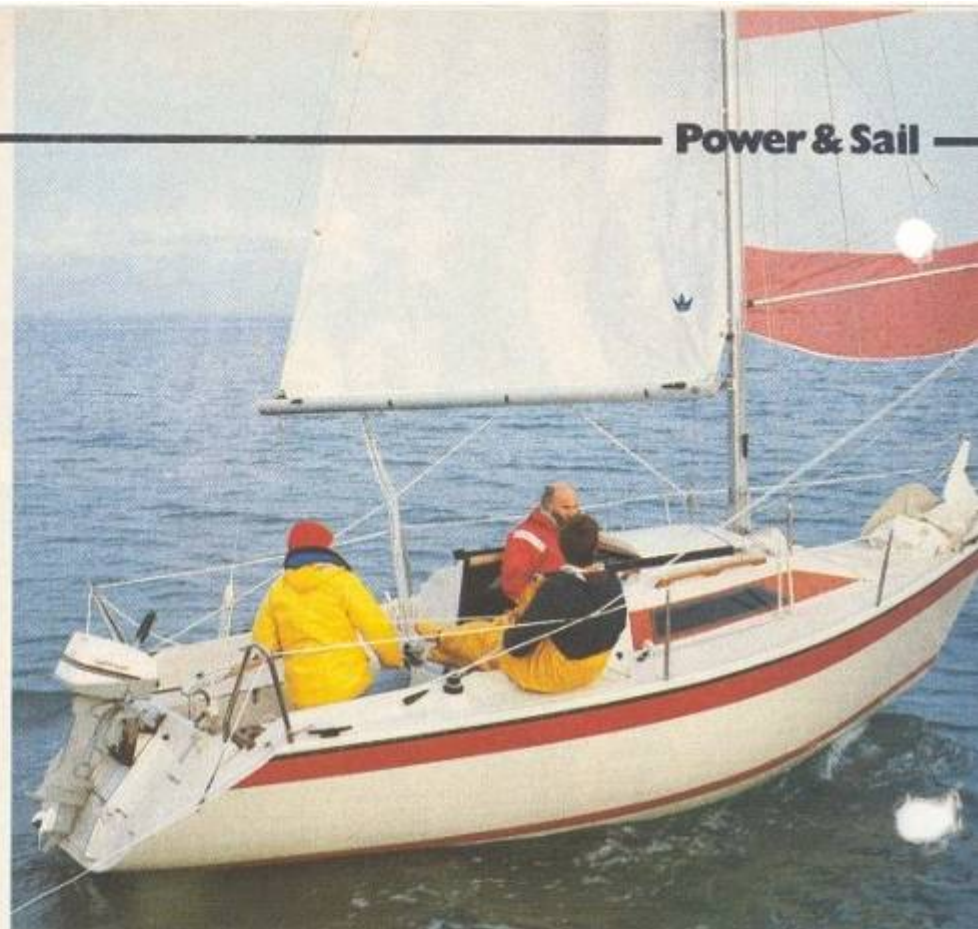




There's a choice of two trailer/trolley combinations — single axle (shown) or twin axle.

There's nothing new about water ballast. Oil tankers and cargo ships have been using it for years. Nor is the Dehler 22 the first trailer-sailer to fit a ballast tank. Back in 1980 (issue 161), Denny Desoutter described how New Zealand designer Jim Young used water ballast to keep his range of trailer-sailers as stable as equivalent fixed-ballast cruisers. So yes, it's all been done before. But why do it at all?

Well, let's look at the Dehler more closely. By draining the double-bottom tank the boat sheds several hundred



All Tanked Up

Keith Colwell tests Dehler's 22ft. water-ballasted trailer-sailer

pounds at a stroke. For the trailer-sailer that means easier handling and lighter towing. And that, in turn, means you don't need as large a tow-car as you would for an identical length but heavier, fixed-ballasted equivalent.

Of course, water ballast consumes more space than either lead or cast iron — about 11 cu. ft. of sea water equals 1 cu. ft. of lead and similarly you need about 7 cu. ft. of water for each cubic feet of cast iron — but in the Dehler 22's case the tank fills the space between the boat's bottom and the cabin's sole, not the most useable space aboard any boat.

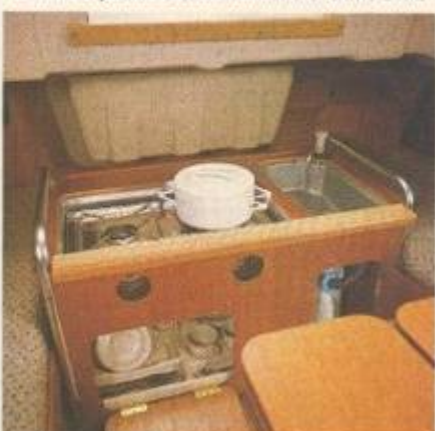
That's the theory. How does it work in practice? As the drawings show, the tank fills automatically through a non-return valve in the bottom of the stub keel, venting through two pipes leading up either side of the cockpit. It takes about 8 minutes to take aboard the 43 gallons of salt water, adding 441 lb. of ballast to an equally heavy cast-iron lifting keel. The non-return valve stops the water from draining out when the boat heels. Back ashore, the valve's opened by pulling a lever on top of the keel case inside the cabin. So in reality with an all-up weight including the trailer, of just under a ton, a

family saloon, such as a 1600 Ford Sierra or 1600S Vauxhall Cavalier or Astra are easily powerful and heavy enough to pull the Dehler up to 50mph.

Water ballast apart, the Dehler is a light boat to start with. And with a displacement to length ratio of 152, it's fair to call her a sprinter.

But she's not overly flimsy. Laminated in foam stringers, plywood bulkheads and settee berths along with the double-bottom tank cum cabin-sole moulding stiffen the hull more than adequately. On top of that, butt-joining the hull and deck mouldings and over-laminating with

What a difference a few extra bits make. These before and after pictures show just what you get, or not, in a Sailaway version (middle) and finished 'Delux' model (left).



Complete in its own slide-away box the galley unit incorporates a two-burner stove and sink.

CSM gives the same effect as a mono-coque hull and deck, or so say Dehler's agents. The outside of the joint is covered with a through-fastened rubbing strip.

But there's always room for improvement and we thought the tinted-Perspex, one-piece washboard could be stouter. It flexes easily and wouldn't need a great deal of effort to force the lock.

Inside, the cabin's coachroof is covered with a vacuum-moulded ABS headlining. This not only insulates the cabin, preventing condensation, but also gives an easy-clean surface to the cabin's roof. Obviously, with a one-piece moulding such as this, deckhead access is impossible. Dehler have got round this problem by laminating aluminium plates into the moulding so deck gear can be fitted easily. The plates are drilled and tapped to accept the appropriate fixing bolts, the unused holes being plugged with nylon caps. Of course, this tends to restrict the owner to using only specified fittings. But, if you wanted to fit, say, a spare winch, then it shouldn't be too difficult to redrill and tap one of the plates, as long as there's a plate where you want the fitting to go.

In fact, the plates are crucial to Dehler's DIY doctrine. The boat is supplied as a very basic sailaway cruiser. From there on a number of kits are offered as 'bolt-on' accessories ranging from Kit No. 1, which supplies the parts to fit out the saloon, to No. 6, Dehler's own outboard transom bracket. The kits in between provide all the bits and pieces you'll need for the galley, extra deck equipment, safety rails, forehatch and more besides. You can take as many or as few as you like and buy them as and when you can afford them.

There's no sticky laminating, just simple bolting or screwing together — it's just like a big Meccano kit.

We tried the boat in her basic form. Her accommodation, as you can see, is as basic as you can get, just two plywood settee berths. We are, therefore unable to comment in detail on the standard of the interior finish. But maybe a note of description wouldn't go amiss. There's space for four in all — two in a double Vee-berth forward in addition to the two on the port and starboard settee berths. A small galley, housed in its own sliding unit which slips out from behind the companionway steps, includes a two-burner stove, sink with a manual pump, and stowage beneath for crockery and cutlery to one side and a two-gallon jerry can on the other.

We can, of course, comment on the general amount of living space available. Headroom is relatively low, especially when compared to its rivals, but there's enough for sitting and if you get up in a hurry the ABS headlining is a forgiving cushion. And you can always fit Dehler's optional spray hood to give protected standing headroom in the companionway. There's a reasonable amount of stowage space under the settee berths and on shelves behind the seats and in bags hung either side of the Vee-berth.

We can't help but feel that the whole boat could have offered more living space if the designer had kept away from using a racing-style retroussé stern. A normal vertical stern may not have looked so pretty but it would have a few advantages. First, the cockpit, which to its credit is a good size, could be moved aft to give more cabin space. Second, fitting and removing the rudder, which drops through a slot in the cockpit sole, would be a lot easier if you didn't have to mess around with the transom gate. And third, when manoeuvring under power, you wouldn't need arms as long as a gorilla's to reach the outboard's gear lever — but you could fit remotes.

The 22 uses a similar sliding outboard bracket to that on the 25. The idea is to hoist engine and bracket up the transom by means of a block and tackle. It's a neat idea so long as the bracket doesn't jam in the slides and, in fairness the 22's bracket



worked better than the one on the 25, but at £159, including the transom gate, it looks a bit pricey.

But the cockpit does have some redeeming features. It's self-draining for a start, through scuppers beneath the transom gate. There's a good-sized lip-cum-step bridge deck at the cabin's entrance that stops water from pouring below. The seats are comfortable, even without the strip-timber finish used on completed boats and there's ample stowage beneath the sole and under each seat for sails, warps, etc.

Visibility from the helm would be perfect if it weren't for the low cut of the jib. It sweeps across the foredeck and on any tack closer than a close-reach you can't see a thing on the leeward forward quarter. Further off the wind, the jib's foot rises over the pulpit and you can then peep beneath it. But in some ways it would be a shame to snip the sail's foot away as the Elvstrom-sewn sail takes up a lovely shape when beating to windward.

She carries a considerable amount of sail for her size — some might say *too* much. And certainly her sail area/displacement ratio at well over 20 would prove the point. But you can always reef back if the wind should prove too strong and others might argue that too of their sailing is in light airs anyway.

We tried the Dehler over two wildly different days. The first day we encountered zephyr-like conditions with true wind speeds less than five knots. So we put up as much sail as we had aboard, including the spinnaker, and were surprised to see the trailing log reading as high as 3 knots. There lies the advantage of large sail area and light displacement — you can keep sailing when others are chugging home under power. Not only that but she was responsive to the helm and even while reaching at such low speeds her balance was such that she would head gently into wind should the helm be released.

On the second day life became a bit more hectic with the wind perking up to Force five gusting six. We set off with a single reef in her mainsail and the working jib spilling air, and it wasn't long before we had put in another reef. Now we were really beginning to move. Our polar diagram is designed to give an idea of average speeds not all-out maximums — after all we were looking for her cruising potential not racing. Nevertheless she flew along with at one time, on a broad reach, speeds topping 6.8 knots, a good knot over her displacement speed. But did she lose her balance of the previous day? Not at all! She was still as sweet and responsive in winds over 20 knots as she was in less than 5 knots with commendably slight weather helm.

Her high aspect ratio keel and rudder let her point as high as 35° off the wind before the sails stalled. But her speed dropped to 4½ knots and she was happier at round 40° where she could bat along at around 5 knots.

So she's fine on main and jib but what about main alone? Down came the foresail and we tried tacking her up to a mooring. No problems here either, the helmsman could do it all by himself with the main held on the mainsheet jammer all he had to do was to move the tiller.

Alright, down with the mainsail and up with foresail this time. At last, we found a chink in her armour. The CoffE of the large working jib was just too far forward to let her tack into the wind. But if you can sail her on main alone then why worry. Under sail, she's not bad, not bad at all.

Back to shore. Her trailer is such a pretty piece of engineering it warrants a mention. There are two types, a two-wheeler (i.e. one axle) and a four-wheeler (two axles). They're offered both in steel and, for a bit more money, in light-weight aluminium as well. A launching trolley rolls off ramps on the road trailer and neatly fits beneath the boat. Floats can be attached to the trolley so that it just slips under the boat which makes the job considerably easier. In fact, it's a one-man operation and with practice the whole procedure shouldn't take much more than ¼ of an hour.

Drop the mast, drain out the ballast and she's ready for home. And with those kit options, at a price which many will, no doubt, find attractive.

Facts & Figures Dehler 22



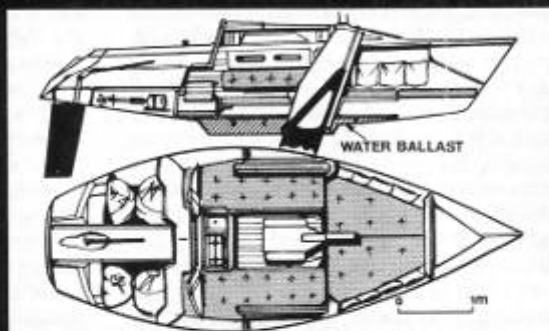
How She Compares

	Dehler 22	Etap 22i	Fox Terrier	Sonata	Evolution 22
LOA	21ft. 8in.	22ft. 3in.	22ft. 1in.	22ft. 7in.	21ft. 8in.
LWL	18ft. 0in.	18ft. 1in.	19ft. 4in.	18ft. 5in.	17ft. 10in.
Beam	7ft. 10½in.	8ft. 1in.	8ft. 2in.	8ft. 6in.	8ft. 2in.
Draft (keel up)	1ft. 3½in.	1ft. 4in.	1ft. 0in.	2ft. 6in.	10in.
Draft (keel down)	3ft. 11in.	4ft. 1in.	4ft. 1in.	5ft. 0in.	4ft. 6in.
Headroom	4ft. 3in.	4ft. 11in.	5ft. 0in.	5ft. 3in.	4ft. 8in.
Displacement	1984lb.	2149lb.	2650lb.	2454lb.	2300lb.
Ballast	882lb.	518lb.	1200lb.	970lb.	900lb.
Disp/(0.01LWL) ³	152	162	164	175	181
Sail Area Main	147sq.ft.	128sq.ft.	117sq.ft.	108sq.ft.	152sq.ft.
Sail Area W.Jib	93sq.ft.	81sq.ft.	99sq.ft.	97sq.ft.	90sq.ft.
Total S.A.	240sq.ft.	209sq.ft.	216sq.ft.	205sq.ft.	242sq.ft.
SA/Disp ^{0.66}	24.3	20.1	18.0	18.0	22.2
Ballast ratio	44.4%	24.1%*	45.3%	39.5%	39.1%
Motion factor	10.2	10.4	12.3	11.1	11.3
Builder	Dehler	Etap	Copland	Hunter	Evolution
Price ex. VAT	£7418	£7900	£7183	£7142	£7950

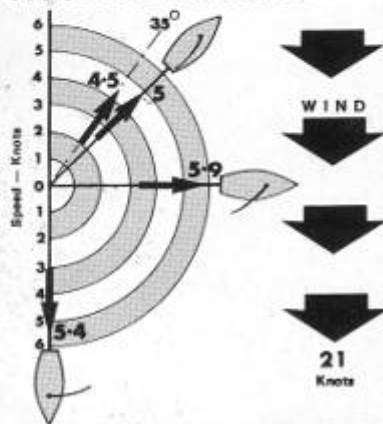
Notes: *90% of ballast located on bottom of keel. Prices for basic boat but including accommodation and sails.
 Factors: Disp/(tons)/(0.01LWL(m))³, known as the displacement/length ratio, is a non-dimensional figure which gives an indication of performance. The lower the number the better the performance. Example: up to 50 - racing multihull, 100 to 150 - light-weight cruiser/racer, moderate cruiser around 250, traditional heavy cruiser over 350.
 SA(sq.ft.)/Disp(cu.ft.)^{0.66}, known as sail area/displacement ratio. This is another non-dimensional figure. It compares the amount of sail area, and therefore available power, to the yacht's displacement. Example: 13-14 - motor sailer, over 22 - lightweight racer. All figures based on mainsail and working jib (or nearest equivalent) which are usually supplied as standard.
 Ballast Ratio: compares the amount of ballast to the yacht's total displacement. Note: the deeper down it is, the more effective. Nevertheless, in general terms anything less than about 35% may be considered 'low', while anything above about 45% is 'high'.
 Motion Factor: a rough-and-ready ratio, devised by American naval architect Ted Brewer, which relates displacement to waterline area and beam and predicts the yacht's behaviour in a seaway. The lower the number, the more uncomfortable the motion - at least, that's the theory. In reality other factors come into play but it's still a useful check. MF = $\frac{\text{displacement (lb.)}}{0.65(0.7 \text{ LWL} \times 0.3 \text{ LOA}) \times B^{1.15}}$

Test Conditions

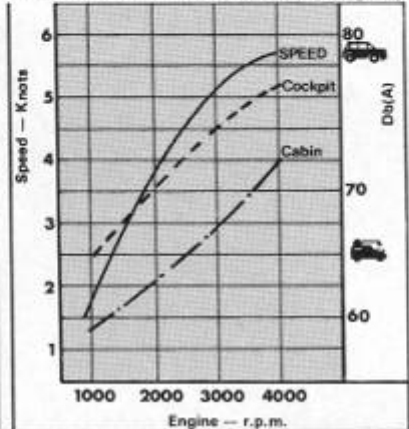
Wind speed 21 knots
 Sea state slight (9in.)
 Temperature 5°C
 Sails mainsail (2nd reef)
 and working jib
 N.B. — speeds under sail indicate the average speed with wind from either side and are not maximum speeds. (i.e. typical cruising speeds)



HOW FAST under sail?



HOW FAST? HOW NOISY?



Boat Data

Construction: Built from hand-laid glassfibre with clear orthophthalic resin with a pigmented isophthalic gelcoat for better osmosis protection, the hull and deck mouldings are reinforced with CSM and woven rovings. The hull is further strengthened with laminated-in foam stringers, plywood bulkheads, bilge floor frames and a double bottom which incorporates the ballast tank. The deck moulding is stiffened with a sandwich of end-grain balsa. Hull and deck are but-jointed and over-laminated with CSM. Two other mouldings are fitted; the keel-case moulding and the cabin sole. An ABS headlining is also fitted.
Underwater gear: cast-iron lifting keel (441lb.) coated with epoxy paint and antifouling. Lifting mechanism uses a square-threaded shaft operated by winch handle in front of mast. Stops are fitted to prevent keel from dropping out. Removable through-hull, glassfibre foam balanced rudder on a solid-alloy rudder stock, stiffened by web frames, supported on nylon bearings and controlled by a hardwood tiller. An optional folding rudder is also available.

Rigging: ¾ fractional Bermudan sloop with anodised aluminium mast and boom. The mast is deck stepped in a hinged tabernacle and held by stainless steel 1 x 19 wire on inner shrouds, forestay, backstay and outer shrouds which are led over swept-back spreaders.

Standard Sails: mainsail and working jib by Elvstrom Sails.

Optional Sails: made by Crusader Sails.

No. 1 genoa 128sq.ft.
 No. 2 genoa 98sq.ft.
 Storm jib 37sq.ft.
 Spinnaker 291sq.ft.
 Cruising Chute 233sq.ft.
 Weight on road (ex. water ballast) 1543lb.
 Engine type Longshaft outboard 4-6hp

Designer E. G. Van de Stadt
 Builder Dehler Yachtbau GmbH,
 5778 Meschede-Freienohl
 Im Langel, Postfach 3209.

Suppliers Alan Bourdon Yachts Ltd.,
 42 Constitution Hill Road,
 Poole, Dorset. Tel: (0202) 741911.

Also Hunter Boats, Sutton Wharf,
 Sutton Road, Rochford, Essex.
 Tel: (0702) 546541. & Hamble Point
 Marina, Hamble, Nr Southampton.
 Tel: (0703) 452177.

Prices

Standard specification: includes standard sails, rig, rudder and deck equipment and fitted plywood settee berths £5634
 Kit 1: Saloon £624
 Kit 1a: Galley £337
 Kit 2: Forepeak accommodation £286
 Kit 3: Deck equipment £279
 Kit 4: Safety rails £258
 Price: of live-aboard package £7418
 Other kits can be added for a more luxurious finish. All prices ex. VAT.