sealing system for neoprene gaitor

Aluminium roller bearing

Self aligning GRP tube bearing

Typical Bearing Installation



A Lower bearings should be positioned so that the seals are above the water line. A gaitor may also be used for added security against leaks.

B Upper and Lower bearings should be spaced apart as far as is practically possible to reduce loading on the rollers.

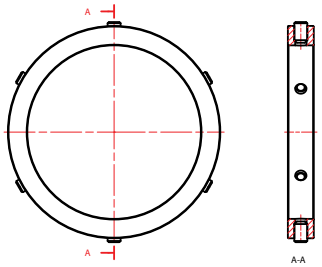
C A removable deck cover may be used for quick fitting of an emergency tiller

D For tiller steered yachts seals may be incorporated into the upper bearing to prevent water ingress from above deck into the boat.

Accessories

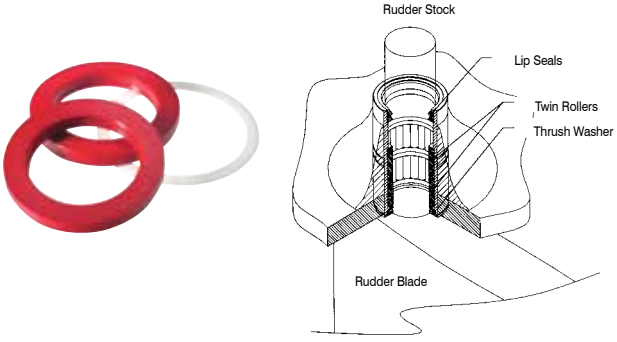
Locking Rings

- Used with upper bearings without integral locking ring
- Manufactured in 6082 aluminium and anodised
- Suit rudder stock diameters 40mm–110mm (1 ½" – 4 5⁄16")
- Stainless set screws secure locking ring to rudder stock



Lip Seals

- Precision fit seals provide protection against water ingress with minimal friction.
- Can be used in conjunction with a gaitor for added protection.
- Sizes available to suit any rudder stock diameter.
- Manufactured in tough polyurethane material.



Tiller Heads

- Tiller head block manufactured in 6082 alloy and anodised
- Suit shaft diameters 25mm – 50mm (1"–2")
- Height and angle adjusted by set screws
- 'U' shape channel manufactured in 316 stainless steel

Navtec Retail

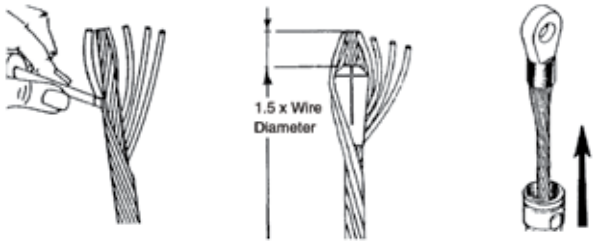
As a member of the Lewmar Marine products family, Navtec provides quality custom and standard rigging and hydraulic solutions to sailors and boat builders around the world. From America ' s Cup racers and mega-yacht captains to recreational cruisers, Navtec rigging solutions are respected and trusted in the most challenging of sailing conditions. The following pages showcase the new Navtec Retail products. All products (except the hydraulic cylinders) are supplied in retail packaging that includes a Eurohook. For more information about the complete Range of rigging and hydraulic solutions, please consult the Navtec catalogue.

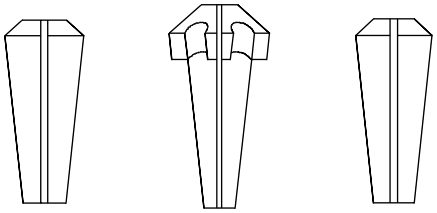
Norseman Swageless Terminals

Norseman terminals provide a fast, secure, corrosion-resistant end fitting on all types of wire rigging and are an ideal replacement part. They can be installed quickly and easily at sea, making them ideal for emergency repairs.

Swageless Fitting Method

No special tools required. Slip the body of the terminal over the diameter of the cable. Unlay outer wires and fit the cone over the center core. Relay the outer wires into the head of the fitting. Draw the body up to the head and screw together. Norseman terminals can be re-used, but please note that a new cone must be installed.



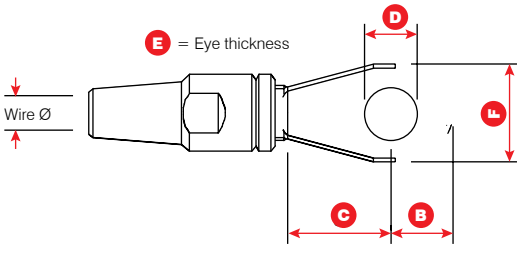


1 x 19 **7 Strand** **Dyform**

PART NO.			SIZE		FINISH		
Cones 1x19 (pair)	Cones 7 strand (pair)	Cones Dyform (pair)	mm	in	1x19	7 Strand	Dyform
NCC-M025R	NCS-M025R		2.5	3/32	BLUE	YELLOW	–
NCC-M03R	NCS-M03R		3.0	1/3	NO PAINT	YELLOW	–
NCC-M04R	NCS-M04R		4.0	5/32	NO PAINT	RED	–
NCC-M05R	NCS-M05R	NCD-M05R	5.0	–	NO PAINT	RED	WHITE
NCC-M06R	NCS-M06R	NCD-M06R	6.0	7/32	BLUE	YELLOW	–
NCC-M07R	NCS-M07R	NCD-M07R	7.0	–	NO PAINT	RED	WHITE
NCC-M08R	NCS-M08R	NCD-M08R	8.0	1/4	GREEN	YELLOW	WHITE

R denotes retail package. If required in bulk, exclude R.

Swageless Eye

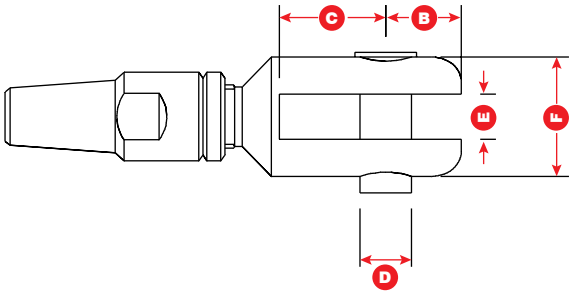


PART NO	DESCRIPTION	WIRE DIA		B		C		D		E		F	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
N010-M02508R	2.5MM 1X19 1/4" EYE SWAGELESS	2.5	3/32	7.0	0.276	11	0.433	6.5	0.256	5.5	0.217	13	0.512
N010-M0308R	3MM 1X19 1/4" EYE SWAGELESS	3.0	1/8	7.0	0.276	11	0.433	6.5	0.256	5.5	0.217	13	0.512
N010-M0410R	4MM 1X19 5/16" EYE SWAGELESS	4.0	5/32	8.2	0.323	11	0.433	8.1	0.319	6.7	0.264	16	0.630
N010-M0510R	5MM 1X19 5/16" EYE SWAGELESS	5.0	-	10	0.394	16	0.630	8.1	0.319	8	0.315	16	0.630
N010-M0512R	5MM 1X19 3/8" EYE SWAGELESS	5.0	-	10	0.394	18	0.709	9.7	0.382	8	0.315	19	0.748
N010-M0612R	6MM 1X19 3/8" EYE SWAGELESS	6.0	-	11	0.433	17	0.669	9.7	0.382	9	0.354	22	0.866
N010-M0614R	6MM 1X19 7/16" EYE SWAGELESS	6.0	-	12.5	0.492	19	0.748	11.3	0.445	9.5	0.374	23	0.906
N010-M0616R	6MM 1X19 1/2" EYE SWAGELESS	6.0	-	15	0.591	22.5	0.886	13	0.512	9.5	0.374	26	1.024
N010-M0716R	7MM 1X19 1/2" EYE SWAGELESS	7.0	7/32	15	0.591	22	0.866	13	0.512	11	0.433	27	1.063
N010-M0816R	8MM 1X19 1/2" EYE SWAGELESS	8.0	1/4	15	0.591	24	0.945	13	0.512	12.5	0.492	27	1.063
N010-M0820R	8MM 1X19 5/8" EYE SWAGELESS	8.0	5/16	18	0.709	28	1.102	16	0.630	12.5	0.492	33	1.299

R denotes retail package. If required in bulk, exclude R.

Swageless Fork

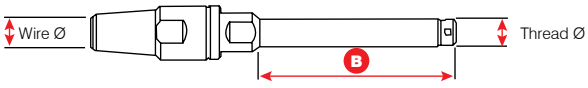
Made from high quality 316 Stainless Steel. Fitting available for 1 x 19 wire.



PART NO	DESCRIPTION	WIRE DIA		B		C		D		E		F	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
N020-M02508R	2.5MM 1X19 1/4" FORK SWAGELESS	2.5	3/32	8.00	0.31	13.00	0.51	6.30	0.25	6.30	0.25	14.00	0.55
N020-M0308R	3MM 1X19 1/4" FORK SWAGELESS	3.0	1/8	8.00	0.31	13.00	0.51	6.30	0.25	6.30	0.25	14.00	0.55
N020-M0410R	4MM 1X19 5/16" FORK SWAGELESS	4.0	5/32	10.00	0.39	16.00	0.63	7.90	0.31	7.90	0.31	19.00	0.75
N020-M0510R	5MM 1X19 5/16" FORK SWAGELESS	5.0	-	10.00	0.39	16.00	0.63	7.90	0.31	7.87	0.31	19.05	0.75
N020-M0512R	5MM 1X19 3/8" FORK SWAGELESS	5.0	-	12.00	0.47	19.00	0.75	9.50	0.37	9.50	0.37	22.00	0.87
N020-M0612R	6MM 1X19 3/8" FORK SWAGELESS	6.0	-	12.00	0.47	19.00	0.75	9.50	0.37	9.50	0.37	22.00	0.87
N020-M0614R	6MM 1X19 7/16" FORK SWAGELESS	6.0	-	14.00	0.55	22.00	0.87	11.10	0.44	11.10	0.44	28.50	1.12
N020-M0616R	6MM 1X19 1/2" FORK SWAGELESS	6.0	-	16.00	0.63	25.50	1.00	12.70	0.50	12.70	0.50	31.50	1.24
N020-M0716R	7MM 1X19 1/2" FORK SWAGELESS	7.0	9/32	16.00	0.63	25.50	1.00	12.70	0.50	12.70	0.50	31.50	1.24
N020-M0816R	8MM 1X19 1/2" FORK SWAGELESS	8.0	5/16	16.00	0.63	25.50	1.00	12.70	0.50	12.70	0.50	31.50	1.24
N020-M0820R	8MM 1X19 5/8" FORK SWAGELESS	8.0	5/16	20.00	0.79	32.00	1.26	15.80	0.62	15.80	0.62	38.00	1.50

R denotes retail package. If required in bulk, exclude R.

Swageless Stud



PART NO	DESCRIPTION	WIRE Ø		THREAD Ø	B	
		mm	in	UNF	mm	in
N030-M02508R	2.5MM 1X19 1/4" STUD SWAGELESS	2.5	3/32	1/4	57	2.24
N030-M0308R	3MM 1X19 1/4" STUD SWAGELESS	3.0	1/8	1/4	57	2.24
N030-M0410R	4MM 1X19 5/16" STUD SWAGELESS	4.0	5/32	5/16	48	1.89
N030-M0510R	5MM 1X19 5/16" STUD SWAGELESS	5.0	-	5/16	48	1.89
N030-M0512R	5MM 1X19 3/8" STUD SWAGELESS	5.0	-	3/8	65	2.56
N030-M0612R	6MM 1X19 3/8" STUD SWAGELESS	6.0	-	3/8	65	2.56
N030-M0614R	6MM 1X19 7/16" STUD SWAGELESS	6.0	-	7/16	75	2.95
N030-M0616R	6MM 1X19 1/2" STUD SWAGELESS	6.0	-	1/2	83	3.27
N030-M0716R	7MM 1X19 1/2" STUD SWAGELESS	7.0	9/32	1/2	83	3.27
N030-M0816R	8MM 1X19 1/2" STUD SWAGELESS	8.0	5/16	1/2	83	3.27
N030-M0820R	8MM 1X19 5/8" STUD SWAGELESS	8.0	5/16	5/8	98	3.86

R denotes retail package. If required in bulk, exclude R.

Swageless 'T' Terminal

Made from high quality 316 Stainless Steel. Fitting available for 1 x 19, 7 strand, and Dyform wire.

PART NO	DESCRIPTION	WIRE Ø		HEAD HEIGHT		HEAD WIDTH		GRIP DEPTH	
		mm	in	mm	in	mm	in	mm	in
N070-M04R	4MM 1X19 "T" TERM SWAGELESS	4	5/32	9.0	0.35	17.5	0.69	6.4	0.25
N070-M05R	5MM 1X19 "T" TERM SWAGELESS	5	-	11.1	0.44	20.0	0.79	8.0	0.31
N070-M06R	6MM 1X19 "T" TERM SWAGELESS	6	-	14.3	0.56	28.0	1.10	8.3	0.32
N070-M07R	7MM 1X19 "T" TERM SWAGELESS	7	9/32	14.3	0.56	28.0	1.10	8.3	0.32
N070-M08R	8MM 1X19 "T" TERM SWAGELESS	8	5/16	17.8	0.70	32.0	1.26	12.0	0.47

R denotes retail package. If required in bulk, exclude R.

Swageless Shroud Terminal

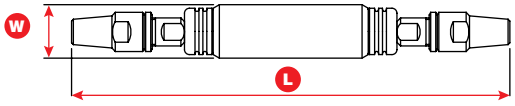
Made from high quality 316 Stainless Steel. Fitting available for 1 x 19, 7 strand, and Dyform wire.

PART NO	DESCRIPTION	WIRE Ø		HEAD HEIGHT		HEAD WIDTH	
		mm	in	mm	in	mm	in
N080-M06R	6MM SHROUD TERMINAL 1X19	6		12.5	0.492	22.5	0.886
N080-M07R	7MM SHROUD TERMINAL 1X19	7	9/32	14.3	0.563	29.0	1.142
N080-M08R	8MM SHROUD TERMINAL 1X19	8	5/16	16.0	0.630	29.0	1.142

R denotes retail package. If required in bulk, exclude R.

Wire Insulator Swageless Terminal / Terminal 1x19cone

For superior strength and electrical performance in a wire rigging/backstay system. Several end configurations are offered to make an adaptable connection. Withstands high sustained loads in all conditions.



PART NO	DESCRIPTION	WIRE Ø		L LENGTH		W WIDTH	
		mm	in	mm	in	mm	in
NI53-M05M05-1R	5MM TERM/TERM INS 1X19	5		211	8.310	29	1.140
NI53-M06M06-1R	6MM TERM/TERM INS 1X19	6		229	9.020	29	1.140
NI53-M07M07-1R	7MM TERM/TERM INS 1X19	7	9/32	241	9.490	35	1.370
NI53-M08M08-1R	8MM TERM/TERM INS 1X19	8	5/16	262	10.320	35	1.370

R denotes retail package. If required in bulk, exclude R.

'T' Retaining Plugs

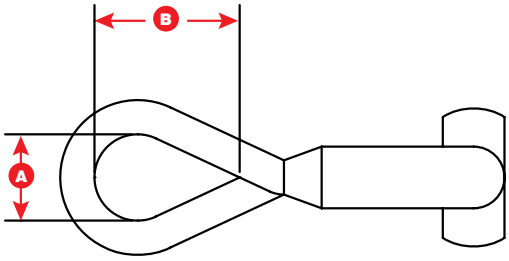
PART NO	DESCRIPTION
N742-M03R	3MM T TERMINAL PLUG
N742-M04R	4MM T TERMINAL PLUG
N742-M05R	5MM T TERMINAL PLUG
N742-M07R	7MM T TERMINAL PLUG

R denotes retail package. If required in bulk, exclude R.


T Terminal Plug

'T' Ring

T Rings enable fiber rope to connect to spars through a T-Terminal backing plate. Ideal for replacing old wire runners and checkstays with lighter weight alternatives.



PART NO	DESCRIPTION	A		B	
		mm	in	mm	in
N743-M03R	3MM T RING	11.4	0.45	18.0	0.71
N743-M04R	4MM T RING	11.4	0.45	18.0	0.71
N743-M05R	5MM T RING	15.0	0.59	25.4	1.00
N743-M06R	6MM T RING	20.0	0.79	33.7	1.33

R denotes retail package. If required in bulk, exclude R.

Threaded Eyes

PART NO	DESCRIPTION
NLL-1081-M08R	SINGLE EYE - M8
NLL-1081-10R	SINGLE EYE - 5/16"
NLL-1082-M08R	INTERLINKED EYE - M8
NLL-1082-10R	INTERLINKED EYE - 5/16"

R denotes retail package. If required in bulk, exclude R.


Single Eye


Interlinked Eye

Pelican Hooks

PART NO	DESCRIPTION
NLL-812R	PELICAN HOOK
NLL-1080-M08R	PELICAN HOOK - M8 RH
NLL-1080-10RR	PELICAN HOOK - 5/16" RH

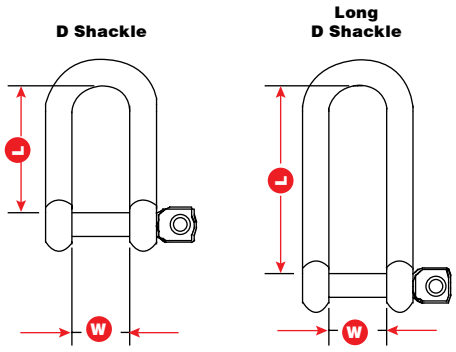
R denotes retail package. If required in bulk, exclude R.


NLL-812
Pelican Hook


NLL-1080
Pelican Hook

NHS Forged Shackle

Made from high quality 316 Stainless Steel.

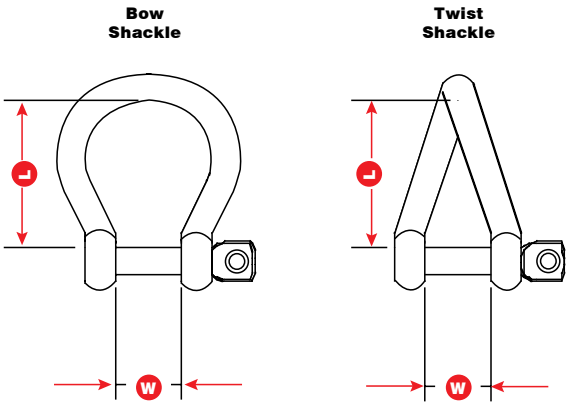


PIN HOLE DIAMETER		W		"D" SHACKLE			LONG "D" SHACKLE			BREAKING LOAD	
mm	in	mm	in	Part No	L mm	L in	Part No	L mm	L in	kg	lb
4.0	5/32	8	0.31	NSH-05DR (pair)	16	0.63				800	1760
5.0	3/16	10	0.39	NSH-06DR (pair)	20	0.79	NSH-06LR (pair)	29	1.14	1500	3300
6.0	1/4	13	0.51	NSH-08DR (pair)	25	0.98	NSH-08LR (pair)	43	1.69	1950	4300
8.0	5/16	16	0.63	NSH-10DR	32	1.26	NSH-10LR	49	1.93	3000	6600
9.5	3/8	19	0.75	NSH-12DR	38	1.50	NSH-12LR	55	2.16	4800	10560

R denotes retail package. If required in bulk, exclude R.

Bow & Twist Shackle

Made from high quality 316 Stainless Steel.



PIN HOLE DIAMETER		W		BOW SHACKLE			TWIST SHACKLE			BREAKING LOAD	
mm	in	mm	in	Part No	L mm	L in	Part No	L mm	L in	kg	lb
4.0	5/32	8	0.31	NSH-05BR (pair)	18	0.71		13	0.51	600	1326
5.0	3/16	10	0.39	NSH-06BR (pair)	22	0.87	NSH-06T (pair)	16	0.63	1200	2640
6.0	1/4	13	0.51	NSH-08BR (pair)	28	1.1	NSH-08T (pair)	20	0.79	1600	3440
8.0	5/16	16	0.63	NSH-10BR	35	1.38	NSH-10T	26	1.02	2400	5280
9.5	3/8	19	0.75	NSH-12BR	38	1.5	NSH-12T	31	1.22	3800	8450

R denotes retail package. If required in bulk, exclude R.

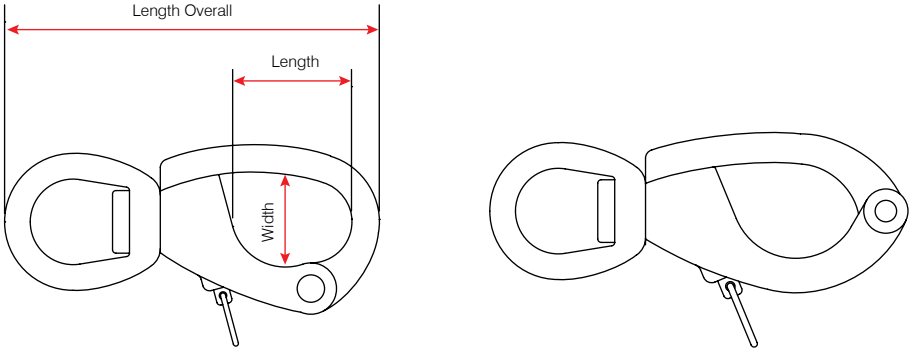
NSS Supersnap Shackles

The Navtec Supersnap series owes its popularity to a few key characteristics. They are strong, crafted from heat-treated Stainless Steel, electropolished, and fitted with swivel eyes. Can be opened under load with Racing Fid or with the no-snag side trigger opening mechanism for faster, easier deck work. These traits have earned them a place on the world's finest competition yachts.

PART NO	DESCRIPTION	THROAT WIDTH		THROAT LENGTH		WEIGHT		EYE SIZE	RECOMMENDED WORKING LOAD	
		mm	in	mm	in	g	oz		kg	lb
NSS-719R	SUPER SNAP LGE/EYE 1350KG	13.6	0.54	16.1	0.63	53	1.9	Large	1350	3000
NSS-720R	SUPER SNAP STD/EYE 2050KG	21.5	0.85	26.2	1.03	155	5.5	Standard	2050	4550
NSS-721R	SUPER SNAP STD/EYE 3600KG	21.5	0.85	25.8	1.01	164	5.8	Large	2050	4550
NSS-723R	SUPER SNAP LGE/EYE 2050KG	26.7	1.05	29.8	1.17	290	10.2	Standard	3600	8000
NSS-724R	SUPER SNAP LGE/EYE 3050KG	26.5	1.04	29.8	1.17	300	10.6	Large	3050	6750
NSS-726R	SUPER SNAP LGE/EYE 5650KG	26.0	1.02	29.8	1.17	386	13.6	Large	5650	12500

R denotes retail package. If required in bulk, exclude R.

Snap Shackles



Snap Shackle Side Opening 17/4PH

PART NO	DESCRIPTION	SIZE	THROAT WIDTH		THROAT LENGTH		LENGTH OVERALL		WEIGHT		RECOMMENDED WORKING LOAD	
			mm	in	mm	in	mm	in	g	oz	kg	lb
NSS-2571R	SNAP SHAC S/O S1 17/4	1	17	0.687	22	0.875	68	2.687	0.060	0.125	2270	5000
NSS-2572R	SNAP SHAC S/O S2 17/4	2	22	0.875	28	1.125	89	3.500	0.132	0.297	4126	9100
NSS-2573R	SNAP SHAC S/O S3 17/4	3	26	1.000	34	1.375	109	4.250	0.255	0.563	6122	13500

Snap Shackle Top Opening 17/4PH

NSS-2511R	SNAP SHAC T/O S1 17/4 STD/EYE	1	18	0.687	24	0.937	70	2.750	0.070	0.156	2270	5000
NSS-2512R	SNAP SHAC T/O S2 17/4 STD/EYE	2	22	0.875	29	1.125	98	3.875	0.142	0.313	4126	9100
NSS-2513R	SNAP SHAC T/O S3 17/4 STD/EYE	2	26	1.000	34	1.375	118	4.625	0.270	0.594	6122	13500
NSS-2522R	SNAP SHAC T/O S2 17/4 LGE/EYE	2	22	0.875	29	1.123	107	4.250	0.150	0.328	4126	9100
NSS-2523R	SNAP SHAC T/O S3 17/4 LGE/EYE	3	26	1.000	34	1.375	129	5.062	0.280	0.625	6122	13500

R denotes retail package. If required in bulk, exclude R.

Racing Fid

PART NO	DESCRIPTION
NSS-730-BLACK-R	RACING FID BLACK
NSS-730-BLUE-R	RACING FID BLUE

R denotes retail package. If required in bulk, exclude R.

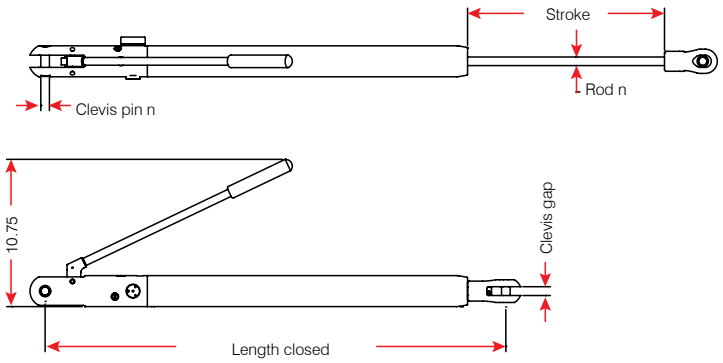
Rig Rap Waterproof Bonding Tape

PART NO	DESCRIPTION
V100-01R	RIGRAP ROLL

R denotes retail package. If required in bulk, exclude R.

System IX Integral Backstay Adjuster (Black)

Ergonomics meets economics. The Navtec Series IX Integral incorporates several key design features while keeping to the high marine standard that Navtec is known for. The Series IX design moves the hydraulic feed tube inside to give the unit a sleek look. The pump piston size has been increased to ½" to increase flow, which produces the faster action needed for today's modern mast. The Integral is designed to be used with the Integral Toggle. Available with a black or a clear finish.



PART NO	DESCRIPTION	MAX FORCE @ RELIEF		LENGTH CLOSED		LENGTH OPEN		WEIGHT		MAX WIRE SIZE	
		kg	lb	mm	in	mm	in	kg	lb	mm	in
A370-BLE-006	-6 SERIES 9 INTEGRAL BLACK	1,590	3,500	790	31.1	1133	44.6	3.18	7.0	5.6	7/32
A370-BLE-010	-10 SERIES 9 INTEGRAL BLACK	2,450	5,400	791	31.1	1134	44.6	3.31	7.3	7.1	9/32
A370-BLE-012	-12 SERIES 9 INTEGRAL BLACK	2,950	6,500	850	33.5	1213	47.8	5.53	12.2	7.9	5/16
A370-BLE-017	-17 SERIES 9 INTEGRAL BLACK	3,950	8,700	850	33.5	1213	47.8	5.53	12.2	9.5	3/8
A370-BLE-022	-22 SERIES 9 INTEGRAL BLACK	5,030	11,100	902	35.5	1283	50.5	7.03	15.5	11.1	7/16

R denotes retail package. If required in bulk, exclude R.

Integral Toggle Assembly

PART NO	DESCRIPTION	LENGTH PIN-PIN	
		mm	in
A371-20A06	-6 INTEGRAL TOGGLE	50.8	2.00
A371-20A10	-10 INTEGRAL TOGGLE	50.8	2.00
A371-20A17	-12/17 INTEGRAL TOGGLE S8	59.2	2.33
A371-20A17A	-12/17 INTEGRAL TOGGLE S9	59.2	2.33
A371-20A22	-22 INTEGRAL TOGGLE	75.7	2.98

R denotes retail package. If required in bulk, exclude R.

Hydraulic Oil

PART NO	DESCRIPTION
V100-06-01	NAVTEC® HYD OIL QUART (0.94L)

Pump Handles & Handle Holders

PART NO	DESCRIPTION
A031-A11	HANDLE SINGLE/AUTO SPEED PUMP
A371-A25	HANDLE INTEGRAL SERIES 7/8
A021-24-01	HANDLE HOLDER

R denotes retail package. If required in bulk, exclude R.

Limited Warranty and Key Terms of supply by Lewmar

Lewmar warrants that in normal usage and with proper maintenance its products will conform with their specification for a period of three years from the date of purchase by the end user, subject to the conditions, limitations and exceptions listed below. Any product, which proves to be defective in normal usage during that three-year period, will be repaired or, at Lewmar's option, replaced by Lewmar.

A CONDITIONS AND LIMITATIONS

i Lewmar's liability shall be limited to the repair or replacement of any parts of the product which are defective in materials or workmanship.

ii Responsibility for the selection of products appropriate for the use intended by the Buyer shall rest solely with the Buyer and Lewmar accepts no responsibility for any such selection.

iii Lewmar shall not be liable in any way for Product failure, or any resulting loss or damage which arises from:

a. use of a product in an application for which it was not designed or intended;

b. corrosion, ultra violet degradation or wear and tear;

c. a failure to service or maintain the product in accordance with Lewmar's recommendations;

d. faulty or deficient installation of the product (unless conducted by Lewmar);

e. any modification or alteration of the product;

f. conditions that exceed the product's performance specifications or safe working loads.

iv Product subject to a warranty claim must be returned to the Lewmar outlet which supplied the product for examination unless otherwise agreed by Lewmar in writing.

v This warranty does not cover any incidental costs incurred for the investigation, removal, carriage, transport or installation of product.

vi Service by anyone other than authorised Lewmar representatives shall void this warranty unless it accords with Lewmar guidelines and standards of workmanship.

vii Lewmar's products are intended for use only in the marine environment. Buyers intending to use them for any other purpose should seek independent professional advice as to their suitability. Lewmar accepts no liability arising from such other use.

B EXCEPTIONS

Cover under this Warranty is limited to a period of one year from the date of purchase by the end user in the case of any of the following products or parts of products:

- Electric motors and associated electrical equipment
- Electronic controls
- Hydraulic pumps, valves and actuators
- Weather seals
- Products used in "Grand Prix" racing applications

C LIABILITY

i Lewmar's liability under this warranty shall be to the exclusion of all other warranties or liabilities (to the extent permitted by law). In particular (but without limitation):

a. Lewmar shall not be liable for:

- Any loss of anticipated turnover or profit or indirect, consequential or economic loss ;
- Damages, costs or expenses payable to any third party;
- Any damage to yachts or equipment;
- Death or personal Injury (unless caused by Lewmar's negligence).

Some states and countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

b. Lewmar grants no other warranties regarding the fitness for purpose, use, nature or satisfactory quality of the products.

ii Where applicable law does not permit a statutory or implied warranty to be excluded, then such warranty, if permitted by that state or country's law, shall be limited to a period of one year from the date of purchase by the end user. Some states and countries do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

D PROCEDURE

Notice of a claim for service under this warranty shall be made promptly and in writing by the end user to the Lewmar outlet which supplied the product or to Lewmar Limited at Southmoor Lane, Havant, Hampshire PO9 1JJ, England.

E SEVERANCE CLAUSE

If any clause of this warranty is held by any court or other competent authority to be invalid or unenforceable in whole or in part, the validity of the remaining clauses of this warranty and the remainder of the clause in question shall not be affected.

F OTHER RIGHTS

This warranty gives you specific legal rights, and you may also have other legal rights, which vary, from state to state and country to country.

In the case of European States a Consumer customer (as defined nationally) has legal rights under the applicable national law governing the sale of Consumer Goods; this Warranty does not affect those rights.

G LAW

This warranty shall be governed by and read in accordance with the laws of England or the state or country in which the first end user is domiciled at the time of purchase of the product.

H DISPUTES

Any dispute arising under this warranty may, at the option of the end-user, be referred to alternative dispute resolution under the rules of the British Marine Federation or to the Courts of the State whose law shall govern the warranty or to the Courts of England and Wales.

The British Marine Federation may be contacted at Marine House, Thorpe Lea Road, Egham, England, TW20 8BF

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