

# Which lifejacket?

How much are you prepared to spend on a lifejacket and what do you get for your money? Fox Morgan and team test a range of six



For a fuller version test of these plus another six lifejackets see [yachtingmonthly.com](http://yachtingmonthly.com)

**C**hoosing a lifejacket is no easy task; like insurance, you're investing your hard-earned money into something you hope never to use. It's understandable, therefore, you might not want to spend too much. On the other hand, if you do fall overboard, those extra features you paid for – such as a sprayhood, light or crotch strap – could hugely increase your chances of survival. So it's worth evaluating your type of boating.

Are you popping ashore on the dinghy or day-sailing around the coast? Maybe you're making overnight passages or

racing on a transatlantic. In an ideal world, you'd have a lifejacket for each activity, but that's not practical, so let's take a look at what you can get for your money.

## Lifejackets on test

We tested a dozen of the most popular lifejackets on the market and put them through their paces. We looked at how the lifejackets functioned in the water for a range of body types.

Our team of nine experienced sailors and maritime professionals wore the lifejackets in a series of sea survival drills. All had worn many lifejackets of many designs over the years, and some had

even needed them to keep them alive in the water.

From our 12 on test, we whittled it down to these six to reflect a range of features and budgets. Although our test here only deals with auto-inflating gas lifejackets, it's useful to understand how all types of personal flotation device (PFD) work, and how safety standards are decided.

## Measuring buoyancy

The 'N' on a PFD stands for Newtons, which is a measure of force. For example, 10 Newtons is equivalent to 1kg of buoyancy. There are four primary European standards for buoyancy, 50N,

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## The RNLI explains buoyancy levels

### Buoyancy aid – level 50



Buoyancy aids at level 50 are recommended for use by swimmers in sheltered waters or by those doing watersports where help is close at

hand. However, they don't have sufficient buoyancy to protect a person who is unable to help themselves. They're not designed to turn a person from a face-down position in the water.

### Lifejacket – level 100



The level 100 lifejacket is recommended for use in sheltered and calm waters. It may not have sufficient buoyancy to

protect a person who is unable to help themselves and may not roll an unconscious person onto their back.

### Lifejacket – level 150



The level 150 lifejacket is for general use on coastal and offshore waters where a high standard of performance is

required. It should turn an unconscious person on to their back and requires no subsequent action by the wearer to keep their face out of the water. Its performance may be affected if the user is wearing heavy and/or waterproof clothing.

### Lifejacket – level 275



The level 275 lifejacket is recommended for offshore use, primarily for extreme conditions and for those wearing

heavy protective clothing that may adversely affect the self-righting capacity of lesser lifejackets. As with the level 150, this lifejacket is designed to ensure that the wearer is floating in the correct position with their mouth and nose clear of the surface of the water.



**ABOVE** Our lifejacket testers form a group for safety in numbers

**LEFT** Fox Morgan and Toby Heppel on location in Charlestown

100N, 150N and 275N (see panel, right). For inflatable lifejackets, the two main ISO certificates are 150N or 275N, but you'll find many brands state buoyancy levels in between these.

Most level 150 and level 275 inflatable lifejackets are produced in one size suitable for all adults weighing over 40kg (6st 4lb). The only limiting factor can be the length of the waist/chest belt, which can vary between makes.

Buoyancy aids and level 100 lifejackets, however, come in a range of sizes from baby to adult XXXL.

Because of their buoyancy, all adults, regardless of their size, have a net weight of about 5kg when immersed in water. You don't need a lifejacket or buoyancy aid with more buoyancy just because you're big.

However, when it comes to inflatable lifejackets, the ISO Standard says: 'Under certain conditions (such as rough water and waves), the use of watertight and multilayer clothing which provide (intentionally or otherwise) additional buoyancy or the use of equipment with additional weight (such as tool belts) can alter the performance of the PFD.'

That said, a 275N lifejacket is more difficult to swim in and makes it more

difficult to gain entry to a liferaft. It's heavier and bulkier, and 170N would be suitable for most people.

### Types of inflation

There are three inflation methods of gas-only lifejackets. Most inflatable lifejackets are inflated by piercing a bottle filled with carbon dioxide (CO<sub>2</sub>) attached to the firing head. Orally-inflated-only lifejackets (ones without a gas cylinder) are not recommended for everyday use.

#### Manually activated



Manually inflated lifejackets are operated by pulling a cord, which pushes a firing pin into the CO<sub>2</sub> bottle, which inflates the lifejacket. Manual activation prevents the possibility

of false activation, which can be caused by a damp automatic mechanism or the wearer being hit by a large wave.

Of course, manual activation will not work if you are unconscious, or suffering from the effects of cold water shock.

Even if the water is warm, the shock of falling overboard can limit your ability to think straight. ➔



**ABOVE** Strobe light helps an MOB to be found in poor light condition

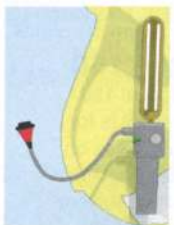
**RIGHT** Spray hood keeps waves and spray away from your face for easier breathing



Provision to fit a PLB is a useful feature



**Automatic – water activated**



Water activated automatic firing heads have either a capsule containing a paper element that breaks down in contact with water (UML), or a small, fast-dissolving pellet (Halkey Roberts)

that allows spring activation of the firing pin into the gas bottle.

Due to the effects of cold water shock, most people choose a lifejacket that will inflate automatically if they enter the water.

In addition, automatic lifejackets have a pullcord to manually activate the CO<sub>2</sub> button, as well as a mouthpiece to allow oral inflation.

**Automatic – pressure activated**



Hydrostatic (Hammar) lifejackets work the same way as an automatic lifejacket (with a dissolving pellet) but the pellet is protected by a case that only lets water in once it is a few centimetres under water. It won't fire unless fully submerged.

This is useful if you take part in sailing activity where you're regularly soaked by waves or excessive spray. The CO<sub>2</sub> bottles in hydrostatic lifejackets are less likely to suffer from corrosion.

**Lifejacket features**

All new lifejackets sold in the UK, ROI and elsewhere in Europe need to conform to a minimum set of safety standards listed below (ISO 12402-3). For a higher safety standard, it needs to be fitted with a harness (ISO 12401).

**Compulsory features**

- Turns a person over and floats them in the safety position
- Has a minimum freeboard measurement of airway above water
- Has a whistle
- Has a lifting strop
- Constructed of a highly visibly material recognisable as a safety or distress colour (bright orange/yellow)
- Has a minimum amount of reflective tape
- Has ride-up prevention (ie crotch or thigh straps – either one or both)

**Extra features**

The RNLI recommends the following additional features on a lifejacket, which can greatly enhance your chances of survival if you end up in the water. Though not all these features come as standard with every jacket, they can be easily fitted afterwards.

**Spray hood**

Even with a level 150 lifejacket you may be subjected to waves in your face. A spray hood will keep

**RIGHT** PLBs can be attached to a lifejacket

**Light**

A fixed or flashing light attached to your lifejacket makes you much easier to find at night or at times of poor visibility. Lights can be easily retrofitted if your jacket does not already come with one.

**PLB/AIS beacon**

As discussed last month in PBO, fitting a Personal Locator Beacon (PLB) or AIS device will help raise the alarm and tell rescuers where you are. PLBs are manually operated. They have worldwide coverage and transmit a signal via satellite to the emergency services. AIS MOB devices use a VHF signal to alert local vessels (able to receive AIS signals) of a man overboard. They can be fitted to operate automatically when the lifejacket inflates.

