

BUYER'S GUIDE

Our Buyer's Guides complement our group and long term gear tests and provide essential background information about gear and equipment.



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Sailing Today's Buyer's Guides strive to give you enough information for you to choose a particular product that is most likely to suit your needs. Unlike our gear tests, there is no element of testing involved in compiling these guides, so we are unable to give you a review of their performance unless they later become a subject of one of our extended Gear Tests, which many will in the long run.

Prop talk

For those who want to gain the best performance under sail, a non-fixed blade propeller is an absolute must. **Duncan Kent** looks at the choice between folding and feathering props to see what they have to offer over the standard fixed blade propeller.

WHICH PROPELLER IS BEST?

Which propeller is right for you rather depends on what boat you have, what engine you use and what type of sailing you do, so the answer is... there's no absolutely right answer. Without doubt 'propping' a boat is a complex subject and I would strongly advise you take professional advice from an expert before committing yourself to any substantial outlay – either in time or money.

Fixed propellers are the least expensive and, when correctly sized, will provide the best forward propulsion under power with reasonable astern ability. But they will also create the greatest drag under sail.

Low drag folding and feathering propellers, however, can offer a dramatic increase in speed under sail – often giving the best

performance gain per pound when compared to other sail or rig modifications.

FOLDING PROPELLERS

On a folding propeller, the blades are hinged, folding backwards under water pressure when under sail, while relying on centrifugal force to open them under power. The blades are usually linked by open gearing to ensure they all open/close in sync, preventing loss of balance. With the lowest drag of all, a folding propeller can often increase sailing speeds between 0.5-1.0kn, which is especially useful in light airs.

Compared to fixed and feathering propellers, a folding prop has a mid-range price. The primary disadvantage is reduced performance in astern, because the

centrifugal force opening the blades is counteracted by the thrust of the blades trying to pull the boat backwards. In general, folding propellers usually suit the racing enthusiast or those prepared to sacrifice a little manoeuvrability to get the best speeds.

For:

- Cheaper than a feathering prop
- Simpler design than feathering prop
- Very low drag
- Sleek profile that helps to reduce the chance of snagging ropes, nets etc

Against:

- Poor thrust in astern
- Wear or fouling on open gearing
- Some prop walk apparent
- Annual maintenance required

PROPELLERS

Volvo Penta two-bladed folding propeller



Slipstream



Brunton Varifold

Regularly fitted by such notable names as Baltic, Swan, Wally, Moody and Oyster, the Varifold offers radical reductions in noise and vibration, as well as excellent performance under engine – both ahead and astern. Varifolds have proper helical pitch distribution, including pitch reduction towards the blade tip, which 'unloads' the blade tips and, combined with the skewed blades, greatly reduces noisy pressure pulses against a yacht's hull.

Each Varifold prop, whatever its size, is built to the same extremely high specification from a nickel-aluminium-bronze alloy that guarantees great strength and high corrosion protection.

Flex-O-fold

Flex-O-fold three bladed saildrive



The standard two-bladed Flex-O-Fold combines the most efficient blade shape available with very low drag, at a moderate price. It features a large blade area – necessary for powering performance – together with twist and a hydrodynamic shape that maximizes the efficiency along the length of the blade, rather than just at one point. In addition to this, the twin-helical gears ensure the blades will open consistently and fold back under sail into a very low drag configuration.

The three-bladed version is also available with many different pitches in each size. A zinc anode and its mounting plate cover the blade gears preventing barnacles or other creatures from becoming a problem.

Gori



A well known name in folding props, the two-bladed Gori folding propeller is for sailing yachts fitted with engines up to 60hp and is available in seven diameters for shaft and Saildrive installation. The geared design ensures blades open and close together, giving less vibration under way, with the blades closing simultaneously when sailing.

Tests have shown in certain instances that the two-blade Gori propeller reduces a yacht's total drag by 35 per cent. Furthermore, the efficiency of the prop in ahead is better than many other folding propellers.

The Gori also gives you the optimum thrust in astern by virtue of its propeller blade shape and profile, and does not rely solely on the centrifugal force to open the blades, as do many other folding propeller types and models.

The hub of the Saildrive propeller is manufactured with a flexible bushing that absorbs shock

and electrically insulates the propeller from the Saildrive leg.

The three-blade Gori folding propeller enables sailing yachts to gain the folding propeller's speed advantages under sail, combined with the fixed propeller's thrust when motoring. Its 'overdrive' function adds a new dimension to motorsailing, because the helmsman can choose the propeller pitch and profile in the water, while moving ahead, by regulating the yacht's throttle control rather than by using mechanical or hydraulic devices.

Slipstream

Manufacturers of props for the entire boating industry, Steel Developments also specialise in stainless steel folding and feathering props for sailing yachts and is the UK agent for Slipstream (folding) and Autostream (feathering) props.

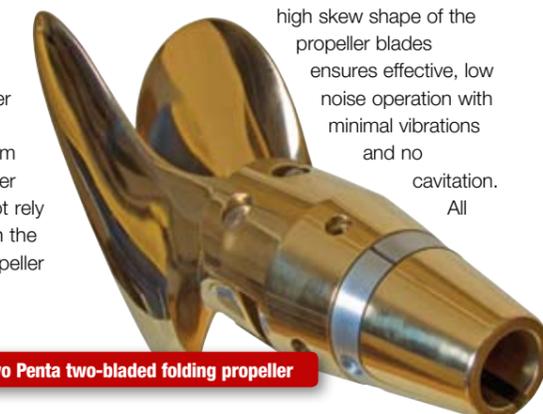
Although sailing boat props are more commonly made from bronze, there is no reason why they can't be made from high quality stainless steel. Being a much harder material, they are less likely to be damaged by physical contact with a hard object and they will also be galvanically more compatible with most stainless prop shafts, reducing the common risk of prop corrosion.

Volvo

A Volvo Penta two or three-bladed folding propeller can offer higher speed under sail compared with a fixed propeller and its high thrust capability means that these propellers provide a favourable alternative for sailors. Thanks to the blades' efficient performance in astern, you also get excellent manoeuvrability

in confined areas. The unique, high skew shape of the propeller blades ensures effective, low noise operation with minimal vibrations and no cavitation. All

Volvo Penta two-bladed folding propeller



Darglow Featherstream



Volvo Penta folding propellers are made from a highly corrosion resistant, nickel-aluminium-bronze alloy and, because the blades and hub are sold separately, you can easily put together a match to meet the specific needs of your yacht.

FEATHERING PROPELLERS

A feathering propeller has a mechanism to turn the blade's edge into the water flow to minimise the drag when sailing. The blades are then rotated into the required position for ahead or astern, once power is applied.

Feathering propellers give the sailor control at all times and boast superior ability going astern over fixed or folding propellers. While the drag can be marginally higher than with a folding propeller, it is significantly lower than a fixed propeller.

The price of these props is usually higher than a fixed or folding model, however, but they are generally more robust in construction, providing a longer life.

Feathering propellers generally have a pitch adjustment mechanism that enables you to adjust the propeller to the optimum pitch, with some high quality feathering propellers featuring external pitch adjusters, offering adjustment for ahead and astern independently. Ahead can be set for best motoring performance and astern can be set for best manoeuvrability and thrust.

For:

- Best thrust in astern
- Less drag than a fixed blade prop
- Easily adjustable pitch
- Some have independent pitch adjustment
- Reduced prop walk

Against:

- High price
- Slightly higher drag than a folding prop
- More moving parts to fail
- Annual maintenance required

Brunton Autoprop



The Autoprop's exclusive design enables its shaped blades to automatically find the optimum pitch when motoring or motorsailing, ensuring excellent performance both ahead and astern with virtually no prop walk.

Autoprop automatically adopts the most efficient pitch setting, taking into account the driving force of the sails. The result is increased speed at lower revs, giving longer range and more comfortable cruising.

It also offers faster motoring speeds for the same revs, better economy at lower revs and up to 1kn increase in sailing speed.

The Autoprop is offered in two- and three-blade versions for shaft drives and a two-blader for Saildrives.

Darglow Featherstream

Designed using 3-D CAD modelling technology to ensure optimum results, these three-bladed feathering props are made from aluminium bronze (body and centre shaft)

with stainless steel blades to offer a perfect match in terms of longevity, bearing material and corrosion resistance. Bodies, centre shaft and blades are then CNC machined to a very high standard, allowing all components to be interchangeable, then they are hand finished to customers' specification. The pitch is set at Darglow, but with the facility to fine tune by the customer if required. Finally, the props are checked for balance before despatch.

Featherstream propellers are as easy to fit as a fixed propeller, because they are manufactured to fit an existing shaft and will be delivered fully assembled and ready to go.

Maintenance is quick and easy – once a year it needs to be topped up with grease. The zinc anode protects the propeller from electrolysis and needs to be replaced as necessary.

Kiwiprop

The Kiwiprop is a unique three-bladed feathering propeller that eliminates internal gears and so allows each blade to individually align with the water stream rather than the shaft, giving the lowest possible drag under sail. Traditionally, feathering prop blades



Kiwiprop

Max-Prop Classic

Made from a tough, corrosion resistant, nickel-aluminium-bronze alloy, the Max-Prop is the original feathering propeller and is now widely recognised as the industry standard for shaft or Saildrive transmission. Max-Props require no operating system and fit directly onto an existing shaft.

The appropriate ahead or astern drive is automatically achieved when the engine is run ahead or astern and when the yacht is sailing, it automatically feathers to give minimum drag while the shaft remains completely stationary.

The two-bladed Max-Prop offers the

MAX-PROP Classic



MAX-PROP Classic



are geared together to line up with the shaft when feathered. However, the shaft rarely lines up with the water flow and this can therefore increase drag.

The boss components are 316 stainless steel and the blades are a 50 per cent glass reinforced Zytel composite for great strength, zero corrosion, reduced rotating weight and

easy blade

change. The pitch is easily adjustable externally.

All Kiwiprops are priced the same, currently £1,014, regardless of size.

ultimate in drag reduction, especially when locked in the vertical position for racing. Its wide surface area and thin, efficient blades mean there is no compromise in forward drive and it is equally efficient astern.

The three-bladed version was introduced later, but rapidly became a popular choice for cruising yachts. With a larger blade surface area, the propeller further enhances performance under power, especially in adverse conditions. Vibration is reduced and thrust in astern is said to be outstanding.

With all Max-Props, you can adjust the pitch – fine-tuning the propeller to exactly match your engine. Annual greasing is required.

Max-Prop VP

A further development from the three-bladed Classic, the VP version has a patented external pitch control, which can be reset by a diver with no requirement for any tools.

It also offers a finer adjustment of blade angle through approximately 0.5in increments of pitch, to optimise the match of the propeller.

PROPELLERS

Make/model	Shaft	S'drive	Blades	Outer dia	Max pwr	Cost (from)	Manufacturer website	UK contact	Tel	Web
FOLDING										
Brunton Varifold	Y	Y	2	12-17in	50hp	£630.00	www.bruntons-propellers.com	Bruntons	01255 420005	www.bruntons-propellers.com
Brunton Varifold	Y	Y	3	16-32in	350hp	£1,255.00	www.bruntons-propellers.com	Bruntons	01255 420005	www.bruntons-propellers.com
Flex-O-Fold	Y	Y	2/3	12-22in	7-100hp	£706.00	www.flexofold.com	Darglow	01929 556512	www.darglow.co.uk
Gori	Y	Y	2	11.5-18in	60hp	£595.00	www.gori-propeller.dk	Sillette Sonic	020 8337 7543	www.sillette.co.uk
Gori	Y	Y	3	15-30in	10-300hp	£1,720.00	www.gori-propeller.dk	Sillette Sonic	020 8337 7543	www.sillette.co.uk
Slipstream	Y	Y	2/3	14-20in	60hp	£1,137.00	www.steeldevelopments.co.uk	Steel Developments	020 8874 7059	www.steeldevelopments.co.uk
Volvo	Y	Y	2	14-19in	5-40hp	£530.40	www.volvopenta.com	See website	See website	www.volvopenta.com
Volvo	Y	Y	3	14-19in	25-60hp	£1,107.60	www.volvopenta.com	See website	See website	www.volvopenta.com
FEATHERING										
Autostream	Y	Y	3	15-20in	60hp	£1,999.00	www.steeldevelopments.co.uk	Steel Developments	020 8874 7059	www.steeldevelopments.co.uk
Brunton Autoprop	Y	Y	2/3	12-20in	100hp	£1,100.00	www.bruntons-propellers.com	Bruntons	01255 420005	www.bruntons-propellers.com
Darglow Featherstream	Y	Y	3	12-20in	75hp	£1,181.00	www.darglow.co.uk	Darglow	01929 556512	www.darglow.co.uk
Kiwiprop	Y	Y	3	16-19in	15-65hp	£1,014.00	www.kiwiprops.co.nz	Vecta Marine	01672 564456	www.vectamarine.com
Max-Prop Classic	Y	Y	2/3	12-44in	8-400hp	£1,017.00	www.max-prop.com	Darglow	01929 556512	www.darglow.co.uk
Max-Prop VP	Y	Y	2/3/4	15-36in	8-400hp	£1,159.00	www.max-prop.com	Darglow	01929 556512	www.darglow.co.uk

- If it's sheer boat speed under sail you're after then folding propellers present the least amount of drag resistance.
- If you're happy to compromise slightly between fast sailing speeds and good manoeuvrability under power then a feathering propeller will most likely be the one for you.
- For the best motoring and sailing performance the larger the diameter the better, allowing for blade clearance. A large, slow turning prop is more efficient than a smaller, faster turning one.

