

GROUP TEST LIFEJACKETS

We all have lifejackets on board, but do you know what yours is actually like to use? We tested 10 of the latest to find out...

Have you ever jumped into the water wearing your own lifejacket, and could you find your hood, light, and recovery becket? It's easy to choose a lifejacket based on cost or comfort, but it's what happens when it is inflated that is crucial.

All lifejackets are built to ISO standards that set minimum required performance – ISO 12402-3 for lifejackets, ISO 12401 for deck harnesses – as well as standards for hoods and lights, there have been big design developments that are a huge step change for safety, and many lifejackets go well beyond the basic standard.

Cruising sailors typically sail away from busy waters or sailing club safety boats, often solo, in poor weather or at night, and frequently offshore. In anyone's books, this constitutes a high degree of exposure. For this, your lifejacket really needs to have a spray hood to prevent secondary drowning, a harness to clip your tether too, a decent light and a whistle. Space to include an AIS MOB beacon or PLB can also increase your chances if you do go over the side. We set about testing lifejackets that meet these criteria.

WHAT WE WERE LOOKING AT
All the lifejackets we tested had a buoyancy of between 150N and 190N and came with automatic inflation, light, hood, harness attachment point and crotch strap as standard. We wanted to find out how well they inflated, righted a casualty and how much freeboard they



Comparing the distance to the tester's chin to the height of the water gave the freeboard measurement

offered, the latter two of which are part of the ISO standard testing, and whether they worked equally well for men and women. We also wanted to see what impact their claimed design innovations really have, particularly those with innovative harness attachment points, and to test these in a real-world setting.

HOW WE TESTED THEM
To test the lifejackets we headed to the RNLI training pool in Poole where we could recreate deep, cold and rough water in a controlled environment. Ali Wood and YM Editor Theo Stocker were the testers so we could see how the figures compared for different weights and sizes of crew.

We jumped into the water from a height of one metre and timed how long it took for the lifejacket to fully inflate. We then recreated the ISO standard tests – for rotation times, the 'casualty' wears a fully inflated lifejacket over swimming clothes, and is held horizontal and face-down in the water with their legs on the surface. We then timed how long it took for their legs to swing under them and the lifejacket to turn them fully onto their back. For the

freeboard test, the casualty floated near the side of the pool and we measured the height of their mouth above the water.

Finally, we put on full oilskins and turned on the wind and wave machines to find out how effective the hood was at keeping spray out of our faces, as well as how well we could see, hear, move about and aid in our own recovery.

We also spent time out sailing, wearing all of the lifejackets to see how comfortable they were for longer periods, and how easy the harnesses were to adjust and set up. Finally, we jumped in the water with the lifejackets that have harness release systems to test these from a boat in open water.



Each tester was held by the ankles before being released to measure rotation time



BALTIC 150 RACE SL

SPECIFICATIONS

BUOYANCY 150N
FIRING MECHANISM UML Pro
GAS CANISTER 33g
BUCKLE Metal frame
HARNESSES RELEASE? No
WEBSITE www.baltic.se

The Race SL was the smallest lifejacket we tested that met our criteria. Similar in design to the larger Legend lifejacket, it has a fairly long body, with a well-padded casing and anti-tangle back panel.

IN USE

The Race SL has chest strap adjustment buckles on both sides which pull to the rear and release forwards. A small inspection window is well labelled for checking the firing mechanism and there is a pull toggle for manual inflation as well as automatic firing. The padding was comfortable, although the inflation tube and

light assembly inside the lifejacket sat over the collar bone, which could create a pressure point over time.

IN THE WATER

Unsurprisingly given the smaller 150N of buoyancy, the Race came bottom of the field in the rotation test for both Ali and Theo as it created less force to turn a body over. While on their front for this test, Ali and Theo also found that their faces were either in or very close to the water, highlighting the extra buoyancy generated by larger lifejackets. It performed better in the freeboard test, however, coming in the middle of the pack, although getting the straps good and tight beforehand were important for this. Ali found the lifejacket



The Race has a more rounded bladder, making it harder to hook the hood over

The back panel is wide and padded which helped prevent twisted straps

Adjustable buckles on either side at the front were easy to use



tended to ride up and she felt much less secure in it.

Unlike the longer bladder of the other Baltic lifejackets, this had a shorter, higher bladder with more rounded lobes. The standard Baltic hood had a good support arch, but the elastic straps tended to slip off the bladder, and also let spray in.



This is one of the few to have a metal tether loop

BALTIC LEGEND AUTO 190N

SPECIFICATIONS

BUOYANCY 190N
FIRING MECHANISM UML Pro
GAS CANISTER 38g
BUCKLE Metal frame
HARNESSES RELEASE? No
WEBSITE www.baltic.se

The Baltic Legend 190, of which we also tested the smaller Legend 165, was a reasonably large but comfortably flexible lifejacket, though its lack of structure made it slightly heavier on the neck. It has a large and clearly marked inspection window, a bright tether attachment loop and a single crotch strap attachment point. The gas canister is also held by a retainer, unique to Baltic, to prevent it working loose.

IN USE

It is well padded where it sits on the chest and back, though the strap itself isn't padded. This is adjustable on one side by a rather outdated buckle and

slider, making it difficult to adjust while worn. It doesn't have any additional pockets for beacons, so these would need to be fitted internally.

IN THE WATER

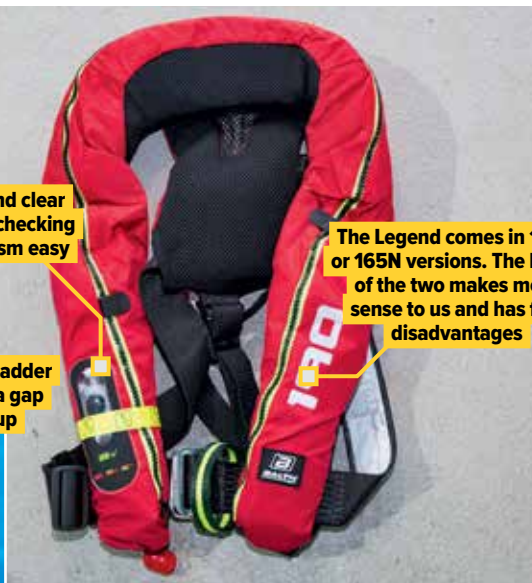
The Legend 190 was the second fastest lifejacket to inflate, and came a respectable 5th and 6th on the rotation test in times ranging from 2.12 to 5.18 seconds. Freeboard was also good, coming in the top half of the field. It has a clearly marked lifting becket attached to the front of bladder. The hood was easy to deploy and had a good arch to keep the visor off the face, but overly-generous ventilation holes meant it let a fair amount of spray in. On the smaller of the two Legend lifejackets, we found the hood difficult to keep



The horse-shoe shape bladder is longer and prevents a gap for waves to funnel up

A large window and clear annotation makes checking the firing mechanism easy

The Legend comes in 190N or 165N versions. The larger of the two makes more sense to us and has few disadvantages



hooked over both sides of the bladder, and the

bladder had a tendency to ride up even with the chest strap good and tight. Both jackets have horseshoe-shape bladders to reduce the gap at the front, though there was still a little funnelling. This was a good, comfortable lifejacket that scored well across the tests.



With a longer body, this soft-fitting lifejacket fitted our testers well

CREWSAVER CREWFIT 180 PRO

£116

SPECIFICATIONS

BUOYANCY	180N
FIRING MECHANISM	UML Pro
GAS CANISTER	33g
BUCKLE	Metal frame
HARNESS RELEASE?	No
WEBSITE	www.crewsaver.com

The smaller of Crewsaver's two lifejackets on test, the Crewfit 180 Pro can be bought with or without a hood or light. It copies some of the innovations of the Ergofit+ but in a more compact casing, which makes it easy to stow and unobtrusive to wear, if more basic.

IN USE

The casing is less contoured but more flexible than larger lifejackets, and it still has an inspection window. Adjustment of the chest strap is by two forward-pull buckles at the rear, which are easy to tighten, but less easy to slacken off, with a standard metal frame buckle at

the front. Repacking was aided by printed instructions sewn inside the casing.

IN THE WATER

The Crewfit came at the lower end of the performance figures across the tests, reflecting the fact that this is a smaller bladder than others on test, except for the freeboard test on Theo, where it scored second highest. Having said this, the bladder shares the design concept of the Ergofit+, bringing the buoyancy to a point to assist with rotation. The interlocking bladders are designed to prevent wave funnelling and to support your airway.

The hood was easy to locate and pull over with two elastic straps. A neat hole allowed the

The red pull tags help with loosening the chest strap buckles at the rear of the harness

The cover is well contoured with a minimum of extra bulk

Once inflated the hood was easy to deploy, though the contrast to the more advanced Ergofit+ was evident



light to shine outside the hood and a black fabric panel stopped the wearer being blinded by this, and an opening panel on the visor made hearing easier. It also had a good number of retroreflective strips to help with location at night, though the lifting becket wasn't the easiest to find in the water.

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Small and unobtrusive, the Crewfit is one of Crewsaver's oldest ranges

CREWSAVER ERGOFIT+ 190N

£220

SPECIFICATIONS

BUOYANCY	190N
FIRING MECHANISM	UML Pro (Hammar available)
GAS CANISTER	38g
BUCKLE	Quicklock
HARNESS RELEASE?	No
WEBSITE	www.crewsaver.com

This lifejacket was the most innovative in terms of bladder design and in-water function. It focuses on spinning a casualty over as quickly as possible, supporting their head and airway, with as much freeboard as possible, while holding the body horizontal to avoid plunging in waves.

IN USE

The outer casing is contoured to make this jacket fit very well over the shoulders and neck, though it is one of the more rigid and bulky jackets. In common with the Crewfit, it had forward-pull adjustment buckles at the back. It had a double crotch

strap and a unique seat belt-style click-lock buckle, making it easy to click shut. Out sailing, we didn't find it cumbersome.

IN THE WATER

If performance in the water is the most important aspect of a lifejacket, the Ergofit+ 190N was streets ahead of everything else on test. It was one of the fastest to inflate, but more importantly it was a good second or two ahead on the rotation test. It was very difficult for the tester to get onto their front to begin the test at all, and they spun over in close to one second. It also produced the best freeboard figures with up to 4cm more than some of its competitors. It also positively supported the chin and airway, and fabric baffles prevented wave-

The padded and contoured collar included a pocket for an Exposure OLAS man overboard tag

The halo hood includes a double arch support and a baffle to protect your night vision

The click-lock buckle is easier to use with cold hands and is as secure as a car seat belt



funnelling. Despite this impressive buoyancy, the narrow

shoulder sections offered great mobility. The hood has also been redesigned. It needed a tug to deploy but felt like an aircraft cockpit with its double arch keeping the visor well clear of the face, giving good visibility and hearing, with a removable screen to shade the bright light.



The bladder's advanced shape makes a big difference to performance in the water

HELLY HANSEN SAILS SAFE RACE 170 AUTO

£290

SPECIFICATIONS

BUOYANCY	170N
FIRING MECHANISM	Hammar
BUCKLE	Metal box
GAS CANISTER	33g
HARNESS RELEASE?	No
WEBSITE	www.hellyhansen.com

The Helly Hansen 170 Auto is a product of development for race teams and was one of the flattest lifejackets to wear. Work has gone into the harness of this lifejacket with aluminium rather than steel buckles to keep the weight down and crotch straps have been developed into thigh straps with a pocket in the back of the lifejacket to tuck them away, and there is good padding around much of the harness.

IN USE

Hammar inflation and an inspection window make checking and maintaining the lifejacket simple. The jacket sits flat against the body but

includes space to add in an MOB beacon or PLB. The thigh straps are slightly more complex to fit, and need to be fitted reasonably snug so they don't slip down and limit movement. A double thickness of webbing at the main front buckle made threading the smaller part through a bit tricky. The side adjustment buckles were easy to use, but we found these had a tendency to slip in the water, affecting the freeboard height.

IN THE WATER

The lifejacket was the fastest to inflate on test, and came middle of the field on the other measures. The chest strap slipped during our freeboard test on Ali, meaning she floated lower in the water than the

The thigh straps can be stowed in the back pocket when not in use

Hammar inflation comes as standard and is reflected in the price

The soft fit includes space for AIS and PLB beacons

The lifejacket was quick to inflate, but didn't achieve a very high freeboard



jacket is intended to achieve. The hood is well-made

with a supporting arch and good ventilation at the sides and front, and well-located reflective strips.

The bladder is a reasonably conventional, symmetrical design with no protection against wave funnelling.



Thigh straps were an attractive alternative to the usual crotch strap

KRU SPORT ADV

£116

SPECIFICATIONS

BUOYANCY	170N
FIRING MECHANISM	UML5
GAS CANISTER	33g
BUCKLE	Metal frame
HARNESS RELEASE?	No
WEBSITE	www.oceansafety.com

The Kru Sport was the smallest and most lightweight jacket on test but still has 170N of buoyancy and comes with a hood, light and crotch strap. Its more flexible and lightweight feel is likely to make it a popular option.

IN USE

The single adjustment buckle at the side of the lifejacket had a lift strap making it extremely simple to release as well as tighten. A single crotch strap clips to the side at the front, but there was little by way of padding on the harness straps. It also lacked an inspection window meaning that unzipping is necessary in

order to check the gas canister and firing mechanism.

IN THE WATER

The 170 Adv inflated positively, and was very firm once inflated. The bladders interlocked at the front, providing positive support for the head and preventing waves funnelling up between them, though its rigidity did make it harder for the testers to lift their arms above their heads while in the water. Our main criticism of this lifejacket was that the gas canister was fitted to the rear of the bladder rather than in front; when inflated, this dug painfully into the collar bone of both

The fairly simple harness contributed to the lifejacket's light weight

A diminutive size made this a comfortable lifejacket to wear

The bladder was effective in supporting the airway and putting you in the right position



of our testers and it was a relief to deflate the lifejacket a little.

The hood is donned like a cap over the head and then secured with straps. It was a little tricky to pull onto both sides of the bladder, but offered good visibility once in place and was one of the best hoods for hearing.



It was a shame that the rear-mounted gas bottle dug into the testers' collar bones

PLASTIMO SL 180

SPECIFICATIONS

BUOYANCY 180N

FIRING MECHANISM

UML Pro (Hammar available)

GAS CANISTER 38g

BUCKLE Zip + double loop

HARNESS RELEASE? No

WEBSITE www.plastimo.com

Designed in conjunction with French offshore racing sailors, Plastimo have taken a different approach with this lifejacket. The major difference is its construction. While all the other lifejackets have an outer casing and a separate internal bladder of welded construction, the SL 180 is constructed with a sewn bladder and an airtight liner.

IN USE

While it's quite large, the SL 180 is extremely soft and flexible, making it very comfy to wear. Closure is with a zip at the front rather than a buckle, and loops either side of the zip give secure tether attachment, meaning

there is no awkward buckle. The length of the back is also adjustable, one of only a couple of lifejackets to offer this.

An inspection window lets you check the firing mechanism and a short zip gives dedicated access to the canister without unpacking the whole jacket.

On the other side, another zip gives access to a small pocket for a strobe light or MOB beacon.

IN THE WATER

This jacket is designed to remain soft and flexible once inflated. We found this disconcerting initially as it felt like it had not fully inflated. While initial inflation time was slow because of this, it performed well in the rotation test. It provided one of the lower freeboard heights but did allow very good manoeuvrability.

£129

The back length is adjustable, one of only two lifejackets to offer this

An extra zip pocket offers stowage for a strobe light and MOB beacon

The hood's unique shape helps prevent waves funnelling between the bladders



There was some impact on hearing and situational awareness as

the bladder was quite large around the head, though for life preservation this is no bad thing. The sewn-in sprayhood was easy to find with a string to pull it forwards, though the oral inflation tube was less simple to use.



This was the only lifejacket on test to have zip closure and double tether attachment loops

SPINLOCK DECKVEST 5D

SPECIFICATIONS

BUOYANCY 170N

FIRING MECHANISM UML Pro

GAS CANISTER 33g

BUCKLE Plastic

HARNESS RELEASE? No

WEBSITE

www.spinlock.co.uk

£219.94

The only lifejacket to come in three sizes, the back is also adjustable

The whole harness is well padded and neat with minimum snagging hazards

The bladder is fairly basic but the pylon light and Lume-On lights are great innovations



hooks over the bladder. It didn't have any support for the visor so

visibility wasn't great, but the spinlock pylon light kept this above eye level, as well as boosting visibility with the Lume-On lights that illuminate the whole bladder. The lifting becket was marked bright red and clipped to the front, making it easy to find and use.



Designed to offer maximum mobility while worn, the clip-on cargo pouch is an optional extra

The 5D is instantly recognisable as one of the first lifejackets to have really innovated comfort and wearability, breaking away from the traditional flat design. The 5D is the latest iteration and includes a padded and contoured harness rather than just fabric webbing. The back length is adjustable and the chest strap has buckles at the front.

IN USE

Once you're used to how the buckle works, it's easy enough to do up and the front adjustment is easy, with the back adjuster pulling the back of the jacket away from the neck. In use it was well clear of

shoulders for free movement. The body was comfortable and fairly flexible with few points to catch or snag.

IN THE WATER

The jacket inflates on the left side first, initiating the roll-over, as many of the jackets do. Even with full oilskins, the rotation time was just 5.8 seconds. It performed well on the rotation test for both Ali and Theo, coming third each time. It provided Ali with third best freeboard on test with 13cm, but came ninth for Theo. The symmetric bladder shape is relatively basic, however, and waves did funnel up between them.

A strap for the hood led to the front of the jacket, making it easy to pull on; the top sits on the head and the full hood

SPINLOCK DECKVEST VITO

SPECIFICATIONS

BUOYANCY 170N

FIRING MECHANISM Hammar

BUCKLE Aluminium side buckle

GAS CANISTER 33g

HARNESS RELEASE? Optional

WEBSITE www.spinlock.co.uk

£250

The Vito's back panel contains the hood and a pocket for the wide crotch strap

The harness back has a rough adjustment, and then the side buckle offers fine adjustment

The lifejacket can be converted to include the harness release system

The Vito is a brand new lifejacket from Spinlock based on the developments for the Volvo Ocean Race crews. The key innovation of this jacket is the Harness Release System; a pull handle will release the main harness attachment point to avoid injury by dragging a man overboard alongside the hull. Once pulled, however, the man overboard is no longer attached to the yacht.

IN USE

Uniquely, the main body of the jacket is a continuous loop with a side-closing buckle. This makes it a simple and very sleek jacket with very few snagging points while having a wide

range of adjustment. Bulk is kept to a minimum by stowing the hood in its own pocket on the back of the harness. It comes with Hammar inflation with the Spinlock standard parachute style rip handle. It has a single, wide crotch strap with a stowage pocket at the back for when it's not wanted.

IN THE WATER

This was one of the quicker jackets to inflate and performed well in the rotation test. It's freeboard wasn't as high, however, coming eighth and ninth.

As with the 5D the combination of the pylon light and Lume-On bladder lights worked well. Finding and securing the hood was thanks to the strap to the front of the jacket. The hoop in the hood kept the fabric away from the



The hood was simple, but the pylon light remains clear of the visor

head which helped with hearing.

The harness release system took a moment to find as it's tucked under the front of the jacket – you have to know how to use it beforehand. A sharp tug of the handle released the harness quickly, leaving the MOB free-floating. It was effective, but is a drastic choice to have to make.



The tether attachment loop is released by pulling the blue toggle

TEAMO 170N

SPECIFICATIONS

BUOYANCY 170N

FIRING MECHANISM UML Pro

GAS CANISTER 38g

BUCKLE Metal frame

HARNESS RELEASE? Yes - Backtow

WEBSITE www.teamomarine.com

£220

The contoured outer is well padded with chest strap buckles at the rear

A 'ring circus' system similar to a parachute harness holds the tether loop secure until released

At first glance, the TeamO 170 is much like many other new-generation lifejackets; it has a contoured outer case, twin chest strap adjustment buckles at the rear, a gas canister inspection window and double crotch straps. It's secret, however, is its unique back-tow harness system. Following a number of drownings of sailors attached to their tethers, a pull cord on the inflated bladder allows you to release your front attachment point, releasing the A-shaped bridle behind your shoulders and spinning you on to your back. The ISO standards currently don't allow this to be automatic, though this could change

IN USE

The contoured casing and well-padded harness made this comfy to wear, though the webbing straps were not covered and the jacket itself didn't have lots of flex. Reaching behind you to loosen the chest strap buckle isn't the easiest.

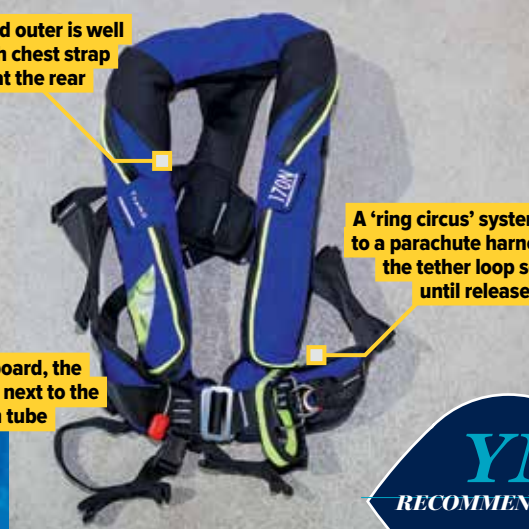
A waterproof side zip gives you easy access to add or inspect your light and AIS MOB beacon.

IN THE WATER

The TeamO came middle of the pack for inflation time, rotation time and freeboard, so it's a solid performing lifejacket. The bladder is currently a conventional design, with little to stop water funnelling between the bladders, but TeamO say they are working on a brand new bladder design. The hood was



Measuring freeboard, the backtow handle is next to the oral inflation tube



easy to pull on, though we found it fogged up a bit and the flashing light

was rather blinding. As with the others, it included a lifting becket, whistle and oral inflation tube.

We also tested the back tow harness of the TeamO from a boat (see p88) and were impressed with how well it worked, and how safe the man overboard felt in the water.



The front attachment point works normally, but is connected to the back tow bridle

REAL-WORLD SCENARIOS

ISO standards are based on the scenario of a free-floating casualty in the water. We are all, however, sensibly encouraged to clip on with safety tethers so that we remain attached to the boat.

This avoids difficult attempts to find a MOB, but it does mean you could be dragged along by your tether, even if just drifting.

We tested this scenario with the two lifejackets that have made changes to their harness attachments – TeamO’s unique ‘back tow’ system and Spinlock’s new ‘harness release system’.

Our volunteer found that having ‘fallen in’ while the yacht was stationary, by the time the boat was drifting at 2 knots, it became difficult to keep her head clear of the water when attached by the conventional front harness attachment point. With the TeamO lifejacket a sharp pull on the back tow handle released the mechanism holding this in place and the attachment point then extended to the top of an A-shaped bridle attached to the top of the shoulders under the lifejacket bladder. She was spun onto her back in a couple of seconds and found she could breathe easily and was comfortable while those on deck stopped the boat.

The Spinlock Vito addresses the same problem with a different harness



Having fallen overboard while clipped on, our tester was dragged along on her front before pulling the back tow release and spinning onto her back.

Note, the back tow normally exits under rather than over the bladder (R), but we made an error when repacking. It still worked well though



release system. Under the front of the lifejacket harness is a metal handle. Once located, a sharp tug released the attachment point entirely and the casualty became a free-floating man overboard. This solves the immediate risk of drowning, but it does create a search and rescue scenario, and deciding to pull the handle and take your chances is a drastic decision to have to make. The TeamO solution seemed the more sensible to us, particularly for cruising sailors.

Our ‘casualty’ found the experience extremely sobering and afterwards questioned whether she would want to be attached with a tether at all when wearing a lifejacket with a conventional harness. We are surprised that only two brands see this as a problem to address, and would hope that others follow suit soon.

CONCLUSION

There have been improvements in all aspects of lifejacket design, but buoyancy is one of the most important. The Crewsaver Ergofit+ 190 was the clear winner in this department and was test winner for this reason. Its highly engineered bladder was a long way ahead of other makes for both rotation times and freeboard heights, providing a clear benefit to a casualty in the water. The Spinlock Vito and the diminutive Kru 170 Adv weren’t far behind on the rotation test, though the gas canister digging into the collarbone on the Kru seemed a major flaw.

The Crewsaver Ergofit+ hood also represented a significant step forwards, and did much to improve the wearer’s comfort and awareness around them.

Spinlock leads the way in comfort, and wins our recommendaion for the

Deckvest 5D, with Crewsaver close behind. TeamO was also well contoured, and our testers liked some of the more flexible lifejackets. Spinlock’s fittings are also a step ahead, including the pylon and Lume-On lights, as well as separate cargo pouches and emergency line cutters. Several makes have also added pockets for MOB beacons.

When it came to repacking, the Baltic lifejackets were the most helpful, with clear ‘fold here’ instructions printed on each part of the bladder.

This test revealed that the current innovations in harness release systems, bladder shape and sprayhood functionality are limited to just one or two brands, and each focuses on just one area. We hope a lifejacket with all three of these great features will be available soon.

With thanks to the RNLI for the use of their pool for this test.

TEST RESULTS

MAKE	MODEL	Inflation time (sec)	Rotation time average (sec)		Freeboard height (cm)		
			Female	Male	Female	Male	
BALTIC	Race 150 SL	7.25	5.15	4.69	14	12.5	
BALTIC	Legend Auto 190	6.64	2.56	3.87	14.8	13	
CREWSAVER	Crewfit 180 Pro	7.82	3.48	4.26	12.5	13	
CREWSAVER	ErgoFit+ 190	6.7	1.41	1.84	15	14	BEST ON TEST
HELLY HANSEN	Sailsafe Race 170 Auto	6.44	3.13	3.31	12.3	11.5	
KRU	Sport Adv 170	6.83	3.87	4.52	14.3	12.5	
PLASTIMO	SL 180	12.01	1.88	3.46	13	10	
SPINLOCK	Deckvest 5D	7.81	2.27	3.05	13	10.5	RECOMMENDED
SPINLOCK	Vito	6.81	2.28	3.03	15	11	
TEAMO	170	7.38	2.69	3.93	13.5	12	RECOMMENDED