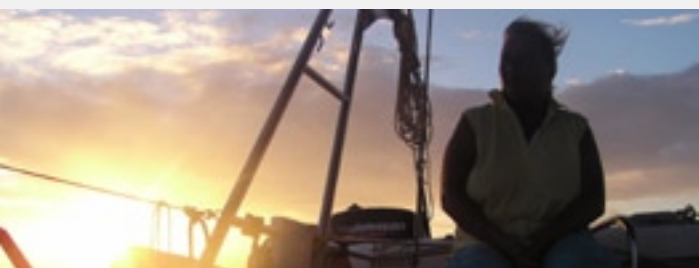


Are you serious about
Ocean or Coastal Cruising?
Things you need to know



I love it when night falls...

"I was on night watch sailing down the outside of Fraser Island while my husband was asleep below. It was a full moon and we had dolphins phosphorescing next to the boat.

A 20 knot following breeze, sea birds perched asleep on our bimini hitching a ride. I enjoyed that evening so much I didn't bother to wake my husband for his turn at watch!"

The Best Seafood Restaurant in the world...

"Coming out of Bundaberg we had a fully provisioned boat, the freezer was full, enough food for 6 weeks. Within 2 days we had a mud crab waiting its fate in a pot hanging off the sugar scoop, pipi's soaking in fresh water for a spaghetti vongole, and we'd just caught flathead which was soon to be a tempura dinner.

I don't think we opened the freezer for a week. We lazed up the coast, explored the old lighthouses, took walks along deserted beaches and lowered our blood pressure quite a few points!"



Lessons not learnt at School

Some thoughts on a wonderful cruise down the south coast with my teenage daughter Rosie – "a whale and her calf swimming right beside then under us off Wollongong; a bbq dinner cooked on driftwood on a pristine beach in Jervis Bay; surfing downwind from Ulladulla on the fastest passage we ever made then anchoring at sunset to wait for the tide in Bateman's Bay because we made the passage so much faster than expected."





Are you seriously thinking about Ocean or Coastal Cruising?

Whether you are planning an extensive world cruise or simply island hopping our coastline, here are some things you really must consider before investing in your live-aboard yacht.

There are many options that you are likely to consider when purchasing a new or even a used yacht for safe and comfortable cruising. This document is designed to give you some answers to many of those questions you have thought about as well as many you have not.

Ocean cruising can be a great adventure but is also inherently dangerous. Being disabled in the middle of the ocean is no place to be cursing the decision made in purchasing a yacht that just doesn't perform the way you need it to. Do your homework and don't compromise on the safety and comfort of yourself, your family or your crew.

Many yachts on the market today are what we call production yachts. Just like cars they are manufactured in large factories, using processes that are designed to reduce the cost and the time taken. But to do so they must make significant compromises and many of these issues are discussed in the following pages. This may be okay if you are only sailing sheltered waters, but if you intend going a bit further then you really must make an informed decision for your safety and comfort.

All Bluewater Cruising Yachts are custom made for individual owners using processes that have been proven over many years. We never compromise on design, strength or durability. The safety and comfort of all Bluewater owners and those who sail aboard is our paramount concern. If you are serious about offshore cruising then you will want to study this information before making any decisions. And remember:

"Quality is remembered long after the Price is forgotten"
- Gucci Family Motto

"The bitterness of poor quality is remembered long after the low price is forgotten"

Do not compromise your safety and comfort for a low price.



Serious about Ocean or Coastal Cruising?

Things you need to know

COMFORT

The definition of comfort: a state of being relaxed and feeling of no pain, a feeling of freedom from worry or disappointment, to have ones senses pampered.

In cruising terms this encompasses a very diverse range of features so take a deep breath and think about the following list. You'll probably even add more of your own as you read this list:

Starting with good ventilation both flow through and cross flow, a comfortable cockpit with seats long enough to lie on, protection from the elements, good visibility, easy access, abundant storage and generous sleeping bunks. The interior proportions such as head size, galley bench space, food storage, fridge and freezer capacity, good engine access, being able to move about unobstructed yet not so open you cannot brace yourself when heeled, with enough seating for 10 and being able to serve 6 at the dinner table.

A beautiful finish, confidence in her construction and engineering so it's up to you how far you want to push the limits. And that's probably only the beginning of the list.

A place for everything and everything in its place, space for tool storage and a work bench – every man needs a shed, good handholds where you need them, control lines operated from the safety of the cockpit, a cockpit that acts as not only as a place to sail the yacht but also an alfresco living – space to be enjoyed all year round.



Excellent flowthrough and crossflow ventilation



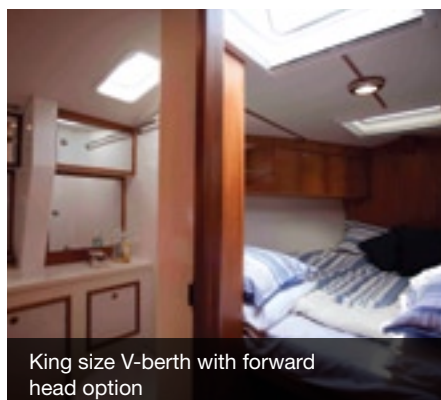
Optional walk thru transom 420RS



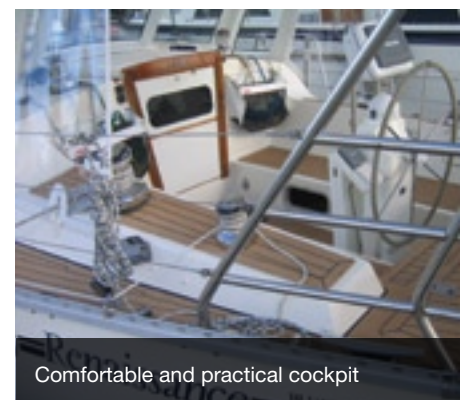
Flow through ventilation hard dodger/cockpit enclosure option



750mm high staunchions with 3 wires standard



King size V-berth with forward head option



Comfortable and practical cockpit

Serious about Ocean or Coastal Cruising?

Things you need to know

COMFORT Cont.

The freedom to travel long distance if you have the inclination, having your essential areas; galley, nav, head, close to the companionway, good headroom throughout, good visibility and light down below so you feel fresh and alive. A generous chart table and easily read and controlled instruments, good sea berths on either tack, excellent all round sailing performance, built in redundancy and safety, an easy deck to work on and walk on – wide walkways, strong staunchions and lifelines. A flush foredeck, excellent ground tackle deployment and storage, a space for numerous fenders and ropes, safe gas bottle storage, easy access from a dinghy, a place to store your dinghy and motor, easy access to a wharf and so on.

The Bluewater 420 has all of these comforts and much, much more built into every yacht. Evolving from a design that was way ahead of its time into a modern day purpose built classic that just keeps on improving with every build. The comfort that every owner feels is too numerous to list but is why they just feel so good about spending time on board. Read some of the testimonials at the end of this document or on our website www.bluewatercruisingyachts.com.

Isn't it about time you deserved to feel Bluewater comfort?



Galley close to companionway



Abundant cockpit locker storage



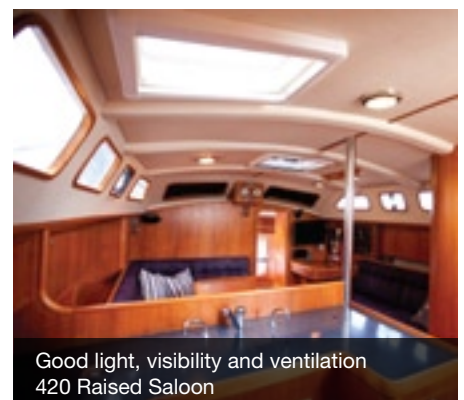
Dinghy stores on davits and high enough so still can use transom platform



Fold down sidegate ladders



3 cabin nav layout 420 Raised Saloon with built in TV monitor



Good light, visibility and ventilation 420 Raised Saloon



Serious about Ocean or Coastal Cruising?

Things you need to know

RESALE VALUE

Resale value is dependent on many factors of which some are:

- Is the builder or manufacturer still in business, what is their reputation?
- Do they build on price or quality?
- Do they have a loyal following from existing clients?
- Does the builder / manufacturer offer on-going service and are they represented in Australia?
- Is it a superseded model, is the brand well known, is there an oversupply of second hand models on the market?
- How many have been built?
- What is the price of a new model?
- Has the brand stood the test of time, has there been any structural failures, does the product really live up to its claims?
- Is it unique?
- Does the builder / manufacturer sell their own second hand yachts?
- Has the competition come up with a better product?
- Is there demand for new builds?
- Is the builder / manufacturer financially viable looking into the future?

The reason Bluewater's have excellent resale is because all of these factors can be ticked. Very few second hand Bluewaters come on the market and when they do there is a waiting list of buyers interested. Invariably second hand Bluewaters sell for more than the original cost of building them. We have a positive outcome which keeps us and our product in good stead for the future.

Bluewater Cruising Yachts has been in business for 20 years and has built in excess of 60 boats. David Bradburn's hands on approach includes not only running the business but also working alongside his team supervising and ensuring ultimate quality on every job. This also has ensured the financial security of the business and peace of mind for owners. Where other yacht builders have come and gone (often with great fanfare), Bluewater Cruising Yachts is growing stronger.

Just ask our existing clients.



Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN

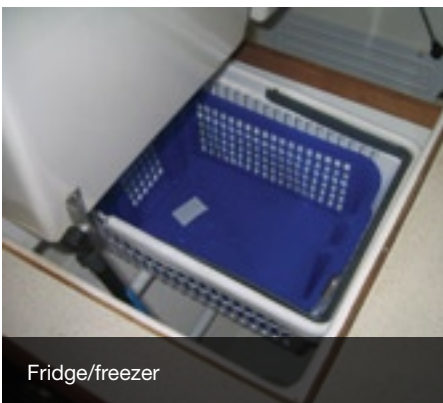
Load Carrying

Whether you are planning to cruise the world's oceans for months or even years at a time, or maybe you're more interested in going up and down the coast and in and out of islands, the load carrying capacity of your boat will have an enormous influence on both your comfort and your safety. When comparing yachts these are some of the factors you must consider:

- What are the water, fuel and holding tank capacities?
- Does the yacht have a deep bilge so water is contained in the lowest part of the boat so that even when the boat heels water does not travel into your storage compartments?
- Is the storage easily accessed for things like spare parts, extra sails, wet weather gear, life jackets, safety equipment, food and drinks, clothes, toiletries, linen, ropes, etc?
- Is there sufficient storage for the extra equipment you may require such as batteries, inverters, watermakers, electronics, pumps, charts, books, etc?
- Is there generous fridge & freezer capacities, hanging locker spaces, and space for personal items?

The ability to store these essential items greatly increases your independence and safety to travel further. When cruising the best laid plans can often be interrupted by unforeseen circumstances especially the weather. The right amount of storage will give you more options in adverse conditions. For example, in bad weather or high swells it can be much safer to stay at sea and head towards your next destination than to risk coming in to shore. You don't want to be forced to make a riskier choice because you have run out of fuel or water due to lesser storage capacities.

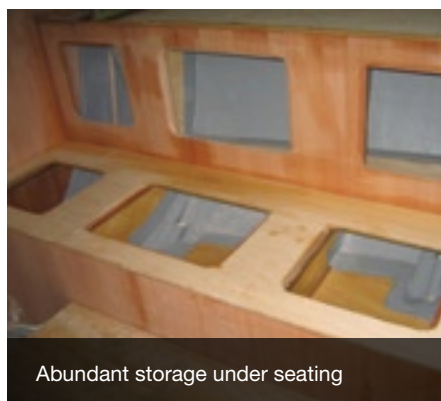
If you are a serious cruiser and you really value your comfort and safety do not compromise on storage. Many imported and production built 40-45 yachts typically have water carrying capacity of around 350lts and fuel capacity of no more than 200lts. Cost restraints also limit the amount of storage included and it can often be hard to access due to design considerations.



Fridge/freezer



Forward bilge access is generous



Abundant storage under seating



Massive structural floors individually glassed to hull

Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN Cont.

The Australian made Bluewater 420 has been custom designed for extended cruising voyages and incorporates significant integrated storage capacity to enhance your comfort, safety and wellbeing on any trip. This includes a very impressive 47-55 separate storage lockers which not only makes use of all the available storage space and also keeps all your equipment and provisions easily accessible and in order.

You can always feel confident of being able to find what you need at any time under any conditions:

Water	1,000 - 1,400 lts
Fuel	450 - 650 lts
Holding Tanks	155 lts – 250 lts
5 Under Bunk Bins	
6 Under Seating Bins	
6 Behind Seating Lockers	
6 Saloon Cupboards	
5 Owners Cabin Cupboards	
2-3 Hanging Lockers	
5-6 Galley Cupboards	
2-3 Shelving Cupboards in Cabins	
2-4 Toilet Lockers	
6-8 Exterior Lockers	
2-3 Nav Lockers	



Large hanging lockers

Total 47-55 Separate Lockers giving approximately 10 - 12m³ of storage depending on which model and layout chosen.

You don't need to compromise on storage. Make sure you consider all your storage needs fully because it's too late to make changes when you're about to embark on that trip of a lifetime. And when the weather is rough you don't want to be forced into making dangerous and risky manoeuvres because you have run out of or can't find essentials. Feel confident that you are prepared for anything and can make your own decisions for the safety and comfort of you and your family.



Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN Cont.

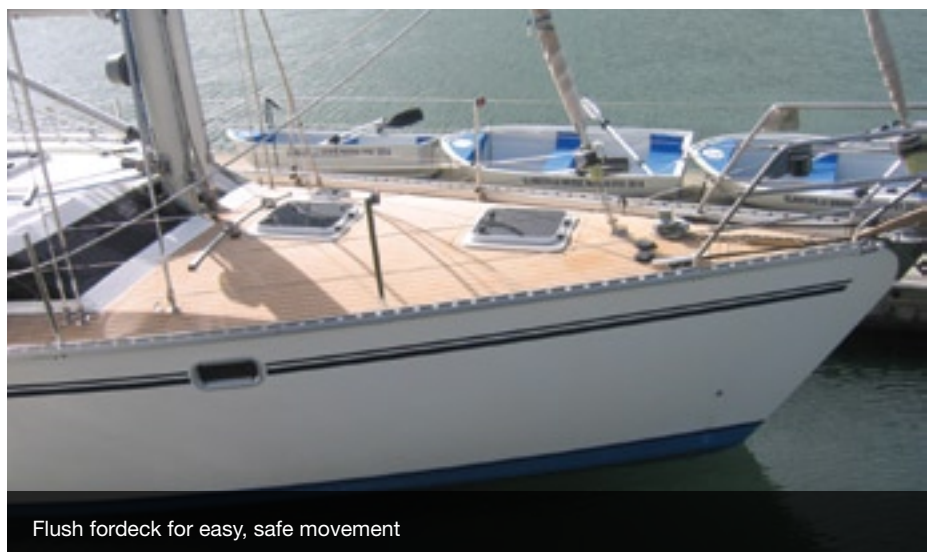
Freeboard

Generally speaking the higher the freeboard the drier the decks. This however needs to be designed into the overall design as it greatly affects the stability of the boat due to any extra weight above the centre of gravity. You will notice the Bluewater 420 hull is high out of the water. This not only gives you added volume and headroom down below but also keeps you drier in rough seas.

The hull can lean over further without water entering the cockpit. Compare the Bluewater 420 foredeck and you will see we have achieved a flush deck working foredeck whilst still maintaining over 6 ft headroom down below.



Bluewater 400 Raised Saloon "Seabird"



Flush foredeck for easy, safe movement

Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN Cont.

Bow

Many of today's production yachts are designed and built with a plumb bow. In reality this is more for fashion than any practical reason as far as cruising yachts are concerned. Plumb bows are good for racing yachts designed under certain rules and with the objective of running faster by cutting through waves rather than riding over them.

The downside is excessive wash flowing over the decks, not a drama in racing conditions, but certainly something you and your family don't want when ocean cruising.

So for a good cruising yacht the bow should be angled and not plumb. This designed angled overhang when combined with the right freeboard should be fine enough to cut through choppy seas yet also have sufficient buoyancy to ride up over steep waves and not having excessive water rushing along the deck.

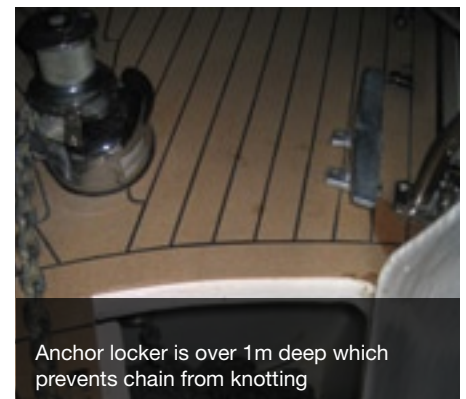
From a practical viewpoint, the angled bow also gives distance between the bow and the anchor when retrieving. In rough choppy conditions it is important to drive up into your anchor so you don't get blown ashore and quite often you will be motoring with your anchor slightly submerged to wash mud off. This cannot be done if your bow is vertical without causing significant damage to the bow and hull.

Another factor is that an angled bow may lessen the impact of collisions by deflecting any obstacles rather than hitting them straight on full force.

Be careful also of some boats that are designed with some bow fittings and anchors stowed below deck. This may be fashionable but significantly reduces safety and is totally impractical to use in an emergency. The anchor must be ready to be deployed instantly in case of engine failure.

The Bluewater 420 bow is purpose designed for the best combination of safety and comfort when in choppy conditions by the balance between cutting through waves whilst at the same time having the buoyancy and shape to ride over without excessive wave wash over the decks.

The process of raising and lowering anchors in varied conditions is simple and effective. The Bluewater 420 is a proven design that has stood the test of time to ensure the safety and comfort of you and your family in all cruising conditions.



Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN Cont.

Keel

The Bluewater 420 has a longish fin keel which makes it an excellent all round sailing hull shape. It can point up to 30° true wind angle and with 5 tonnes of ballast makes it very stiff and can even hold full sail up to 25+ knots. This gives the crew more time to react to changing conditions.

The keel is encapsulated in a solid GRP fin which is integrally moulded with the hull. This adds enormous strength to the keel / hull connection. The fin keel to hull laminate is the thickest part of the hull and is approximately 38mm thick. The fin shape is approximately 3.6m long has a rounded entry and very fine trailing edge. It is easy to slip due to its length and bottom width.

Customers have hit rocks at 6-7 knots coming to a complete stop only to find the superficial gouges in the GRP skin when slipped.

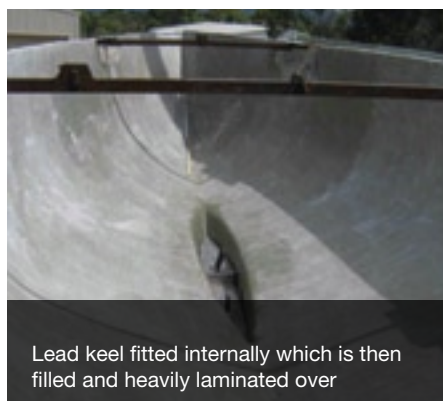
Rudder

Most of today's production boats have spade rudders, that is the rudder hangs directly from the hull of the boat. Although there may be many arguments on the skeg vs spade rudder debate, the fact is that spade rudders are much more likely to get damaged, foul or fail than skeg rudders. Spade rudders are certainly cheaper to manufacture and install and it is for this reason that most production boats are tending in that direction. Most experts though will agree that the safety and security of skeg rudders are a must for the serious ocean cruiser. Hit a submerged obstacle or a whale in the middle of the ocean and you will be very glad to have the protection of a skeg rudder rather than a bent and inoperable spade.

The Bluewater 420 rudder is supported by 3 bearing points (top, middle and lower bearing) and is attached to a skeg or support fin. This protects and strengthens the rudder in case of excessive strain through rough conditions or collision.



Keel and skeg integrally moulded with hull for maximum strength
420 Raised Saloon



Lead keel fitted internally which is then filled and heavily laminated over



Core samples 38mm thick along centreline 420

Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN Cont.

AVS

Angle of Vanishing Stability (AVS) is the point at which a monohull sailing yacht will right itself the same way it went down. To enter a Sydney to Hobart Yacht Race you must have a minimum of 115° which has increased from 110° due to the many lives lost in the 1997 Sydney to Hobart Yacht Race. This factor was specifically commented on by the coroner who conducted the inquest into that tragedy.

Yet, most modern production boats have an AVS of around 110°. This does not make for a safe yacht to be heading out to sea in possibly rough conditions. As a serious ocean cruiser you must be prepared for all conditions and a greater AVS will certainly make your yacht more stable and more likely to right itself in knock down situations.

The Bluewater 420 has an AVS of 135° which is considerably in excess of what international yachting rules require for ocean going vessels. The safety of you and your family when cruising must be your number one consideration and an AVS of 135° (which is even higher when fully loaded because of the positioning of tankage) when compared to most other boats is one of the reasons Bluewater 420's have the reputation they do.

Ballast Ratio

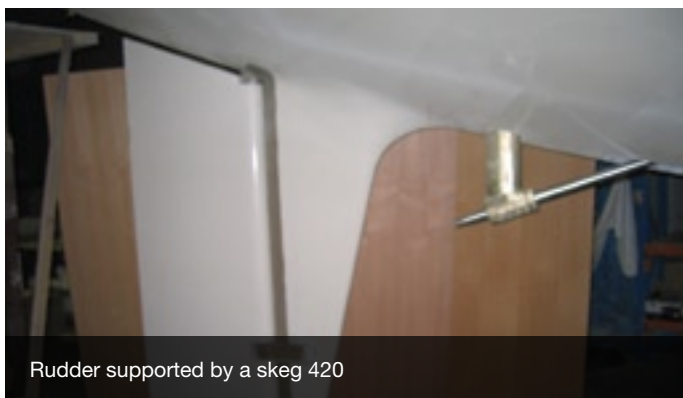
In addition to freeboard, beam and draft, the ballast ratio is a factor that contributes to the stability of a yacht. The ballast ratio (that is, the ratio between the ballast weight and the displacement weight) of a cruising yacht should be no less than 32%.

However, these figures can be misconstrued by racing designs due to deep bulb keels on long fins which are not suitable for cruising due to excessive draft and strength issues when grounded. So be careful to consider all other factors at the same time.

A ballast ratio however does give a good indication of the design's stiffness, which is critical to safety especially when sailing shorthanded when there is little or no crew able to sit on the rail to keep the boat upright. The higher the ballast ratio the better stability the yacht will have.

Most production boats in the 40-42 foot size range weigh 7.5 - 9.5 tonnes with ballast 2.5 - 3 tonnes which are much less than a Bluewater 420.

The Bluewater 420 ballast ratio is 41% or 5,000 kg on a lightship (empty) displacement of 12,170 kg which when combined with all the other factors affecting stability make it considerably more stable and safe than any other yacht on the market today. Your safety and that of your family is our number one design consideration.



Rudder supported by a skeg 420



Skeg timber reinforced in all directions



Serious about Ocean or Coastal Cruising?

Things you need to know

HULL DESIGN Cont.

Sail Area / Displacement ratio

This ratio indicates how fast the boat is in light wind. The higher the number the faster the boat is.

- Cruising boats have ratios between 10 and 15
- Cruiser/Racers have ratios between 16 and 20
- Racers have ratios above 20
- High performance racers have ratios above 24

The Bluewater 420 has a SA / DISPL ratio of 18.5 which puts her in the top end of the cruiser/racer category. This gives you the confidence to sail to those far away destinations in safety and efficiency, as well as the ability to enjoy racing if you wish. Bluewater yachts have placed well in their categories in events such as the Sydney Hobart and Sydney to Lord Howe races.

LWL / DISPL

LWL / DISPL Ratio is the ratio of displacement to length. This indicates if the boat is a heavy cruiser (results greater than 325) or a light displacement racing boat (results less than 200).

- $D / L = \text{Displacement} / (0.01 \times \text{LWL})^3$
- LWL = Boat length at waterline
- D = Displacement in long tons
- Long Tons = Pounds / 2240

The Bluewater 420 has a displacement / length ratio of 255 which places her in the medium displacement category which for cruising purposes gives you the best all round compromise whilst living aboard and enabling extended cruising in speed, safety and comfort.



420 Raised Saloon "Renaissance"



Serious about Ocean or Coastal Cruising?

Things you need to know

DECK DESIGN

The deck needs to fulfil many criteria such as being easily traversed, safe to move around when heeled, cockpit seats long enough to lie on, yet not too wide between seats so that you can't brace yourself when heeled.

All controls must be operated from the safety of the cockpit.

Visibility too is paramount for all crew where you can see over the cabin & deck so as to avoid objects, other boats, navigational aids or floating debris.

The foredeck area in particular needs to be as low as possible so you or your crew can go forward easily and safely when necessary.

Both the Bluewater 420 Raised Saloon and Centre Cockpit models all feature these important attributes as well as having the bulwarks on the Raised Saloon which makes it even safer to move forward.



Cockpit seats long enough to lie on. Combings prevent water entering cockpit and provides comfortable seating



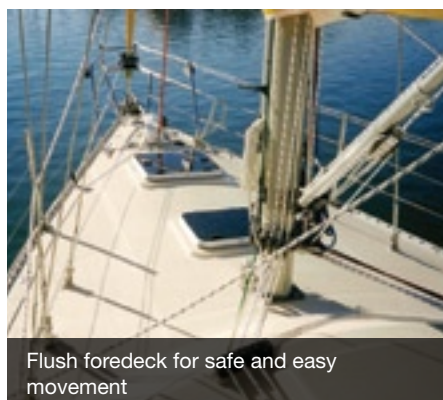
All control lines lead back to cockpit for safety and ease of use



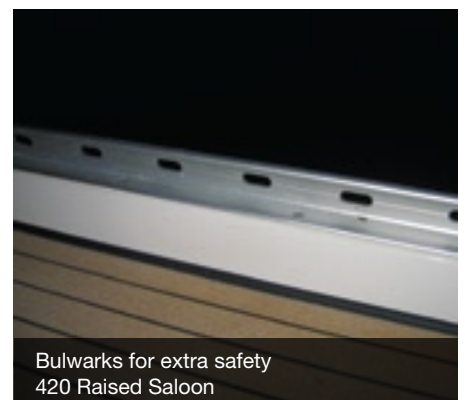
Hard dodger/cockpit enclosure 420 Raised Saloon with clears ready to drop



Excellent visibility looking forward



Flush foredeck for safe and easy movement



Bulwarks for extra safety 420 Raised Saloon

Serious about Ocean or Coastal Cruising?

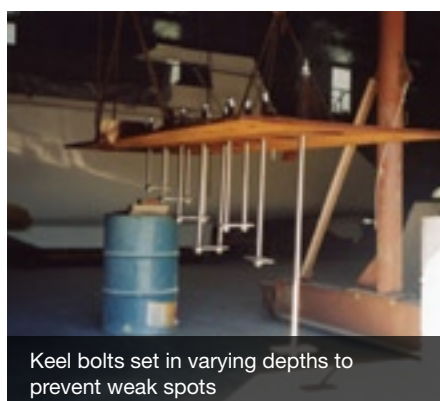
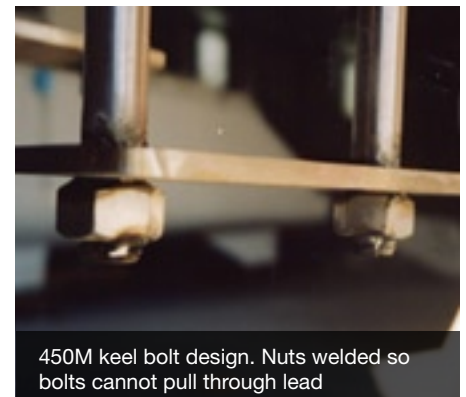
Things you need to know

CONSTRUCTION

Keel Attachment

For a cruising yacht the best keel attachment is one that cannot fail. An integrally moulded keel is preferable where the ballast is encased in a GRP fin which is part of the hull.

If a bolt on keel is specified the bolts should be made of at least 2205 stainless steel, of sufficient diameter then immersed at different depths so as to prevent weak points and designed such that the bolts can never be pulled out when tightening.



Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

Rudder/Skeg Attachment

The rudder is a most crucial device controlling direction. A vessel without a rudder is a disaster waiting to happen. Therefore the structural integrity of the rudder is critically important to safety.

There are many critical intricacies in the construction of a rudder and any shortcuts can seriously compromise the efficiency of the rudder and hence the safety of the yacht and her crew. Rudders need to be well constructed including large diameter shafts typically of 316 stainless steel with 4 welded tangs fitted.

One rudder half needs to be adhered to the shaft and tangs, foam filled then the other half bogged and glassed together. There must not be any voids in the rudder whereby water can corrode and weaken from within.

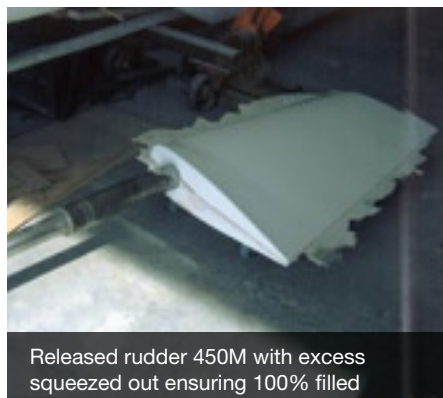
The best rudder attachment for a cruising yacht is to be fitted to a skeg. This is a fin in front of a rudder that is integral with the hull. This stabilises and protects the rudder from collision. Most if not all production boats do not have skegs as they are an added cost.

The Bluewater 420's rudder is supported by a massively reinforced skeg which supports and protects her rudder.

Bluewater has never had a keel or rudder failure due to inherently sound engineering principles and practices.



Rudder shaft tangs 450M set in filler and heavily glassed over



Released rudder 450M with excess squeezed out ensuring 100% filled



Rudder/skeg attachment 400RS



Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

Hull Construction

For ultimate durability and longevity a cruising hull should be made of solid GRP construction. However in order to reduce weight and costs many production boats are manufactured with single skin GRP over a balsa or foam cored hull. This can lead to inherent problems such as core shearing or water ingress which will substantially weaken the integrity of the hull and the ultimate safety of the yacht and crew.

Solid GRP construction offers substantially better impact resistance and longevity. Some of the most prestigious brands in the world such as Oyster and Swan still build their hull out of solid glass laminates and all Bluewaters are the same.

The Bluewater 420 hull is a single skin laminate ranging in thickness from 10mm on topsides gradually getting thicker to a minimum 32mm around keel turn and centreline overlap. We use vinylester and isophalic resins in the hull and deck mouldings with 6 layers of high strength biaxial cloth reinforcement and an extra kevlar layer forward of the main bulkhead. In fact just in the hull and deck mouldings alone there is close on 2.75 tonnes of materials used.



Hull gelcoated ready to tie layer

Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

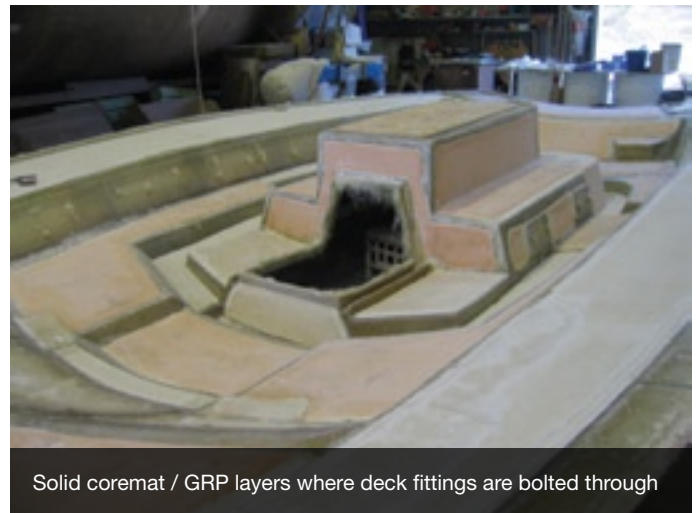
Deck Construction

Decks however should be built using sandwich GRP construction with a foam core. Foam is better than balsa coring due to its inert non corroding characteristics. Under all deck fittings such as cleats, tracks, turning blocks, staunchions, jammers, etc should be solid GRP coring. This provides the extra strength in compression and load that foam or balsa coring cannot.

All of these features are integral to the construction of a Bluewater yacht. Even our decks utilise a layer of biaxial cloth either side of the foam core material for increased strength. At Bluewater there is no compromise that could affect the safety and comfort of you and your family or crew.



Deck coring – divinycell



Solid coremat / GRP layers where deck fittings are bolted through



Kevlar reinforcing forward of keel / main bulkhead.
Standard on all Bluewaters

Kevlar Bow Reinforcing

In case of collision the bow is the most vulnerable and most likely area of impact. Not only does it need to be the strongest and thickest part of the hull, it can also greatly increase its impact resistance by utilising Kevlar reinforcing to help prevent puncturing the hull.

Typically where other reinforcements will have failed totally, Kevlar (although deformed) will still be in one piece, and still be able to keep the water out of the boat.

The Bluewater 420 has Kevlar reinforcing from the main bulkhead forward, and is double overlapped either side of the centreline creating the extra thickness.

Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

Watertight Bulkhead

Watertight bulkheads are an inbuilt safety feature that very few yachts incorporate. The benefit they offer is that if a collision were to occur in potentially the worst conditions at night a water tight bulkhead could be the difference between life and death.

Even if a large hole was formed from a submerged container or the like a watertight bulkhead would give you time to firstly stop the water entering the main part of the hull then secondly being able to make temporary repairs to slow down water ingress and pump it from the bow forward of the main bulkhead. When an accident or collision occurs a vessel without watertight bulkheads could sink in a matter of minutes.

The Bluewater 420 has 2 watertight bulkheads; the collision or anchor locker bulkhead and the main bulkhead. The main bulkhead utilises a cored panel door with special hinges that allow the door to compress a seal preventing or at the very least slowing water ingress to a rate that the onboard bilge pumps can cope with.



Watertight main bulkhead/door 450M. Standard on all Bluewaters.

Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

Internal Structural Components

To build boats quickly and cheaply you must reduce labour hours by utilising techniques such as assembly compared to constructing.

In the case of production boats the internal structure is usually comprised of a starter mould which has the engine beds, bilge, stringers, bulkhead slots, furniture base, etc built in. The starter mould is usually glued in place and glassed around the perimeter with a few cut outs in the middle.

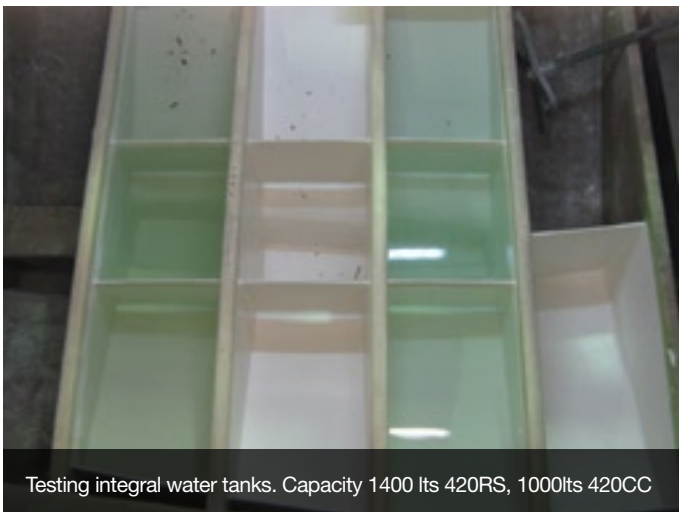
The problem with this technique is structural components may not have correct contact with the hull it is meant to reinforce. It could be floating on air. This leads to problems when the hull is grounded and the keel pushes up into the internal structure causing failure and delamination.

Another problem can be water getting in between the starter and hull moulds which will cause corrosion and osmosis on the inside.

By far the best method of construction is to glass individually every component separately onto the hull. This means there are no double skins that water can penetrate and every member is guaranteed to adhere to the hull skin. When under load the twisting pressures are borne by individual components not a mould that is glued and which is inherently brittle when compared to fibreglassed structural components.

Every component on a Bluewater 420 is individually glassed into position including the keel, structural floors, bulkheads, tanks, chainplate knees, furniture, head mouldings, icebox moulding, engine beds, skeg reinforcing, anchor and cockpit lockers, cabin sole, hull and deck join.

Every Bluewater is built using rigorous quality control systems and the best construction methods. At Bluewater our whole team is committed to ensuring that every step along the way the integrity of the yacht is maintained. All Bluewater owners can have the peace of mind knowing that they are aboard a strongly built, durable, safe ocean going yacht.



Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

Access To Everything

It is vitally important to be able to access everything on the inside of a yacht. The reason for this is to properly maintain the internal structure which if you cannot access, you cannot inspect and it is impossible to maintain.

If water is leaking from a deck fitting it may be very hard to determine where the water is running out, which then makes it very difficult to stop. Water can rot important structural components such as chainplate attachments, mast steps, engine beds, bulkheads, internal furniture. It can destroy electrics, wiring and cause the boat to rot from the inside out.

Obviously, prevention is better than cure and the best way to combat this is to ensure all fittings are properly installed in the first place. However over time anything can happen and you must be able to remove headliners or covers and have good bilge access so if a problem does occur it can be easily identified and dealt with quickly and painlessly.

The Bluewater 420 is built so that all headliner panels can be removed for underdeck inspection, every locker has direct access to the hull for easy inspection and there are inspection lids in water and fuel tanks making bilge inspection accessible. Beware of many production yachts that have fibreglass headliners which cannot be removed and fixed lined lockers which prevent hull inspection.



Survey deck beams built in as standard 420 Raised Saloon



Excellent bilge access 450M

Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

The Fibreglassing Process

Most production builders utilise LSE (low styrene emission) resins in building their GRP craft. The main reason for this is that this type of resin has lower styrene fume emissions, which is a significant issue in mass producing boats in a large factory. The disadvantage and it is an important one, is that unless the surface is ground (abraded coarsely) after 3 days the fibreglass will not adhere properly to itself. Grinding is considered one of the most unpleasant jobs in boat building and unless the process is properly supervised and monitored it may not be done thoroughly every time leaving a significant potential for failure.

Unwaxed resin on the other hand has higher fume emissions but the top layer exposed to air will not completely cure and remains tacky indefinitely. This provides the best surface to adhere subsequent layers to as it chemically bonds to itself making it as one integral structure.

At Bluewater we only use unwaxed resins in the construction of all our yachts. This guarantees that every laminate bond is 100%. No Bluewater yacht has ever had a delaminating issue. [Oh and because we only build a limited number of boats at a time and we enforce rigorous safety processes we don't have excess fume problems for our staff].



Laying up hull, vinylester tie layer being applied

Serious about Ocean or Coastal Cruising?

Things you need to know

CONSTRUCTION Cont.

Epoxy Underwater Treatment

Every GRP hull irrespective of its construction method should be epoxy coated prior to antifouling.

Extensive testing has proven the effectiveness of epoxy resin as a barrier coat in the prevention of osmosis, one of the greatest potential problems of GRP laminate construction. It has proven itself so superior that it can take a poorly laid up panel which would be 100% guaranteed to develop osmosis, apply an epoxy barrier coat and turned the same poorly laid panel into an excellent performing sample. Once again in an effort to reduce costs, many production made yachts do not include this extra protection when building their yachts.

Every Bluewater 420 is laid up using vinylester which is an epoxy / polyester hybrid resin for increased osmosis protection. Then two coats of epoxy barrier resin are applied followed by three coats of epoxy primer, prior to antifoul being applied. No other builder we know of goes to this extent but at Bluewater we believe osmosis protection should last a lifetime not just 10 years. This same philosophy is the way we build every aspect of all our boats.



Serious about Ocean or Coastal Cruising?

Things you need to know

INTERIOR DESIGN

Many production boats are designed more for fashion than practicality and with a particular objective to keep costs down. Once again this may be fine if you only intend to day cruise on sheltered waters.

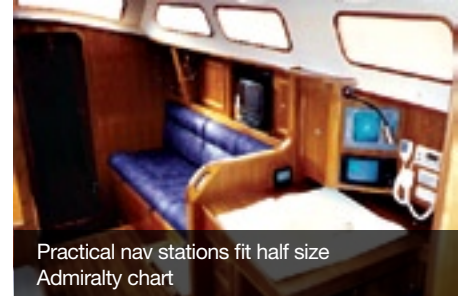
For an offshore cruiser however, a traditional layout is the best setup because it works! Galleys, heads, and nav stations should be close to the companionway.

Sea berths are essential as the motion is less in the centre of the boat. Toilet pickup should be located deep in the bilge so it can work on either tack.

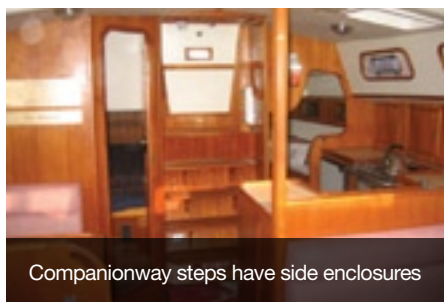
The galley should be U-shaped so as to be able to work while bracing oneself on either tack. Dinette seating needs to be offset to one side without the need to have lift flaps preventing movement forward.



Galley close to companionway



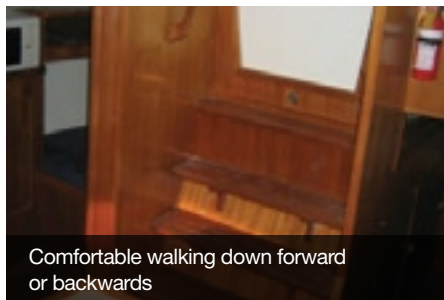
Practical nav stations fit half size Admiralty chart



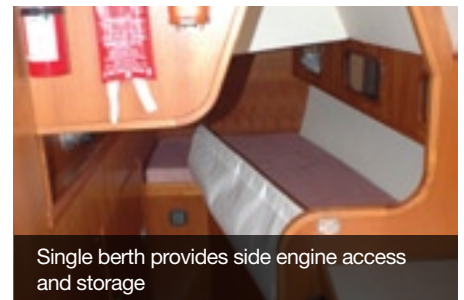
Companionway steps have side enclosures



Nav station 450M



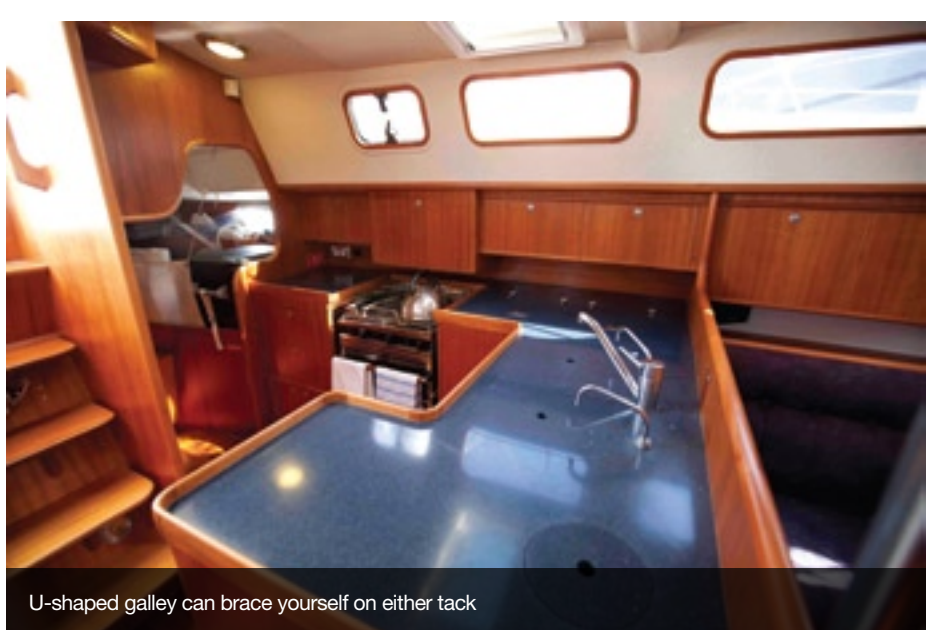
Comfortable walking down forward or backwards



Single berth provides side engine access and storage



Forward cabin double bunks 450M



U-shaped galley can brace yourself on either tack

Serious about Ocean or Coastal Cruising?

Things you need to know

INTERIOR DESIGN Cont.

Many modern boats do not have chart tables. However ask any experienced offshore cruising sailor and they will tell you that a good chart table is an essential item. They must be large enough in size to fit a half chart.

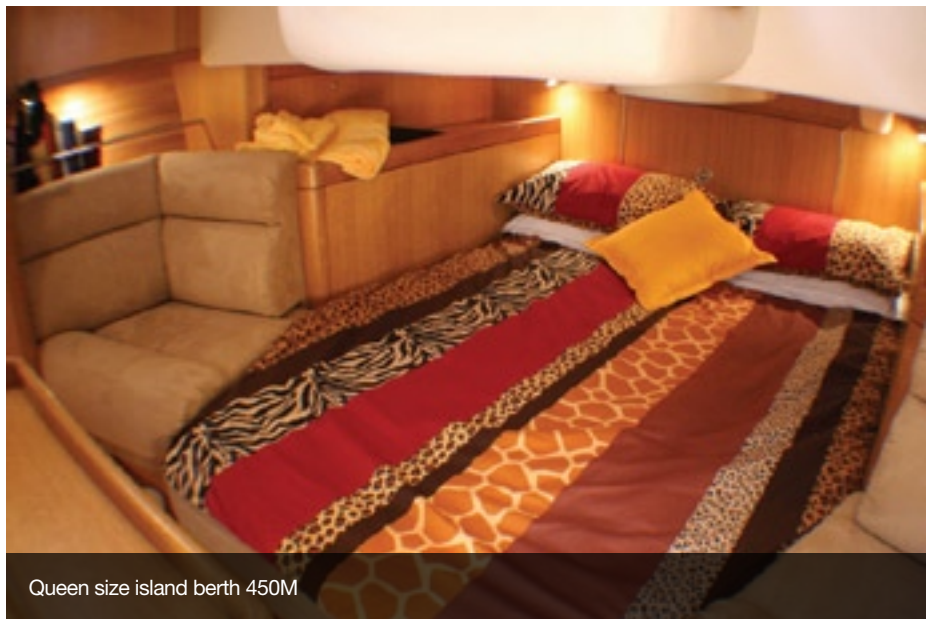
Bluewater interior layouts work as many owners will testify. They have been proven over hundreds of thousands if not millions of sea miles. However this does mean the interior of a Bluewater is grey or dull. Bluewaters are designed specifically for your comfort and safety and this includes the interior. All Bluewaters are custom built over a period of about a year. Bluewater owners have a significant input into the interior design and finishing touches to create the feel and ambience they like.



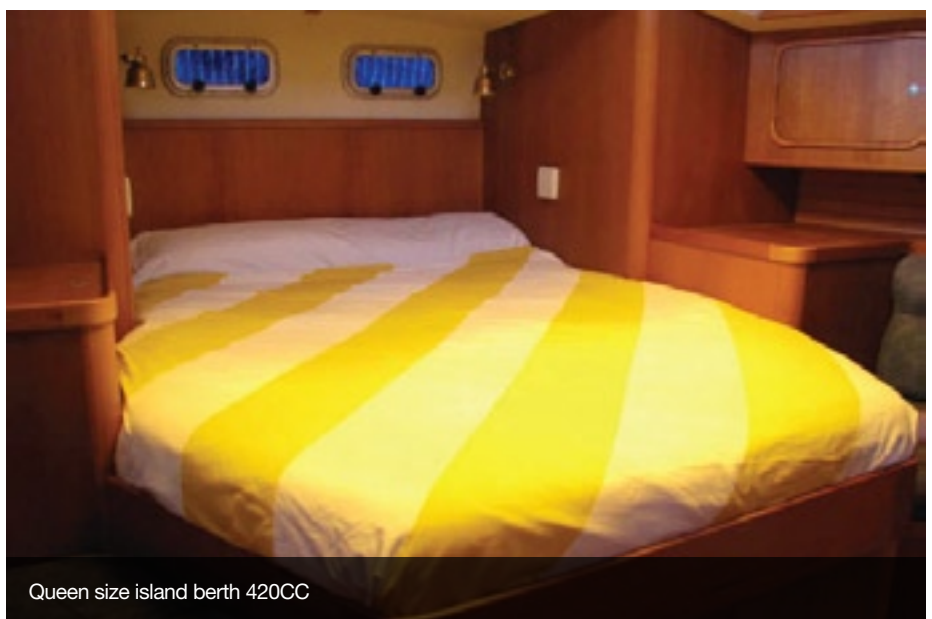
King size V-berth 420RS



Aft cabins with 4'6" wide double berths



Queen size island berth 450M



Queen size island berth 420CC

Serious about Ocean or Coastal Cruising?

Things you need to know

CRUISING FEATURES (Built For The Long Haul)

A good cruising yacht should be able to carry all the necessary stores to make the voyage as safe and comfortable as possible. In the case of a cruising couple the vessel should be no larger than 40-45 ft if it is a manually run boat. If there are powered winches, bow thrusters, water-makers, extra labour saving devices such as boom furling then this may be pushed up to around 50 ft.

There comes a point at which if there is only a husband and wife crew, the boat becomes too large and complicated to handle by themselves, as well too much time is devoted to sorting out the constant stream of issues that arise on a daily basis. Escaping the rat race and complexity is after all what cruising sailors are trying to get away from? Not taking it with them.

To be able to achieve this dream the vessel you choose will be critical. It will be the difference between crossing oceans, discovering new worlds or spending time hanging around your local marina and port.

Water Capacity

The Bluewater 420 is built for the long haul. Her water capacity alone at 1,400 lts is more than 4 times more than most of her 40ft production counterparts. This would give you 5 weeks at 40 lts per day usage which is very generous. This can be further extended by diverting the rainwater runoff directly into the water tanks (the owners of "Friday's Child" will testify they rarely need to fill their tanks from town water).

Fuel Capacity

On a Bluewater 420, the fuel capacity is 450 litres and at 6.5 knots consuming 4 litres an hour gives close to 750 nm range.

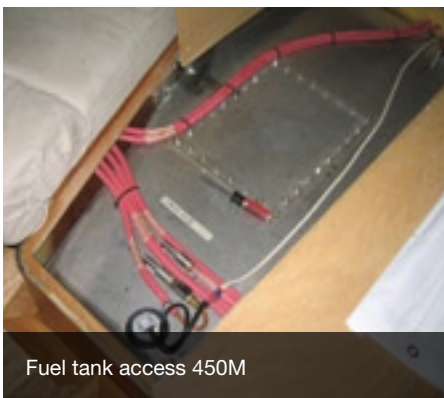
Storage

Storage is of major importance for long distance cruising. You need to be able to store up to 5 shopping trolleys worth of food. In fact enough food for at least a month or more. The fact that the water tanks are built below the cabin sole gives enormous storage capacity of more than 10-12m³ in over 50 separate lockers.

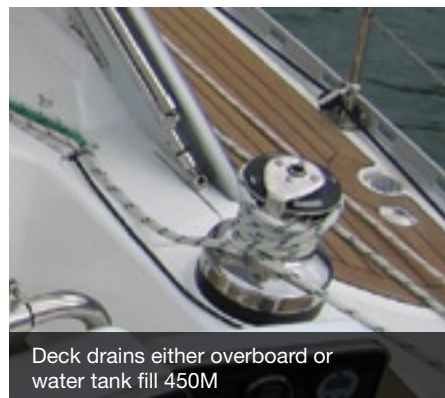
Compare this with any other production boat and you will see the difference between the Bluewater 420 and every other boat on the market.



Fuel tank inspection lid access



Fuel tank access 450M



Deck drains either overboard or water tank fill 450M



Deck drain/fillers standard on all Bluewaters

Serious about Ocean or Coastal Cruising?

Things you need to know

ENGINEERING

There are many considerations to take into account with the design and engineering of an ocean cruising yacht even before construction commences. Many modern yachts either take shortcuts or design on the limits in the belief that less than 10% of their boats will ever go on a serious ocean or offshore cruise. While this may be accurate, if you are even contemplating an offshore trip you do not want to compromise the safety or comfort of yourself, your family or your crew.

Below are some of the issues you may never see in the construction of a yacht and will not be specified unless you ask some deep investigative questions.

Fuel Tanks

Items such as fuel tanks should be built to survey standards and made from 316 stainless steel of at least 2.5mm thickness with large enough inspection lids to access the inside compartments. There should be a built in sump with valve so water can be drained.

Water and Holding Tanks

Water and holding tanks if integrally built within the hull need to be lined with an epoxy laminate and an epoxy portable water tank lining. If there is stainless steel water tanks they should be made from at least 1.6mm preferably 2.0mm 316 stainless steel with inspection lids.

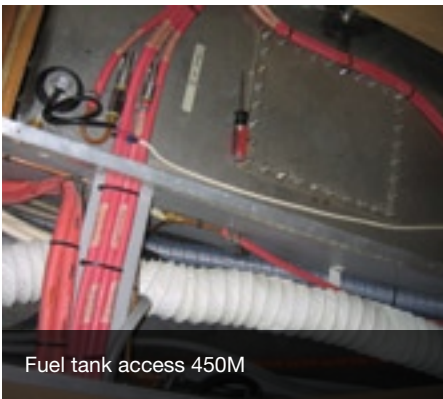
Hull and Deck Joins

Hull and deck joins should be glued, glassed and bolted for absolute integrity. A lot of production boats are simply glued and screwed.

Ballast

Ballast should be lead in preference to cast iron. Not only is lead denser it is impervious to corrosion. If the yacht is designed with a bolt on keel, the lead must have 4% antimony content to harden the lead or it could be too soft to properly secure the bolts leading to a potential failure.

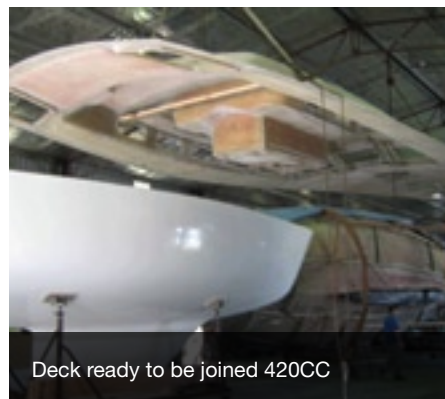
Bolts should have a nut and plate on the end which has been threaded and welded so it cannot come undone. Bolts should be made from 2205 high strength stainless steel and set at varying depths so as to prevent weak spots in the lead casting. Typically a 4-5 tonne keel should have around 13 x 1" bolts through to large stainless steel backing plates set inside the hull.



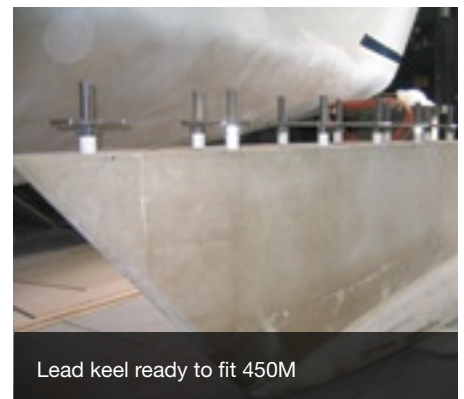
Fuel tank access 450M



1400lts water tank capacity 420RS. Tanks epoxy lined



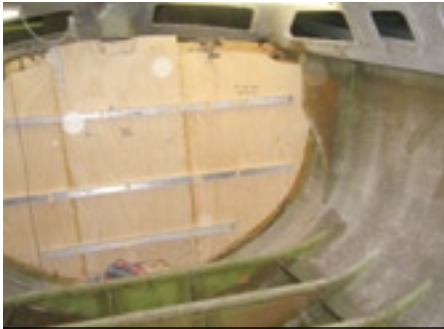
Deck ready to be joined 420CC



Lead keel ready to fit 450M

Serious about Ocean or Coastal Cruising?

Things you need to know



All structural components glassed to hull

ENGINEERING Cont.

Bulkheads and Internal Furniture

Bulkheads and any internal furniture which is rigid on its edge should never touch the internal skin. It should be set off the hull on foam spacers or an air gap left prior to glassing onto the hull. This prevents hard spots on the hull which is akin to dotting a line and telling it to break here.

Stanchions

Stanchions should be at least 750mm high with 3 lifelines of around 4.8mm thick 316 stainless steel wire. If you cannot hang overboard from a stanchion it is simply not strong enough.

All deck fittings should be either anodised aluminium or 316 stainless steel so as to prevent tea staining.



750mm stanchions fastened with 4 x 8mm bolts

Deck Fastenings

All through deck fastenings should be firstly drilled then tapped and countersunk before a suitable primer/sealant is used as well as large internal washers with 'nyloc' nuts and in the case of mooring cleats large backing plates so as to prevent pulling through the deck under load.

Mast and Rigging

The mast and rigging needs to be properly engineered and well stayed including fore and aft lowers, inner forestay and spectra runners for ultimate safety in heavy weather. This setup is considered bulletproof and is often referred to as having belt and braces redundancy.

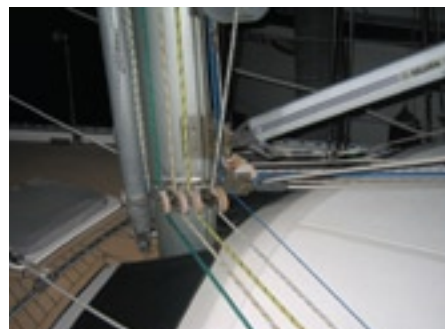
Rigging Attachment

The rigging attachment should be properly engineered with a good safety margin. A vessel should be able to be lifted from its chainplates no problem. Knees are preferable to rods due to the strengthening of the hull and deck intersection where the load is applied.

The Bluewater 420 offers all of these important engineering features plus many more. It is what is built in that you do not necessarily comprehend / see all the time that gives you the confidence, security to take on what the sea can muster.



Belt and braces mast specifications



All mast lines divert to cockpit



All controls lead back to cockpit for safety and ease of use

Serious about Ocean or Coastal Cruising?

Things you need to know

EXPERIENCE

The Bluewater Experience

The business started by building the Bluewater 400 now the Bluewater 420 which is still in production due to its unique appeal. It is a truly genuine cruising yacht for those that want to venture further than the coast. Our second hand yachts are selling for more than the original cost of building, one of the reasons there is a continued demand for new Bluewater yachts both in the 420 and 450 range.

Dealing with Bluewater

David Bradburn, the Managing Director of Bluewater Cruising Yachts Pty Ltd has a philosophy to build the best cruising yachts in the world by running a well constrained, frugal, controlled business having a diversity of work sources while focusing on building luxury ocean going yachts as its core. We have at any one time 5-6 projects on the go at once. They may include custom projects, refit, broking, subcontracting to other manufacturers, as well as building new Bluewater's.

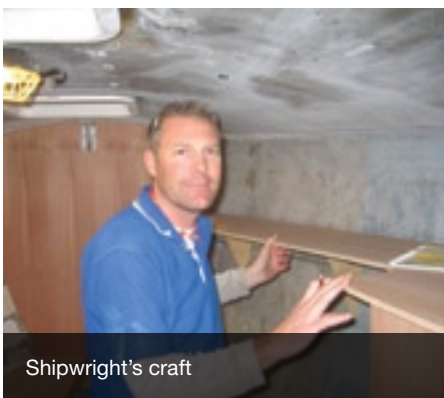
David's approach is hands on due to his insistence on producing the best quality at a competitive price. His values are to produce boats that will stand the test of time, give on-going support to existing customers while promoting and developing the brand.

The whole Bluewater team gets a great buzz from the sense of accomplishment in doing a great job and most of the staff attends each launch of a new boat. It is always an occasion we are immensely proud of.

We encourage individuality in our builds as this keeps us interested, excited and keeps us on the road of continual improvement. We view customers as a great source of experience and ideas that we can learn from all in pursuit of building the best cruising boats in the world.

Over the 20 years we have been in business we have built in excess of 60 boats all of which are still in operation today. Our expertise and experience has seen our team work on a range of projects from cruising monohulls, catamarans, power catamarans, high speed tenders for luxury yachts, and refurbishments of second hand yachts. Our staff have the skills and expertise to cover most of the skills of pattern and mould making, timber cabinet making and electrical in house. This diversity of talent is another means of securing the financial stability of the Bluewater business and providing peace of mind to all our clients that we are around for the long term.

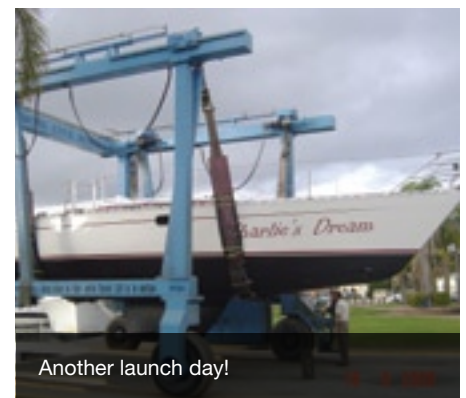
All Bluewater's built are custom built by hand to their owners requirements, guided of course by Bluewater's extensive experience.



Shipwright's craft



Launch day!



Another launch day!



Serious about Ocean or Coastal Cruising?

Things you need to know

EXPERIENCE Cont.

You can be rest assured you will not be dealing with a salesman who only has an interest in getting the sale. You will be talking with the boat builders who are actually building your dream yacht who have a vested interest throughout the whole project and beyond.

This is a two way street as we at Bluewater love to get to know our clients, which enhances our overall experience building something special for an appreciative customer.

Here is what a few of our customers have to say:

—*“The continuing full support by the Newcastle based builders, Bluewater Cruising Yachts, is another real plus as advice and assistance can be obtained from the manufacturers who take a real pride and ownership in what they have produced.”*

—*“Over eight years later and many thousands of sea miles I consider I have made an excellent choice. The Company is easy to deal with.”*

—*“I purchased my yacht from David Bradburn of Bluewater Cruising Yachts and I was pleased with the excellent service provided during the purchase period and the “can do” attitude of David, Brent and all the staff. I would recommend a Bluewater 420 to anyone who is looking for a great cruising yacht. It’s designed by a well known and highly respected Australian Designer and built by an Australian Company that is committed to quality construction and excellent customer service.”*

—*“Since launching Cyrene II Bluewater Cruising Yachts have continued their commitment to quality and customer satisfaction. We have no hesitation in commending Bluewater Cruising Yachts as builders of fine yachts to the highest standards.”*

In presenting the information in this document we have tried to be balanced and informative. In such a large investment there are going to be many issues that any individual will be making their choices based upon and you need plenty of time to consider all the issues, the features and the benefits of the various choices available to you.

Bluewater yachts are custom made, built with the one over-riding criteria of safety and comfort whilst ocean cruising for you and your family. Each yacht takes time to be finely crafted to achieve this objective. Bluewaters are not built for low cost but everyone of our customers will attest to the value they receive from an investment in a Bluewater cruising yacht.

Please visit our website www.bluewatercruisingyachts.com or contact us at anytime to discuss your own requirements.

Disclaimer

All information contained in this document is of a general nature and is accurate to the best of our current knowledge but subject to change at any time. Blue Water Cruising Yachts accepts no liability for any decisions based on the information contained herein.

You use the information contained in this document entirely at your own risk. We recommend you seek independent professional advice before making any purchase decisions.

