

# Bespoke hybrid

Aqua's latest narrowboat is built for a couple intending to undertake serious cruising while also accommodating visiting family. And its high-spec fit-out includes hybrid propulsion. **Mark Langley** takes a look...

**S**teve and Julia Robertson are experienced boaters whose last craft was a shared ownership 68ft, 12-berth ex-hire-boat. With this syndicate dissolving a few years ago due to the boat requiring extensive refurbishment, plus the fact that the couple have now retired, they looked to have a new boat built to order. And, like many prospective buyers, they soon found themselves touring the exhibits at the Crick Boat Show.

The Robertsons quickly settled on Aqua Narrowboats as a builder able to provide a high-quality fit-out and reliability (Aqua runs a fleet of high-end narrowboats for hire), plus the ability to produce whatever the couple wanted.

The requirements for Steve and Julia's boat were to be comfortable enough to cruise most of the waterway system as a couple and be capable of being operated single-handed, if required (if one person becomes

temporarily incapacitated, for example), while still allowing space and privacy for family, including grandchildren, to be aboard for extended trips. This did mean that a few compromises had to be made but

the owners could not be happier with how Aqua has turned their plans and dreams into reality. They also specified hybrid propulsion, which made a gas-free boat possible to avoid having to lug heavy gas cylinders around.

## SHELL & EXTERIOR

**Left:** Elevated flexible solar panels, low Vetus roof vents and twin centre mooring lines to avoid snagging.

**Right:** A good-sized bow cockpit, where additional folding steps aid getting onto the bank. Instead of a hatch, the foredeck has vertical doors.

**Far right:** The square rear deck can be childproofed with a canvas insert and gives lots of useable space when moored up.



## Fast facts

**LENGTH** 61ft 6in  
**BERTHS** 2+4  
**ENGINE** Beta 50 hybrid  
**PRICE** POA

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Colecraft Hull cuts through water well and bright paintwork is very well finished.



**Above:** The windows in the rear doors have the added bonus of not obscuring the hybrid controller display on the bulkhead.

## Shell & exterior

The shell is instantly recognisable as a Colecraft, with exceptionally precise steelwork, including some modifications chosen by the Robertsons. It has a cruiser stern but with a square back rather than semi-circular or elliptical

shape. The owners settled at 61ft 6in as this will enable passage through Thornes Lock on the Stainforth & Keadby Canal; the limiting length for the canals they will generally cruise, while maximising the internal space.

The aft deck itself has a solid steel dodger, with seating and storage on the inside, giving ample space to sit when tied up and a good perch for the steerer when underway. The gaps between the cabin side and the dodger can be closed off with removable canvas sections, which have childproof fastenings to contain grandkids safely within the cockpit! The decks and seats have synthetic teak-planked panels, which are warm to the touch and also inherently slip resistant, as well as looking very neat.

In addition to the usual pair of T-studs at either side of the stern, there is another pair slightly further forward, to enable spring lines to be used easily, without damaging paint. At the bow, there is a further pair of T-studs to serve the same purpose – an excellent addition. In the bow there is no forepeak hatch – instead, two doors swing open into the forward cockpit to give access to the storage space, which is sufficient to house folding bikes. This avoids possible water ingress from a hatch when heading up a lock. Such an approach underlines Julia and Steve's take on their boat –

they do not want to be always bound by conventional narrowboat design. Why have a hatch access to a locker that won't be used, just because boats always have them? A good point.

The forward cockpit has seating with storage inside, while folding cabin steps are fitted to the locker seats to ease the process of getting off the boat. The owners have tried to ensure that, as they get older, they will still be able to use the boat by building in as much support as they can – something often overlooked, given the generally ageing profile of inland boat-owners. The teak-effect decking of the stern is also continued here.

The cabin roof has a very pleasant rise towards the bow, while the traditional-style handrails have an inner lip that vastly improves grip when moving along the gunwales. On the roof are six solar panels, that, although flexible, have been slightly raised, which avoids the potential of corrosion and pitting underneath, and encourages airflow to improve efficiency but without the bulkiness of framed panels. Low-profile Vetus stainless steel roof vents work well with the black-framed double-glazed windows and red, yellow and green paint scheme. To avoid snagging the solar panels, vents and pole/plank rack, there are two centre handling lines, with a ring either side, rather than a central fitting.

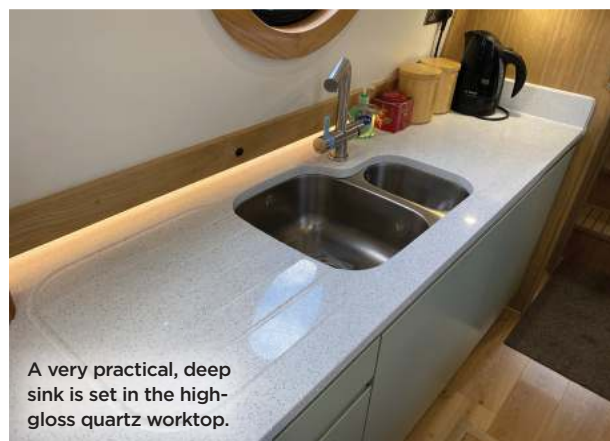
## Galley

To accommodate the additional components of the hybrid system, not least the battery bank, the steps into the boat are extended, which makes them very easy to use; with handholds providing extra support. Julia says that she can have a mug of tea in each hand and ascend the steps without issue, unlike on their previous boat. Above, the hatch has been extended and slides further forward when open, to avoid any bumped heads. The rear doors have windows in the upper half, allowing lots of light to





Easy-to-access storage in the cupboard under the hob, which, as in the rest of the boat, is illuminated inside and has no protruding handles.



A very practical, deep sink is set in the high-gloss quartz worktop.



## GALLEY

**Above left:** An extra larder unit at the bottom of a cupboard – this boat is certainly not short of storage.

**Above:** The galley is well designed, with an extractor vent over the induction hob, plus a Houdini hatch for more ventilation.

**Left:** A plate rack brings forward the bulkhead to match the port side in the galley, where there is more storage above and below the microwave.

spill into the rear of the boat, which tends to be quite dark on most craft. The steps also have downlights, which are both attractive and aid boarding at night. There is a lot of storage among the equipment lockers as well.

As the rear bulkheads of the galley are not parallel to each other, Aqua has installed a plate rack at the top of the port bulkhead, which evens things out very well and is highly practical. Like the rest of the boat, the galley has stunning oak woodwork, here with a quartz worktop and very light-green painted cupboard doors. The owners deliberately did not want any handles or catches to stick out anywhere on the boat, which means that fittings are either recessed, or finger grips are fashioned into the wood – an excellent idea.

The galley has a superb array of integrated appliances: a full-sized washer/dryer (which can do an impressive 8kg wash and 5kg dry), a fridge with large freezer compartment, a microwave oven, a conventional fan oven, plus a four-ring induction hob in a very sensible position. The integrated 1½-bowl sink has a large draining rack routed into the quartz worktop.

The storage is superb and well thought out, with lighting in the cupboards. A large number of wide

and deep drawers is also another useful feature. Just aft of the plate rack, the worktop has been extended inside the tall cupboard, making it very easy to clean, while below is a neat larder rack. All shelves throughout the boat have proper fiddle rails to reduce the chance of things coming off – something many boat-builders omit, yet they are essential on a cruising boat. There is also an underfloor, stainless steel wine/beer locker, which uses the baseplate to chill the booze.

## Saloon

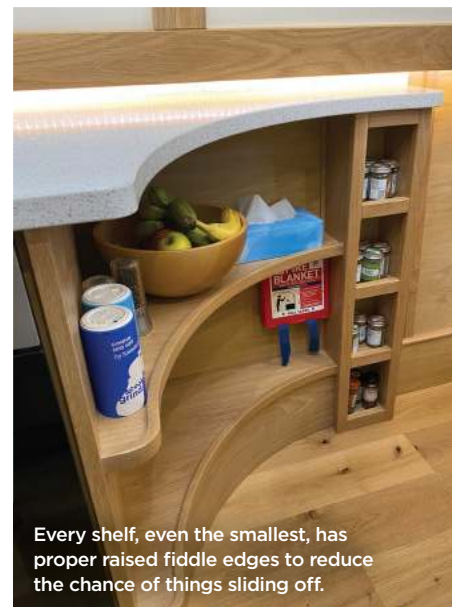
A raised Pullman dinette gives space for dining for four around the electrically height-adjustable table (the owners' previous boat had a very unwieldy demountable table, something they wanted to avoid this time). As with many Aqua boats, boxes slide out from the dinette to create extra seating for another two people. The table lowers to create a good-sized double-berth, though with the extending seating boxes it could also make two shorter single berths across the boat.

As the saloon is quite short, a fully mirrored forward bulkhead really does increase the sense of space here, along with large portholes and a glazed set of side doors by the dinette. The light oak woodwork and white-painted cabin



The woodwork and joinery in the boat are superb, with a light, spacious feel aided by a careful choice of materials.





Every shelf, even the smallest, has proper raised fiddle edges to reduce the chance of things sliding off.



## SALOON

**Above left:** The dinette is conveniently located next to the galley and seats four.

**Far left:** The forward day cabin serves as a second saloon, or can be converted to a double or two single berths. **Left:** Glazed doors and bulkheads give good views out.

panels also keep the boat bright without being clinical. Superb lighting, both colour-change under-gunwale lighting (with the controllers now mounted above inquisitive child-finger height!), plus roof downlights, give good illumination control at night. As with the rest of the boat, heating is from the Webasto diesel, running through some very fancy stainless steel convectors.

## Bathroom

The walk-through bathroom is very spacious, with milky glazed glass panels in the upper half of both access doors. The Jabsco macerator toilet is mounted at 45 degrees to the corner, which gives plenty of legroom, plus enough space for a pedal bin and still lots of towelling-down room. The shower is large but not as big as could be fitted, so there is a useful amount of storage space against the cabin side, behind the shower. The vanity unit is topped with quartz to match the galley, but a simple sink has been fitted, rather than a raised bowl that owners often specify – and this is a far more pragmatic choice for a boat. Again, good lighting and use of mirrors increase the apparent space, while a large radiator and sensibly placed extractor fan (actually above the shower, where condensation is most likely) keep everything snug.

The hardwood floors throughout the boat are tough and easy to clean, which is vital on a family cruising craft. Low-level lighting enables the loo to be used at night without disturbing others by putting the main lights on.

## Master cabin

The main bedroom is a wide cross bed, which can be converted very simply – a flap is lowered and the second mattress is plopped into place. Aqua Narrowboats also runs Aqua Furnishings, which produces a whole range of bespoke interior fittings for boats, including mattresses and dedicated sheet sets, so making the whole conversion process even easier.

Fitting so much into a boat of just over 61ft was always going to be a challenge and some compromises had to be made. The wardrobes either side of the bed are slightly narrower than normal, so the usual 'recessed cubbyhole' that Aqua fits for a mug of tea/phone/glasses could not be included. Instead, a shallow rounded shelf has been used. Each shelf has a double USB charger output running from the 12V system – virtually all the 230V sockets have USB charger ports as well, but, as an engineer, Steve likes to have multiple systems just in case. The central



The TV in the forward cabin, with a glazed side door above; smart radiators throughout keep the boat uniformly warm.





## “THE OWNERS HAVE TRIED TO ENSURE THAT, AS THEY GET OLDER, THEY WILL STILL BE ABLE TO USE THE BOAT WITH EASE”

heating thermostat and controls are by the bed as well, so heating can be turned on before getting up!

There is also a small corner dressing table with storage, as well as space under the double bed, though some of this is taken up by the holding tank. The owners really wanted a second toilet compartment but on this length of boat it wasn't going to fit easily. They envisioned that someone might be taking a shower, when one of the junior crew members needs the loo. So, they have fitted a self-contained flushing Porta-Potti in the base of the forward wardrobe, which slides out on a tray. It also provides more redundancy of systems should there ever be a problem with the macerator loo, or if they get frozen in and cannot empty the tank. A very neat and practical idea. When the loo is out, you also notice one of the many vents into the cabin bilge, demonstrating that there is good airflow under the cabin floor, avoiding condensation build-up and stopping the boat from corroding from the inside

out. Right aft there is also a cabin bilge pump, to remove any water should a pipe split, but also to sound a bilge alarm to alert the owners of any issues.

### Forward cabin

The bow cabin is normally used as a second saloon, with its large L-shaped sofa that gives great views out through the glazed front doors and



### BATHROOM

**Above right:** A sensible-sized sink and good storage to port.

**Right:** There is plenty of legroom around the angled loo in the spacious walk-through bathroom.

**Far right:** The slide-out emergency loo in the master cabin is a very good idea, especially on a family boat.



### MASTER CABIN

**Above left:** A simple drop-down flap allows quick conversion of the cross bed.

**Above:** The bed has two small shelves with double USB ports either side, positioned to avoid catching heads on.

bulkhead. The curtains for the doors and bulkhead are held on by strong magnets, top and bottom, and can be folded away into a drawer during the day – which prevents them from becoming wet if the doors are left open. When cruising as a couple, the room gives a separate space to relax – there is also a TV here, as well as good wall-mounted lights for reading.

The sofa can also be quickly converted into a double-berth but, because two parts of the base move, they can be configured into two single berths as well. This means that, in the future, the grandkids can be put away in here while the adults relax with a drink in the aft saloon. To enable the furniture to be moved, the forward steps are fairly lightweight and can be easily unclipped.

### Propulsion & services

The boat is propelled by a parallel hybrid system, with a Beta 50hp and a Hybrid Marine 10kW motor-generator that is mounted above the PRM hydraulic gearbox. The engine has a conventional grease-lubricated stern tube (as preferred by many in the hire industry for simplicity and reliability) and a large, fully lagged attenuation silencer. The gearbox has a dog clutch so it can be locked, restraining the prop shaft while still allowing the engine to run. The engine is cooled by Colecraft's large twin tanks: one skin tank either side is linked by a tube on the baseplate. This gives more cooling than is needed, allowing the engine to run flat out if required without overheating. The electric motor-generator is water cooled, with a skin tank welded to the baseplate under the engine – which is different but works well. A large horizontal calorifier is on the starboard swim, with the diesel heater mounted right aft. Two large vents give good airflow and sound insulation is installed under the deck.

The electrical system is by its nature complex but something that Steve relishes as an engineer. The main battery bank is under the rear steps inside the cabin (which is good for security), sandwiched between two steel bulkheads to ensure they are





## ENGINE & SERVICES

### Left & above:

The rear stairs are longer than normal to accommodate the battery bank. This allows for more shallow steps, with plenty of handholds.

**Top right:** Eight 3.3KWh lithium battery packs, each at 48V, sit under the extended top cabin step.

**Left:** A Beta 50 engine has a 10kW motor-generator pack mounted above the PRM gearbox.

**Above right:** A proper isolation transformer is fitted rather than a cheaper galvanic isolator.

**Right:** The hybrid controller and auxiliary 12V battery charger.

**Below:** The starter battery and two lead-carbon 115Ah house batteries on the port swim, with a fully lagged attenuation silencer behind and a good-sized vent above.



restrained. There are eight lithium iron phosphate batteries, each at 48V, with a useable individual capacity of 3.3kWh. This gives 26kWh of power, which is enough for four to six hours or so cruising. As each battery is at 48V, unlike using 2V traction cells, should one fail (they have a ten-year warranty), then it can be removed without altering the system voltage.

In the engine bay there is a starter battery, plus a feed to the bow-thruster battery, charged by the small engine alternator. However, there are also two lead-carbon 115Ah batteries to provide the 12V load – rather than a small buffer battery (as these are charged by a 48V to 12V DC charger). These give back-up power should there be a catastrophic failure of the main lithium setup! The lithium batteries themselves can be charged by the engine's 10kW motor-generator, from the 230V landline (via the 8kW inverter-charger), or the 1kW solar panel array. In an emergency there is also a 48V to 12V converter fitted, as yet more redundancy in the systems.

That large inverter also supplies all the energy for cooking, with the house systems running at 12V, such as lighting,

water pump and toilet macerator. The controls for all the systems are spread over the lockers just inside the cabin and are very well fitted and ventilated. To take into account the lithium batteries carried, the owner has invested in some additional extinguishers to tackle lithium fires (the aqueous vermiculate dispersion type) which is sensible but, along with the other extinguishers, they are all fitted inside cupboards. To meet the Boat Safety Scheme, the location of the extinguishers must be identified by a sign on the outside of these spaces, such as on the door.

## Handling & underway

Moving out and around the marina just under electric power is immensely impressive, with quick thrust and very adaptive handling. The control falls easily to hand and the Colecraft hull cuts through the water exceptionally well. There is also a remote control for the hybrid system and thruster, so that single handing in locks is made easier – though this has not been tried in anger just yet. Under electric, the lack of noise is amazing, while the good levels of sound insulation should keep things quiet when more demands are made of the engine.

## WW's verdict

Aqua has once again demonstrated its ability to produce exceptionally high-quality craft to meet owners' exacting demands. Its long-standing experience in building robust and luxurious hire-boats, where rapid maintenance and reliability are paramount, is brought over into its bespoke private builds. This means that all services are easily accessed, ventilation is well thought out, and the standard of joinery, upholstery and onboard technology are amazing.

For high-end bespoke boats, Aqua is worth a visit. And you can even hire one of the company's boats to experience it before you commit.

