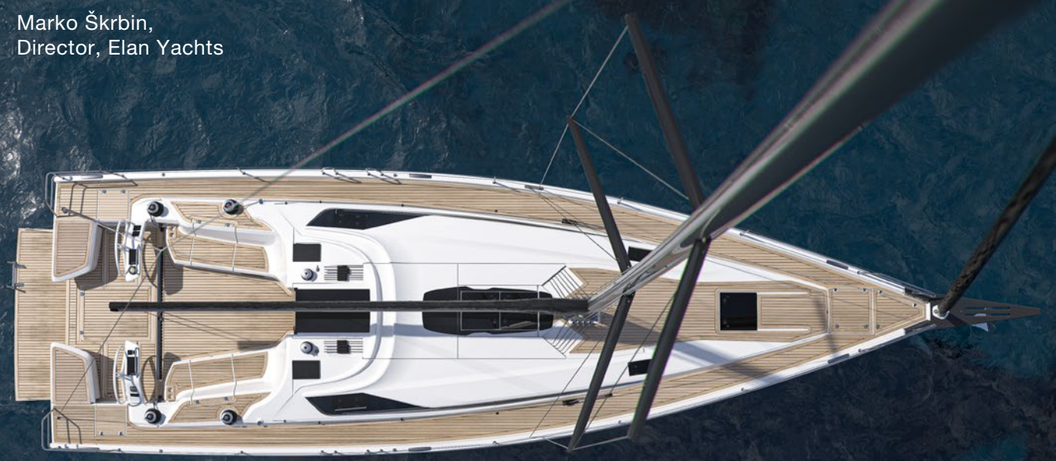

elan E6

The Elan E6 challenged our capabilities and pushed the boundaries of technology and design. However, in spirit, it represents a return to our roots; it is a yacht for demanding sailors that also require a comfortable living aboard.

Marko Škrbin,
Director, Elan Yachts



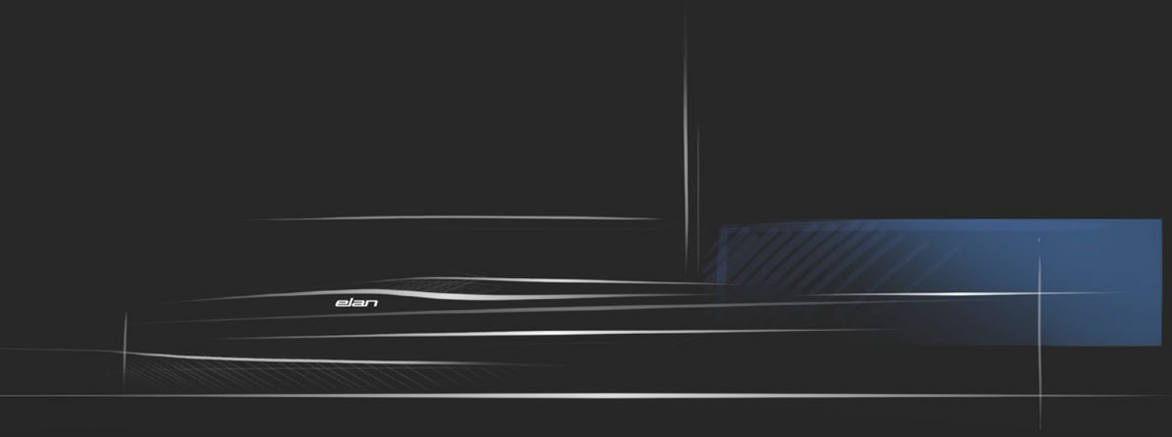
Envisioned and Designed by a

Dream Team

Elan Yachts joined forces with **Pininfarina, Humphreys Yacht Design** and **Gurit** in an effort to give birth to the ultimate performance cruiser, the 47 ft Elan E6. The Elan E6 combines the best in composite technology, naval architecture, and industrial design. Elan, a pioneering innovator in the field of sailing yachts, relied on its 70-year yacht-building heritage and know-how for the creation of this new yacht, as well as a team of “best-in-business” specialists to push the envelope in every aspect.

“Italian style means a sense of proportions, simplicity and harmony of line, such that after a considerable time there is still something which is more alive than just a memory of beauty”.

Battista “Pinin” Farina



pininfarina

Aesthetics

Pininfarina

Pininfarina is a **world-renowned design and engineering house** established in 1930 in Turin, Italy. Its designs range from automotive, architectural, nautical and engineering products and include the iconic Ferrari 365 GTB/4 Daytona, Alfa Romeo Spider, Wally 101 and Tango Wallycento.

Elan’s love for the sea and Pininfarina’s passion for speed came together in the design of this yacht. Born under the imperatives of sportiness and performance, the new sailing yacht designed for Elan embodies the legendary style and nautical tradition of Pininfarina.

Both the exterior and interior aesthetics were designed by Pininfarina, **taking a visionary step towards the future of sailing respecting and reinterpreting the classic elements that make Elan’s boats iconic and recognizable.**

“We wanted to give this project a strong sporting connotation, using a few fluid lines to give it a solid and unique character”, explains Daniele Mazzon, Chief Transportation Designer of Pininfarina. “The result is a sailboat with pure shapes and a modern style projected towards the future, which is the direction performance lovers must always look in.”

“All of this resulted in a design that will power up a little earlier in slightly less breeze and with a higher speed potential but will still provide effortless sailing and finger-tip control.”

Rob Humphreys, the founder of HYD studio

Naval Architecture by

Humphreys Yacht Design

Building on the core philosophy of Elan and the vast experience of HYD studio, the E6 became an accomplished fast cruising yacht that is expected to deliver the 60/60 formula which has been the ethos for these types of yacht from the start. This means that both the performance-minded sailor and the cruising sailor will perceive the balance of the boat as 60/40 in their favour.

Through the guidance from HYD, Elan was one of the earliest adopters of a shorthanded ocean racing style influencing production yachts. This proved extremely popular and very much suited the concept of performance cruising with a shorthanded family or crew, allowing a jump in performance, particularly reaching and downwind, as well as upwind in stronger breeze. The E6 is the latest iteration in this line of thinking.

Compared to other yachts in Elan’s repertoire, the HYD team distilled even more performance in this project, while keeping the dual-purpose ethos that has been the hallmark of the E Line range for years. CFD was used at the initial development phase to assess a range of candidate forms. This resulted in a deeper standard draft and a lighter build, which in turn leads to a lower displacement to length ratio, with the hull-form benefiting at higher speeds from a slightly flatter rocker, straighter buttocks and run aft. The rig height will also be taller, and the sail area increased, resulting in a higher sail area to displacement ratio.

According to the preliminary analysis, and at the displacement of 11 tonnes for the race version of the yacht, the E6 should see 8 knots boatspeed upwind in anything over 12 kts TWS. Reaching performance will depend on sail inventory, while downwind we should see double digit speeds in mid-teens of windspeed.

Technology

Powered by Elan's high-tech composite know-how and pushed to the next level by industry-leading specialist Gurit, Elan's E6 is built with the highest consumer-level technology on the market. Lighter than competitors in its class, the E6 is the fusion of performance engineering and enriching sailing experiences.

01 VAIL WITH 3D STRINGERS
Market-leading vinyl ester VAIL hull: stronger, stiffer, lighter.

02 E6 KEEL MOUNTING PLATE
Custom U-profile keel mounting plate, for improved load distribution and safety.

03 COMPOSITE BULKHEADS
Laminated composite bulkheads for highest compact structure along the cross section.

04 CUSTOM TWIN RUDDER BLADES
Complete epoxy structure, optimized for rigidity, endurance, lightness, and control.

05 KEEL STEPPED MAST
Integral part of rigging for this style of yacht, more trimming options, strength and safety while sailing.

06 ACTIVE CHINED HULL
The yacht has a small wetted surface for minimum drag, to prevent broaching and to improve speed and stability.

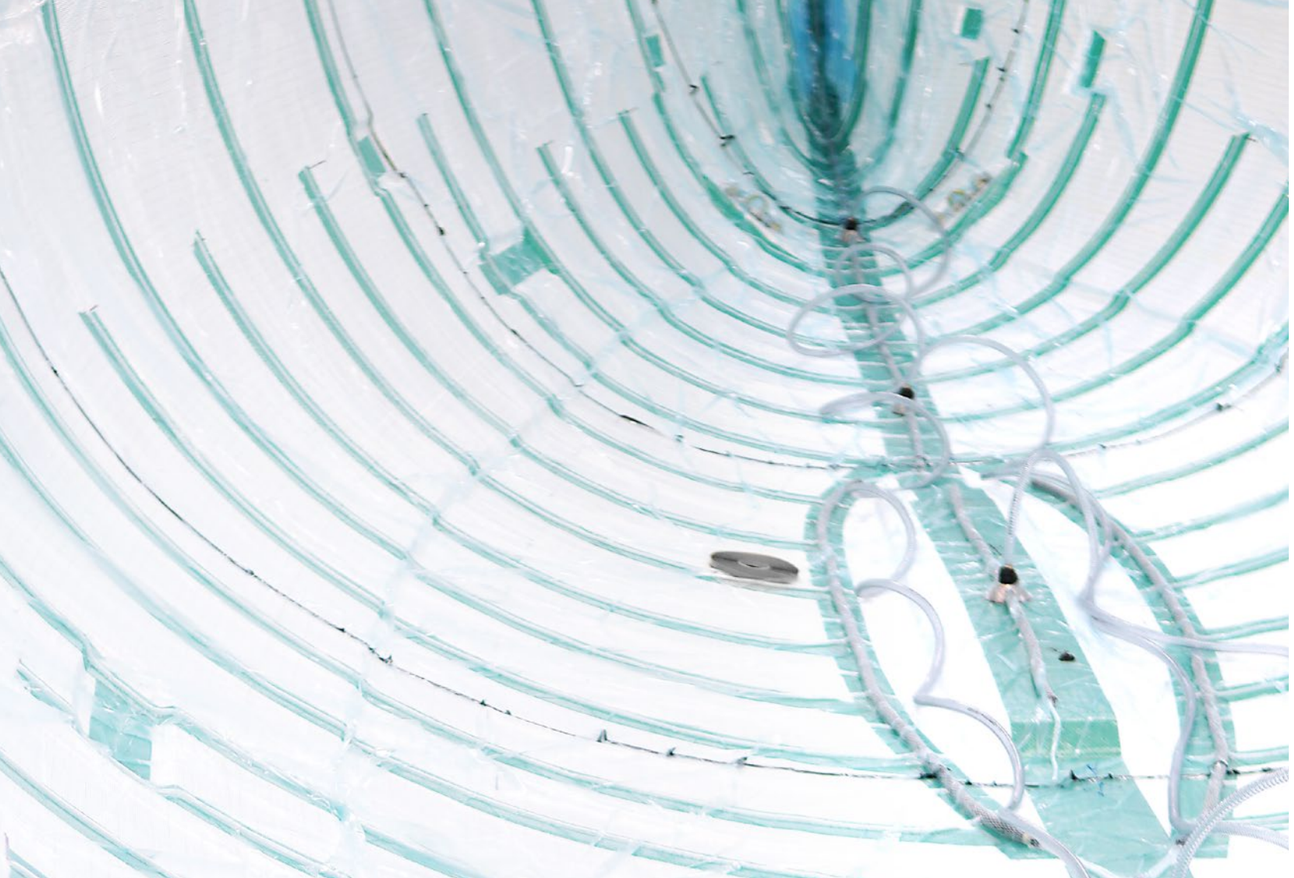
07 INTEGRATED TOERAIL
Easier to walk when heeled.

08 INCREASED BEAM
Greater internal volume and stability. Sophistication in design increases beam without increasing drag.

09 ENFORCED CHAINPLATES
Chainplate is enforced with a steel backingplate and laminated into the hull.

10 TRAPEZOIDAL KEEL MOUNT
Unique trapezoidal pyramid keel mount permits for seamless hull and keel fusion.

11 T-SHAPED KEEL
Low centre of gravity and enhanced sail-carrying power: more speed, stability.



Vacuum Assisted Infusion Lamination

To ensure uniform stiffness, lightness and safety modern sailing yachts require, the E6 hull is produced through an advanced version of VAIL technology. VAIL enables a complete saturation of vinyl ester resin and removes human error from the process. It allows for weight gains up to 25% on composite parts and ensures considerable improvement of the hull's mechanical properties.

A step up from the VAIL process is the 3D VAIL technology. In essence, the 3D VAIL technology integrates the inner yacht structure into the hull itself using vacuum assisted infusion. According to Gurit laminate plan, the E6 uses 3D VAIL technology for its chainplate beam and topside stringers, taking the structural rigidity to the next level, as it relates to the forces coming from the rigging through laminated custom-designed chainplates. The chainplates are laminated into the hull through stainless-steel backing plates in line with 3D VAIL stringers, thus seamlessly connecting the yacht with the rigging.

Hull and Deck Structure and Sandwich Laminate with Gurit

The Elan E6 hull creation starts with the application of gelcoat, followed by a hand layup of highly saturated yet very thin layer of vinyl ester resin applied onto a CSM. Intricate laminate plan, developed in collaboration with Gurit, is then applied to the hull, composed of coaxial and quadriaxial fiberglass and Corecell foam, followed by vacuum assisted infusion of vinyl ester resin.

Before separating from the mold, the hull cures in a temperature-controlled environment to guarantee the best possible result. Second only to carbon fibre hulls, the E6 vinyl ester sandwich laminate hulls are prime examples of the ultimate naval composite technology on the market.

Computational Fluid Dynamic Testing and VPP

The E6 hull geometry was subjected to extensive Computational Fluid Dynamic testing during its design, executed by the word-renowned Humphreys Yacht Design studio. Powerful hull geometries are famous for merging art and science; therefore, the best hulls can only be created by naval architects with decades of experience.

In the case of the E6, the studio utilized their in-house CFD panel code at the initial development phase to assess a range of candidate forms. This comprised of running the hull forms across a matrix of speed, heel and leeway angles, which were then read into VPP (velocity prediction program) to assess and compare each candidate's performance. For a yacht of this calibre, the hull form must take multiple considerations into account, many of which extend well beyond the yacht's performance as such.

Active Chine Design and Hull Form Stability

Standing opposite the most modern chine designs, which are included on yachts for aesthetics and internal volume, Elan chines are introduced in the hull geometry by Humphreys Yacht Design to ensure a better righting moment. This allows the design to carry or share a lot of the righting moment requirements within the hull form itself. That results in moderation of the keel ballast weight, helps to drive displacement down and leads to a notable increase in the performance of the hull.

The chined hull helps with the yachts tracking ability upwind and clean off the wake, giving the yacht improved speed and control downwind. When heeled at a perfect angle, the yacht attains an optimum underwater hull shape with a small wetted surface for minimum drag. The chines can also prevent broaching because they function as long skegs.


elan 46

Exterior

While the yacht has been designed to be easily sailed by an experienced couple, the E6 truly shines with a good crew. Three pairs of Harken winches, ideally positioned for precision trimming and fast unobstructed movements, are the result of 1:1 scale model in-house testing with a former Olympic sailing team. When resting, the E6 offers ample comfortable seating for the crew, and a split-table for easy on-deck movement.

Optional storage boxes with a grill, sink and a refrigerator are available, as well as two sizes of bathing platforms. A large sail locker at the bow offers ample storage of additional sails and fenders. Two cockpit storage lockers under the seats and an additional storage locker on the cockpit floor are meant for other equipment. Mainsheet ropes are fed to dedicated boxes on the cockpit sides. A recessed channel on the coach roof snuggly hides the sprayhood frame when not in use.

Exterior

1. Recessed coachroof for sprayhood
2. Storage lockers under the seats
3. Additional storage locker
4. Bathing platform (2 sizes)
5. Heeling platform
6. Recessed mainsheet channel
7. Optional storage boxes with a grill, refrigerator, or sink
8. Mainsheet rope storage

Interior

Carefully designed for the perfect blend of aesthetics and functionality by Pininfarina, the enticing and practical interior invites perfect living at sea. The creative form is brought alive by the natural oak veneered interior and enriched with solid wood finish. Optional performance okoume furniture keeps the weight down, while not hindering the boat's luxurious look and feel. The carefully selected colour scheme complements the yacht's beautiful lines, flowing from the rear cabins all the way up to the master cabin's island bed, invoking the feeling of elegance in motion.

Integrated matte black grabrails on the ceiling and conveniently placed grab points follow the sailor throughout the interior and provide assurance when heeled.

Fully equipped galley with a front-opening fridge and optional microwave or coffee machine will provide the comfort of home.

Interior

A staple of Elan’s practical engineering, the popular swivel navigation table makes an appearance on the E6 too. The functional workstation and storage folds and transforms into a settee, creating a continual spacious saloon.

Craftsmanship

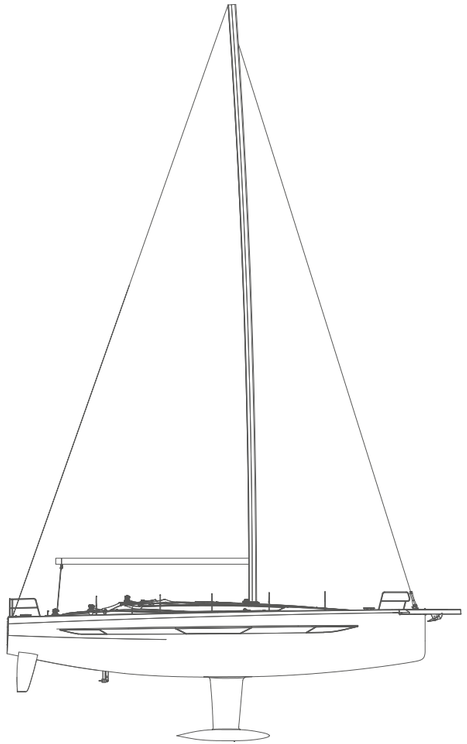
Elan’s famous 70-year boatbuilding heritage shines through the endeavour of our wood artisans, whose detailed work evokes handmade craftsmanship of the bygone era.

Cabin options

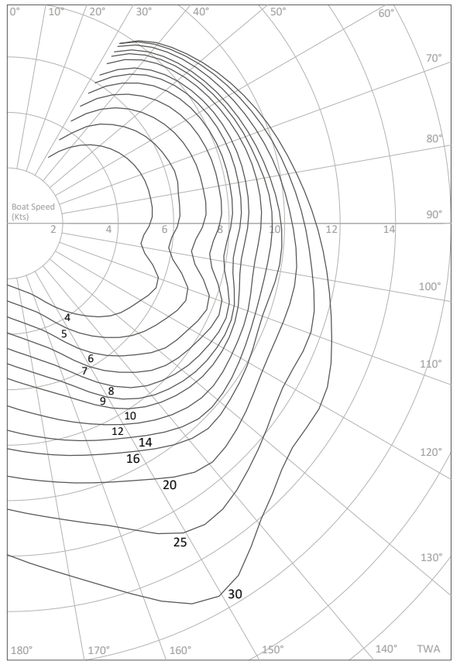
The E6 has two layout options. The spacious three cabin version consists of a master cabin and two aft cabins. The master cabin offers an island berth and an ensuite head with a separate shower booth. The aft cabins share an extra head with a shower booth. The functional four cabin version with a convertible saloon berth can sleep up to 10 people and is perfect for large groups or families, as well as charter investment.

Techical specifications

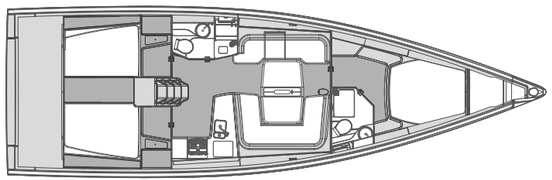
OVERALL LENGTH	15,30 m | 50'2'' ft
HULL LENGTH	14,10 m | 46'3'' ft
LENGTH AT WATERLINE	13,68 m | 44'11'' ft
BEAM	4,49 m | 14'9'' ft
DRAFT (standard) DRAFT (option)	2,80 m | 9'2'' ft (not mounted) 2,40 m | 7'10'' ft (not mounted) 2,95 m | 9'8'' ft (not mounted)
AIR DRAFT (including antenna)	23,26 m | 76'4'' ft
LIGHT DISPLACEMENT (mLCC)	11.250 kg | 24.802,00 lbs
BALLAST	3.267 kg | 7.202 lbs
ENGINE VOLVO (standard) ENGINE VOLVO (option) ENGINE YANMAR (option) ENGINE OCEANVOLT (option)	50 HP Volvo Penta 60 HP Volvo Penta 75 HP Volvo Penta 57 HP Yanmar 80 HP Yanmar 15 kW Oceanvolt electric 10 kW twin Oceanvolt electric
FUEL CAPACITY	240 liters | 63,4 US gal
WATER CAPACITY (STANDARD)	370 l | 97,7 US gal
MAINSAIL	68,56 m2 | 738' sq ft
JIB	53,71 m2 | 578' sq ft
GENNAKER	201,7 m^2 | 2171' sq ft
I	19,04 m | 62'6'' ft
J	5,37 m | 17'4'' ft
P	18,30 m | 60' ft
E	6,31 m | 20'8'' ft
EXTERIOR AND INTERIOR DESIGN: NAVAL ARCHITECT:	Pininfarina Humphreys Yacht Design



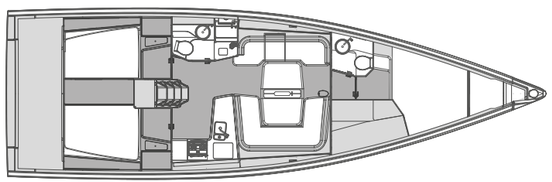
Polar Diagram



Layouts



Option 1 - 3 cabins, 2 heads



Option 2 - 4 cabins, 2 heads

All data is preliminary and subject to change.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