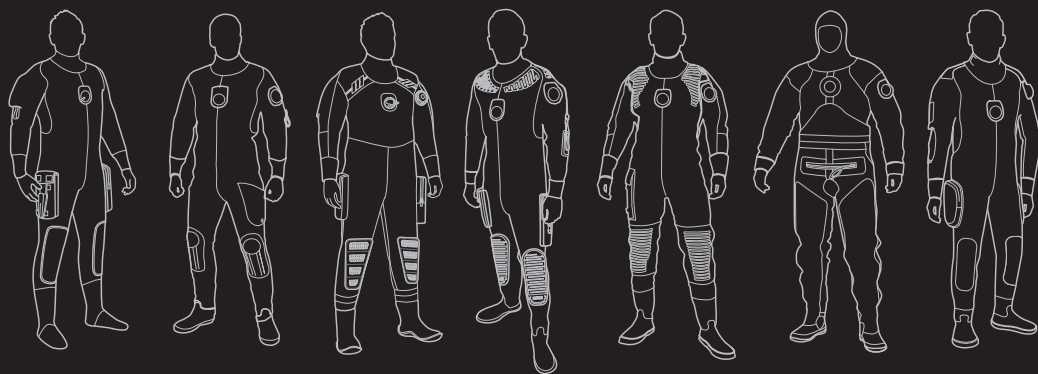


DRYSUIT MANUAL



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The image displays seven line drawings of divers, each wearing a different type of diving suit. From left to right: 1. A diver in a simple wetsuit with a single pocket on the left thigh. 2. A diver in a wetsuit with a pocket on the left thigh and a circular gauge on the left chest. 3. A diver in a wetsuit with a pocket on the left thigh, a circular gauge on the left chest, and a rectangular panel on the right chest. 4. A diver in a wetsuit with a pocket on the left thigh, a circular gauge on the left chest, and a rectangular panel on the right chest. 5. A diver in a wetsuit with a pocket on the left thigh, a circular gauge on the left chest, and a rectangular panel on the right chest. 6. A diver in a wetsuit with a pocket on the left thigh, a circular gauge on the left chest, and a rectangular panel on the right chest. 7. A diver in a wetsuit with a pocket on the left thigh, a circular gauge on the left chest, and a rectangular panel on the right chest.

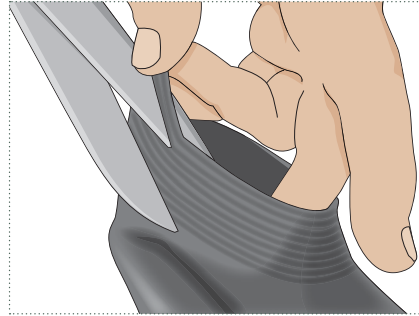
www.ndiver.com/dealers

NORTHERN DIVER STRONGLY RECOMMENDS THAT YOU UNDERGO TRAINING WITH A SUITABLY QUALIFIED INSTRUCTOR BEFORE TAKING TO OPEN WATER WITH A DRY SUIT.

PREPARING YOUR DRYSUIT FOR DIVING

Prior to using your drysuit it is essential that you check whether you need to adjust your latex neck and wrist seals.

If your suit has neoprene seals you may not need to adjust these.



NEOPRENE NECK SEAL

Stock size neoprene seals become more supple with use. It is possible to stretch them by inserting a ball, bowl or bucket and leaving overnight. They often do not require any adjustment as there is sufficient tolerance and stretch within the material.

ADJUSTING THE LATEX NECK SEAL

As latex seals are thin rubber they are easily adjusted with a pair of sharp scissors and careful attention. The seals are watertight and seal against the skin so a comfortable but effective fit is essential. The seals are tapered so as the edge is trimmed away the hole gets larger. If you are experienced at trimming seals you may be at ease doing it yourself. Otherwise we suggest you contact your local approved Northern Diver centre and allow them to do all trimming.

The first thing to do is measure your neck circumference at collar position. This is where your neck seal will seal against your skin. For the seal to work the latex must be slightly stretched so the hole needs to

be smaller than the circumference of your neck. If the hole is the same size or larger then the neck seal will leak. Ideally, the neck seal should be approximately 20% smaller than your collar circumference.

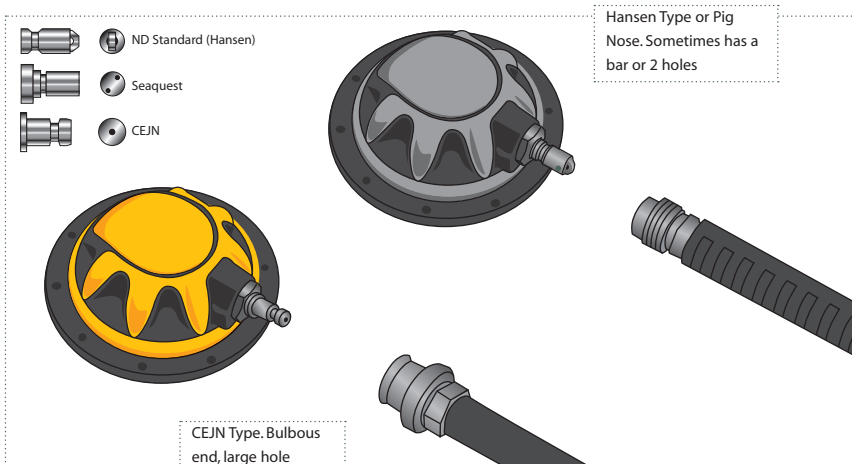
Firstly, turn your neck seal inside out where you will notice some parallel lines in the rubber. These are cutting guides to help you cut a straight line. Remove material one ring at a time until you get a good fit. Do not try to remove the exact amount in one go as any errors may make the hole too big and the neck seal will not work. Also, use large scissors and try to avoid lots of little cuts. Longer cuts will help attain a clean edge. You may find it advantageous to enlist the help of another set of hands when trimming your neck seal.

If you are unfamiliar with latex seals you may feel that your neck seal is still too tight after you have trimmed it to the correct size but when in the water you are likely to find that the fit is a comfortable and snug one.

Test your seal adjustments in a swimming pool before taking to open water.

WARNING :

TO AVOID ANY UNNECESSARY RISK OF BLOOD RESTRICTION ENSURE THAT YOUR NECK SEAL IS NOT TOO TIGHT



ADJUSTING THE LATEX WRIST SEAL

If you have adjustable latex seals on the wrists of your drysuit, they may only need trimming if you have large wrists. Use a similar technique to that used for trimming the neck seal, allowing the hole to be approximately 20% smaller than the diameter of your wrist when the circumference is measured. As previously, there needs to be some stretch for the seal to work properly so remove a little at a time. If too much rubber is trimmed the seal is likely to leak. Again, use large sharp scissors and make long cuts to ensure a cleaner cut.

ANY DAMAGE CAUSED TO YOUR NECK SEAL OR DRYSUIT BY TRIMMING IS NOT COVERED BY YOUR WARRANTY.

Finally, the edge of all trimming should be as smooth as possible. Any rough or jagged edges are prone to tearing when the suit is worn. Trim any uneven edge slightly to leave as smooth a finish as possible.

ATTACHING THE INFLATION HOSE

Your Northern Diver drysuit is supplied with an inflation hose.

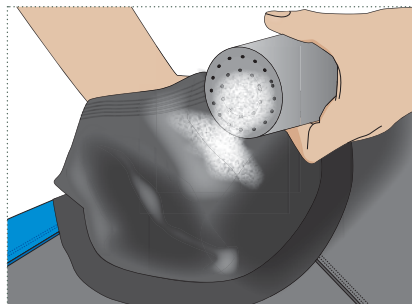
This should be connected to your regulator's first stage using a low pressure outlet. If you have any doubts about doing this please contact your approved Northern Diver centre or your equipment service centre.

It is also possible that your drysuit may have the Blowgun inflation system. Contact us if in doubt or refer to:

www.ndiver.com/valves

TALCUM POWDER ON NECK AND WRIST SEALS

A talc container/dispenser is included with every Northern Diver membrane drysuit. Your drysuit wrist and neck seals should be lubricated with talcum powder prior to putting it on. Do not use perfumed talcum powder as this may damage the seals. Alternatively a mild soap or water based lubricant may be used*.



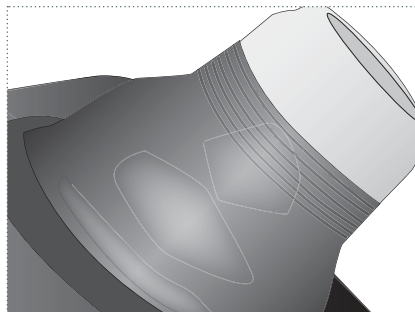
* Always test the product on an old seal before using

PRIOR TO DIVING

Ensure the drysuit zip opens and closes easily. If a lot of effort is required the zip should be lubricated with wax (a bar of soap can be used in an emergency). Make sure that none of the teeth are damaged – if any damage is suspected the suit should be taken to a Northern Diver centre for inspection and repair.

If your suit has been in storage for more than a few weeks it should be inspected some days prior to leaving to go diving.

Before each dive, the inflator and exhaust valve should be checked by connecting the regulator to an air tank and connecting the inflator hose to the inflator valve. Press the suit inflator valve to test. To check the exhaust valve, the neck and wrist seals must be plugged to create an airtight seal. Various items (eg, a bottle) can be used (see picture). Inflate the suit until the exhaust valve begins to vent (you will hear the air escaping). Press the exhaust valve to check it is functioning correctly (the suit should begin to deflate). If your suit is fitted with a cuff dump it will vent as you inflate the suit.



PUTTING YOUR UNDERSUIT ON

Extra thermal protection can be gained by wearing items such as a Northern Diver rash guard or Thermalskin (see page 14) underneath your undersuit.

Always wear socks - We recommend Northern Diver thermal HotSocks. See page 14 for more information about socks).

It is easiest to sit down and pull your undersuit on up to the waist.

The Northern Diver range of undersuits, such as Metalux suits, have specially designed

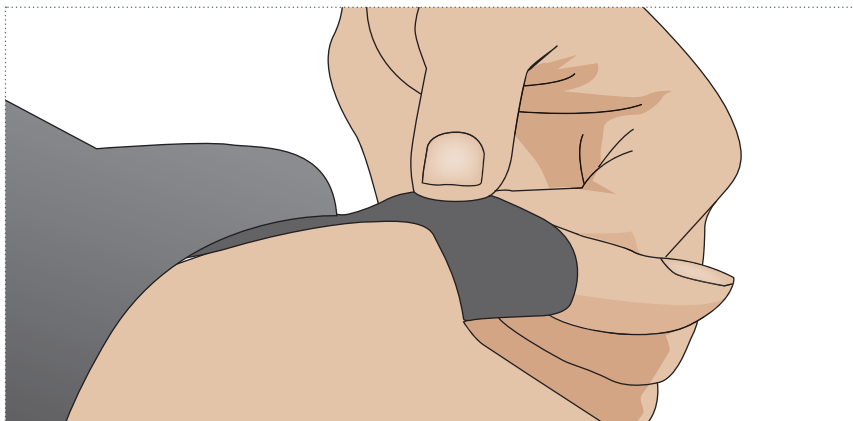
footloops which prevent the undersuit legs rucking up when putting on your drysuit. Standing up will assist you in putting your arms into the undersuit.

Do not use excessive force when getting the undersuit over your shoulders – if you have difficulty enlist the help of someone (and reciprocate when they need help!)

Finally, close the zip ensuring no fabric or underwear is caught in the zip teeth.

Always wear socks! We recommend Northern Diver thermal HotSocks.

Your feet will always perspire when diving and this water inevitably ends up at your feet. This can sometimes give the sensation of wet feet. So, for the same reason that you wouldn't wear shoes without socks without getting damp feet, you need to wick the moisture away to avoid uncomfortable and smelly feet whilst drysuit diving.



PUTTING YOUR DRYSUIT ON

Most Northern Diver drysuits are shoulder entry – video guides for all drysuit entry systems can be found online at www.ndiver.com/videos

It is important to remove jewellery and watches before putting on your drysuit. These items can easily damage wrist and neck seals.

Open the drysuit zip fully. Fold the torso of the suit inside out down to the waist. For ease of dressing, sit down and put your feet into the legs of the suit (if your suit has braces ensure they are on the outside of your legs as you insert your feet). Stand up, pulling the suit up to your waist. Slide your (optional) braces to a good but not too tight fit.

WRIST SEALS

Some under suits, such as the Northern Diver Flectalon range, have thumb loops which assist in preventing the undersuit rucking up when inserting your hands through wrist seals.

Insert one arm into the suit sleeve. A couple of fingers from your other hand can help the seal pass over your hand. Take care as long fingernails can damage the seal. Keep your fingers together as you push your hand through the seal.

The wrist seal should be flat against your wrist. Ensure there is no material from your undersuit trapped beneath the seal as this may cause a leak. If you have any channels caused by tendons when you move your hand, pull the wrist seal as far as you can up your forearm. The procedure should be repeated for the other arm.

NEOPRENE WRIST SEALS MAY BE LUBRICATED WITH NORTHERN DIVER RUBBATEX NEOPRENE DRYSUIT SEAL LUBRICANT. TALCUM POWDER MAY BE USED FOR LATEX SEALS.

NECK SEALS

Put both hands through the top opening of your neck seal. Grip the edge of the seal (fingers inside the opening, thumbs on the outside) and spread the seal, taking care to avoid damage to the seal from your

CAUTION : TAKE CARE WITH FINGERNAILS AND NECK & WRIST SEALS

CAUTION : ENSURE NOTHING IS TRAPPED UNDER NECK & WRIST SEALS

fingernails. Turn your head slightly to one side and pull the neck seal over your head, keeping the seal spread with your fingers. Pull the neck seal down as you push up with your head.

Divers with long hair will find it easier to fit the seal if wearing a nylon stocking over their hair. Latex will slide easily over the stocking.

The neck seal should be adjusted so that it lies flat against your neck after it is over your head. Turn the edge of the seal so that it sits between one and two inches above your collar bone. Ensure the seal is even around your neck with no hair or undersuit trapped underneath it as this may cause the suit to leak.

NEOPRENE NECK SEALS MAY BE LUBRICATED WITH NORTHERN DIVER RUBBATEX NEOPRENE DRYSUIT SEAL LUBRICANT. TALCUM POWDER MAY BE USED FOR LATEX SEALS.

CLOSING THE ZIP

Do not attempt to close the zip yourself, enlist the help of your diving buddy. Your arms should be held at shoulder level in front of you. The zip should be pulled with a steady even action ensuring that there is no hair or clothing caught in the zip. The zip should be hard against the stop when fully closed. It is essential that the zip is fully docked with the rubber stop to avoid leaks.

VENTING THE DRYSUIT

Now you are fully enclosed in your drysuit you will be sharing it with some trapped air. This air should be vented from your suit – crouch down and cross your arms across your

chest. Press the exhaust valve and you should hear the trapped air escaping. You may wish to repeat the procedure if any trapped air remains in the suit.

If your suit does not have a push button exhaust valve, air may be expelled from the suit by pulling the neck seal away from the neck when crouching down.

You are now ready to put your diving rig on. You may find this easier if you sit down and enlist the help of your diving buddy again.

CONNECTING/DISCONNECTING YOUR INFLATION HOSE

The inflator hose from your regulator first stage should be fed beneath your arm.

To connect it to the inflator valve on your drysuit hold the hose just behind the fitting and pull the collar back. This collar is spring loaded and will slide back when you let go of it. Holding the collar back, push the end of the hose onto the inflator valve fitting. Push the collar forward to lock it in position. Ensure the hose is attached properly and push the inflator button to check that it is functioning properly.

To remove the hose, hold the end of the hose just behind the fitting and push it towards the inflator valve. Hold the hose in this position and pull back on the spring loaded collar. This should disconnect the hose from the inflator valve.

The inflator hose should connect and disconnect from the inflator valve regardless of whether your air tank is turned on or off.

CAUTION :

A BUOYANCY COMPENSATOR (STAB JACKET, ABLJ, BC, etc.) IS ESSENTIAL FOR DRYSUIT DIVING YOU SHOULD NOT DEPEND ON YOUR DRYSUIT AS YOUR ONLY SOURCE OF BUOYANCY

CAUTION :

ENSURE THE INFLATOR HOSE HAS A CLEAR PATH TO YOUR INFLATOR VALVE WITH NO TIGHT BENDS OR KINKS

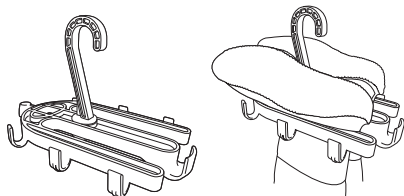
CAUTION :

ENSURE YOUR INFLATION HOSE HAS NOT BECOME CONTAMINATED WITH DIRT OR GRAVEL FROM CONTACT WITH THE GROUND. THIS MAY CAUSE THE INFLATION HOSE OR VALVE TO MALFUNCTION.

USING AND MAINTAINING YOUR DRYSUIT

With the correct maintenance, your Northern Diver drysuit will give you many years of enjoyable diving.

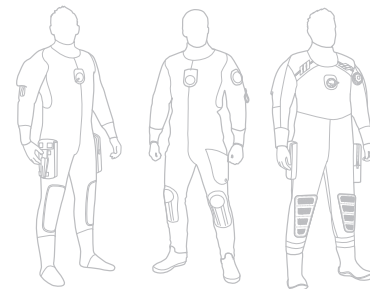
Having finished your day's diving, rinse the outside of the suit thoroughly with fresh clean water to remove any dirt, sand or salt (occasionally rinse the inside, which can also be treated with a proprietry deodourizer). Any stubborn stains can be removed by rubbing the area gently with soapy water. After you have rinsed out the suit, hang it over a drying rack or line in a shady spot. Northern Diver supply a special hanger designed for this purpose (to purchase a hanger contact your local dealer).



NEVER LEAVE YOUR SUIT IN THE SUN – IT MAY CAUSE COLOURS TO FADE.

VALVES

After diving, always rinse the inlet and outlet valves with cold running fresh water. To flush the inlet valve, simply connect the valve to an air supply and operate whilst flushing the push button area with water. This will help prevent sand and debris entering the valve seals.



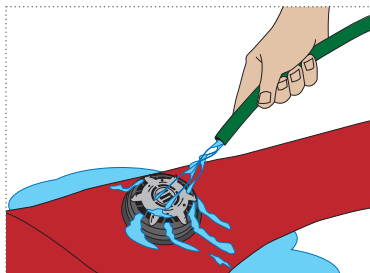
ZIP

The drysuit zip seals on the inside teeth and rubber surface. The zip needs special maintenance and attention.

BEFORE DIVING

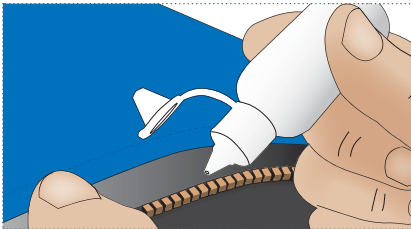
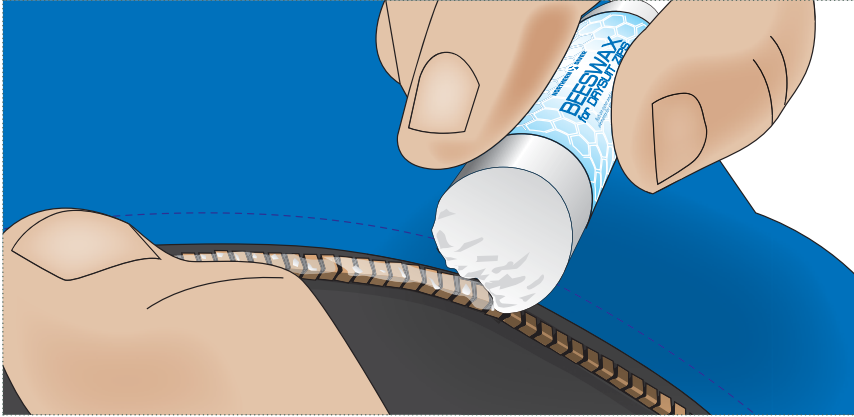
Close the zip and lubricate it with Northern Diver's Zip Wax or Zip Oil.

A complimentary pack has been provided with your new suit. Replacements can be ordered from Northern Diver or your local dealer (www.ndiver.com/dealers).



WARNING :

VALVES MUST BE PROPERLY CLEANED AFTER EVERY DIVE. VALVES MAY STICK OWING TO A BUILD UP OF SALT, DIRT, HAIR, etc. USE THE SAME RESPECT AND CARE AS YOU WOULD FOR A BREATHING REGULATOR



cleaning. It is important to do this – if not regularly lubricated the zip may seize up and possibly fail.

LATEX SEALS

Latex seals will perish quickly if any kind of moisturising cream, body oils or oil is applied to them. After dives clean the seals using mild soapy water to remove dirt and body oils.

AFTER DIVING

The zip must be fully opened before attempting to remove your drysuit. Failure to open completely may result in the zip being damaged. Clean the zip by rinsing with fresh water. If the zip is particularly dirty with sand or dirt after diving it can be cleaned by using a toothbrush and fresh water (mild soapy water can be used for heavy soiling).

Lubricate the zip with Northern Diver's Bees Wax (or Zip Oil) by rubbing the brass components before each new dive and after

STORAGE OF YOUR DRYSUIT

Once the drysuit valves are thoroughly clean and dry and the zip lubricated, you should store your drysuit in a cool dry place away from direct sunlight and devices that produce ozone such as motors and heaters. Also do not store your drysuit in areas accessible to cats or rodents (drysuits are good for nesting!)

It is preferable that the suit is stored hung up with the zip closed.

WARNING :

DO NOT REGULARLY USE SILICON SPRAY TO LUBRICATE YOUR DRYSUIT ZIP. THIS CAN DAMAGE THE SUIT AND THE MATERIAL USED AS THE BASE OF THE ZIP

MILITARY SUIT WARNING :



IF YOUR SUIT IS FITTED WITH AN ANTI-MAGNETIC ZIP, THE ZIP SLIDER IS CONNECTED TO THE ZIP PULLER BY A SPECIAL BRONZE WIRE. YOU WILL KNOW WHEN YOUR ZIP IS BEYOND THE REALMS OF NORMAL LUBRICATION WHEN YOU TRY TO CLOSE THE ZIP AND THE WIRE DETACHES FROM THE SLIDER. TO PREVENT THIS, LUBRICATE BEFORE VERY USE.

TROUBLESHOOTING YOUR DRYSUIT

QUESTION :

IS MY SUIT LEAKING OR IS IT CONDENSATION?

REMEMBER, YOU WILL PROBABLY PRODUCE A NOTICEABLE AMOUNT OF PERSPIRATION WHEN DIVING

There are often several reasons for problems encountered with diving drysuits - below are some of the more common.

ZIP LEAKS

- 1] The zip is not fully closed
- 2] The zip is damaged or has failed. Ensure the zip is fully open when putting on and removing the drysuit
- 3] Sand, dirt or salt has become trapped in the zip when opening or closing.
- 4] Improper or inadequate lubrication of the zip.
- 5] Under garments have become trapped in the zip.
- 6] The zip has been over-stressed.
- 7] The zip is very old or has been subjected to heavy usage.

SEAL LEAKS

- 1] Drysuit under garments are caught beneath the seal.
- 2] Hair is caught beneath the seal.
- 3] Wrinkles or folds in the seals.
- 4] Improper adjustment of the seals resulting in channels around tendons.
- 5] Deterioration of the seal (cracks/tears) due to age or usage.
- 6] Over trimming (Latex seals only).
- 7] Holes caused by jewellery or over-pulling when putting on and taking off the drysuit.

VALVE LEAKS

- 1] The valve is not properly fastened to the drysuit and needs tightening, especially on neoprene suits where the neoprene is compressed.
- 2] Improper adjustment of the exhaust valve.
- 3] The exhaust valve is jammed open.
- 4] Minor leakage when the valve is closed.
- 5] Dirt, sand, salt or debris in the valve.
- 6] The valve parts are worn with age or heavy use.

Your drysuit valves may not be genuine Northern Diver valves and may have been rebadged from another source. Always ensure genuine Northern Diver valves are used in your drysuit.

SUIT FABRIC LEAKS

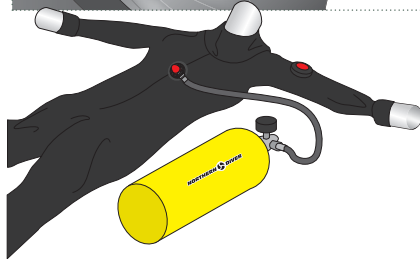
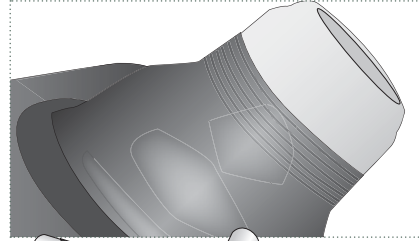
- 1] Tears, punctures or splitting of the drysuit material.
- 2] Cuts due to sharp objects.
- 3] Failure of the seams or chafing.
- 4] Delamination of suit material due to age, use or exposure to chemicals.

TESTING FOR LEAKS

Should you wish to test your drysuit for leaks, carefully plug the wrist and neck seals. A bottle or similar object may be used for this. Connect the inflator hose to an air supply and the suit and inflate the suit. Immerse the suit in a bath or suitable water container and look for any bubbles.

Pouring soapy water over the offending area also easily identifies any leaks.

An alternative method is to put the drysuit on, inflate it and have a friend pour soapy water around the suspect area. Any leaks should be obvious by soapy bubbles being formed.

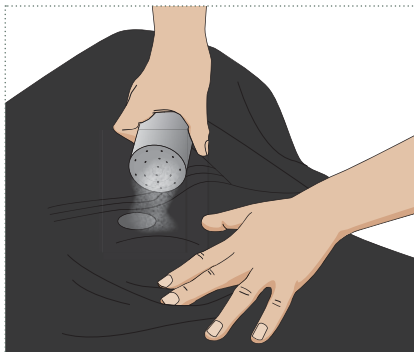
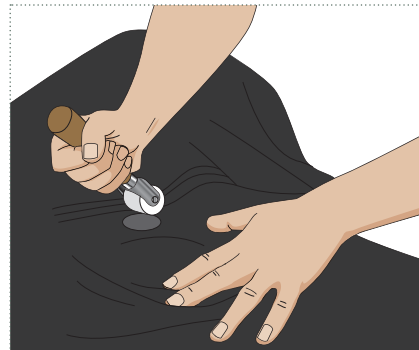
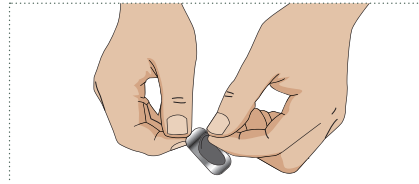


REPAIRING A LEAK

Having located the leak, as described above, ensure the drysuit is completely dry. Wear protective gloves (such as latex) to protect your hands. Clean the leak area by rubbing with sand paper and remove loose particles. Apply three layers of SuitSeal, allowing 15 minutes drying time between each layer.

Choose a suitably sized patch and remove the backing. Apply SuitSeal solution on the patch, allow to dry, apply a second layer and allow to dry, then apply a third layer. Allow to dry and apply the patch to cover the damaged area.

Use a roller over the patch to remove any air bubbles and to ensure the surfaces are firmly bonded.



Allow 3 hours for the SuitSeal to dry and perform a pressure test (see previous section above) to ensure the leak has been repaired. If you encounter any problems contact your nearest Northern Diver diver dealer for assistance.

THERMAL LAYERING

An important aspect of drysuit diving is selecting most suitable undergarments for any particular dive. As your drysuit can be worn all year round, it is likely that you will need more insulation in the winter and lighter insulation in the summer.

Not forgetting comfort as well as warmth!

Ensuring that moisture, including perspiration, doesn't become uncomfortable is all part of the process of selecting what to wear beneath your drysuit.

A sometimes overlooked layer for warmth and comfort can be found in our range of unique, Teflon® coated lycra rash vests. The rash vests super-sheen outer finish allows gliding movement between thermal layers for extreme comfort. Combined with our Hotmax® moisture-wicking fleece socks, the Layers range offers a huge choice for serious insulation in very cold conditions, lightweight insulation for less-cold situations or a variation of layers for conditions between the two extremes.

www.ndiver.com/rashvests

www.ndiver.com/hotsocks

The Northern Diver Thermalskin® is a full-body base layer, featuring a mixture of moisture-wicking fleece and super-stretch lycra. Thermalskin works with the rash vest and other layers to aid movement and increase thermal insulation and comfort.

www.ndiver.com/thermalskin

Also available as part of the range is the Thermalux® fleece & microfibre undersuit, suitable for lighter use in less severe conditions.

www.ndiver.com/thermalux

The layers range also includes Arctic System drysuit hoods with SuperVent and dry glove systems.

www.ndiver.com/hoods

www.ndiver.com/gloves

Metalux® undersuits are available in three weights, 100, 200, and 300, 300 being the warmest by it's method of maximum heat reflection and super-efficient insulation.

www.ndiver.com/metalux



Choosing which drysuit and underwear combination to wear for different conditions can be confusing. Below is Northern Diver's rough guide for drysuit/underwear combination in the UK.

MEMBRANE DRYSUIT

Suit Type	Time of Year	Location	Suggested Layering
Cortex Cordura Vortex Trilaminate	Winter	UK	Metalux 300 Undersuit Thermalskin Hot Socks Arctic Extreme Hood Dry Gloves
Cortex Cordura Vortex Trilaminate	Spring	UK	Metalux 300 Undersuit Rash Vest Hot Socks Dry Gloves
Cortex Cordura Vortex Trilaminate	Summer	UK	Rash Vest Metalux 200 Undersuit Hot Socks Superstretch Gloves
Cortex Cordura Vortex Trilaminate	Autumn	UK	Rash Vest Metalux 300 Undersuit Hot Socks Dry Gloves

2.5mm HYPER-COMPRESSED NEOPRENE DRYSUIT

Suit Type	Time of Year	Location	Suggested Layering
CNX25	Winter	UK	Metalux 200 Undersuit Thermalskin Hot Socks Arctic Extreme Hood Superstretch Gloves
CNX25	Spring	UK	Metalux 200 Undersuit Rash Vest Hot Socks Superstretch Gloves
CNX25	Summer	UK	Rash Vest Metalux 100 Undersuit Hot Socks Superstretch Gloves
CNX25	Autumn	UK	Rash Vest Metalux 200 Undersuit Hot Socks Superstretch Gloves

4mm HYPER-COMPRESSED NEOPRENE DRYSUIT

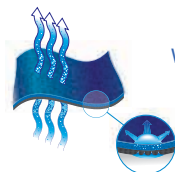
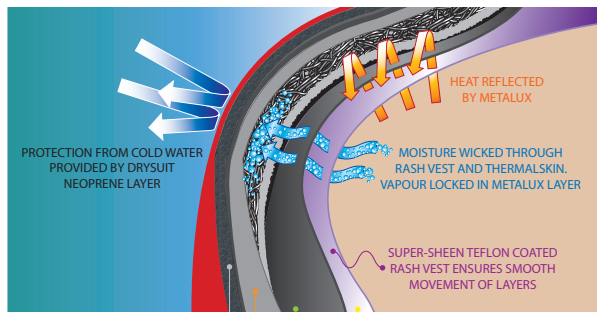
Suit Type	Time of Year	Location	Suggested Layering
Divemaster	Winter	UK	Metalux 200 Undersuit Thermalskin Rash Vest, Hot Socks Arctic Extreme Hood Dry Gloves
Divemaster	Spring	UK	Metalux 100 Undersuit Rash Vest Hot Socks Superstretch Gloves
Divemaster	Summer	UK	Rash Vest Thermalux Undersuit Hot Socks Superstretch Gloves
Divemaster	Autumn	UK	Rash Vest Metalux 100 Undersuit Hot Socks Superstretch Gloves

8mm NEOPRENE DRYSUIT

Suit Type	Time of Year	Location	Suggested Layering
Origin 800	Winter	UK	Metalux 100 Undersuit Thermalskin Rash Vest, Hot Socks Arctic Extreme Hood Dry Gloves
Origin 800	Spring	UK	Thermalux Undersuit Rash Vest Hot Socks Superstretch Gloves
Origin 800	Summer	UK	Thermalux Undersuit Rash Vest Hot Socks Superstretch Gloves
Origin 800	Autumn	UK	Thermalux Undersuit Rash Vest Hot Socks Superstretch Gloves

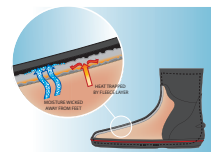
If you're still unsure about what you need to wear for diving in the UK, around the world, summer, winter, inland or at sea, call Northern Diver for our expert advice on **01257 254444** or drop us an email at info@ndiver.com.

Alternatively, visit our website and ask any questions you may have using our online system at www.ndiver.com/contact



WICKING PRODUCTS
provides breathability for
comfort and insulation

Neoprene
Metalux
Thermalskin
Rash Vest



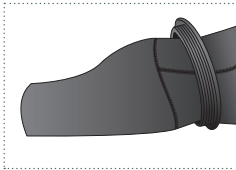
FITTING NORTHERN DIVER DRY GLOVE SYSTEM

Northern Diver's Dryglove System fits neoprene, membrane & rubber drysuit seals including drysuit warm-cuff systems

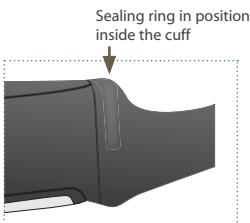
These instructions demonstrate fitting the dryglove system to a neoprene cuff. For fitting to a warm cuff, ensure cuffs are tested and watertight before fitting and fit as for the neoprene cuff, noting that the suitseal must be applied 1" to 2" below the stitching and not directly below stitching.

www.ndiver.com/dryglove

ATTACHING THE DRYGLOVE SYSTEM

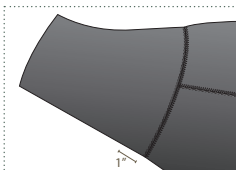


Firstly place a fastening ring (note the thread faces the cuff) over sleeve past the cuff ...

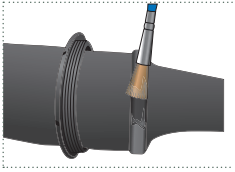


... then insert the most suitable sized sealing ring into the cuff via the shoulder entry zip* into the position where the suitseal will be applied - you will need to squeeze the sealing ring through the fastening ring to reach the cuff, and a certain amount of manipulation and force will be required.

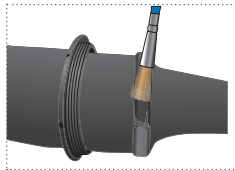
* Note the tapered edge of the sealing ring faces the cuff and the stepped or sealing edge faces the shoulder.



The suit cuff should have 3 coats of 1" width of Suitseal applied, completely around the cuff ...

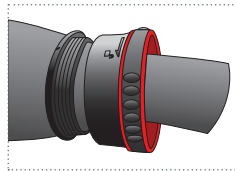


... which must be directly adjacent to the cuff stitching, and the Suitseal should be worked into the material whilst being applied.



Allow the first coat to dry, then apply a second coat which must be allowed to dry, then apply third and final coat. Allow this to dry.

When the three applications of Suitseal have cured, progress to fitting the glove locking socket to the cuff. The glove locking socket (threads first) is placed over the applied Suitseal and manipulated over the ring for a very snug fit.



The previously fitted threaded fastening ring is brought to marry up with the glove locking socket and tightened clockwise, (loosely by hand at this stage). It is necessary to manipulate the cuff to ensure it is central within the socket. Once complete, use the fastening tool to tighten the fastening ring clockwise until it will turn no further (pressure is required). Prior to diving, the fastening ring should be further tightened to compensate for any neoprene compression.

DISASSEMBLING THE DRYGLOVE SYSTEM

Take the locking tool, slip it over the glove, locate onto the fastening ring. To unfasten turn anticlockwise until the fastening ring detaches and it is possible to pull the glove and sealing ring from the locking body.

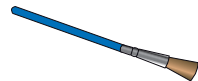
For more information and detailed fitting instructions, view the instructional DVD which is supplied with the Northern Diver Dryglove System. Also, visit www.ndiver.com/videos



1 pair of Gloves assembled with Locking Body



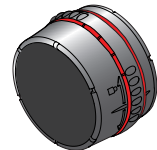
1 x Tube SuitSeal



1 x Application Brush



Sealing Rings
2 x Small, 2 x Large



2 x Locking Socket



2 x Fastening Ring



1 x Locking Tool



HELIOS XEROTECH GLOVES

XEROTECH gloves provide a simple, effective and economic solution to maintaining warm, safe and dry hands when diving. Highly suitable for use in contaminated water.



Trimming the seals may be required to obtain optimum fit

Based on the patented design of *auto-pressure compensation*, so that changes in water depth do not destroy the insulation and dexterity of the glove, Xerotech wrist-sealing gloves are virtually squeeze-proof, within a depth range of 30 metres (100'). The specially designed wrist sealing membrane is carefully trimmed to optimise comfort and water-tightness to the wearer's individual wrist size.

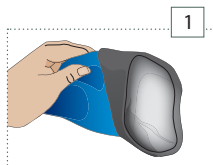
Xerotech gloves work in a similar fashion as a diving drysuit, where insulation is provided by underwear and water-tightness by what is a flexible and tough seal. Unlike a drysuit, Xerotech gloves don't need an inflator. The specially designed air reservoir built in to the wrist seals adequately compensates pressure changes of at least 3 bar, and outside this range the gloves do not 'squeeze' as a drysuit would so always maintains good insulation

characteristics within the range of 30 metres depth (100').

The protection, comfort and dexterity that Xerotech gloves provide is the reason that they have become standard issue to NATO divers and many Police divers, where forensic search requires demanding levels of touch sensitivity, warmth and protection.

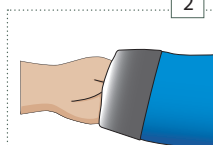
Available in sizes 8, 9 & 10 (European hand sizes)

If required, pressure compensation is achieved by passing air in and from the drysuit, using a small leak path facilitated by the undersuit's thumb loop, a piece of material that breaches the suit's wrist seal, or even a short section of drinking straw.



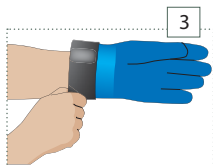
1

Invert the latex cuff and apply talcum



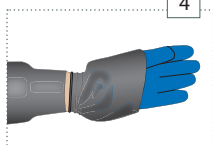
2

Place fingers into the latex seal and spread open seal



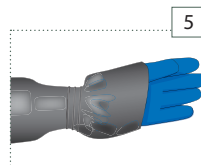
3

The glove can then easily be pulled into place



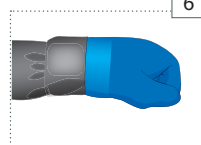
4

Extend the glove of the hand to show the seal



5

Overlap the glove seal onto the suit cuff seal or vice versa (personal preference)



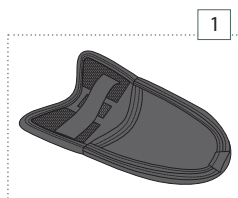
6

Push the Glove back onto the hand, and your ready to dive

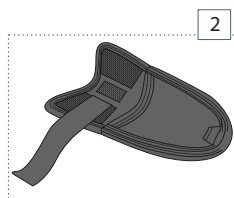
FITTING A KNIFE TO A KNIFE POCKET

Your Northern Diver drysuit may have a knife pocket fitted as standard or as an optional extra. Fitting the knife to the pocket loops is very straightforward, just follow these instructions.

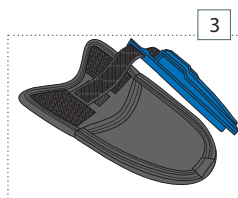
Your pocket may not be identical to that shown in the diagrams but the method will be the same.



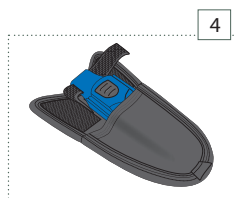
1
Knife pocket
without knife fitted



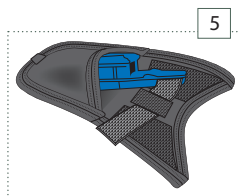
2
Remove velcro
strap from beneath
webbing loop



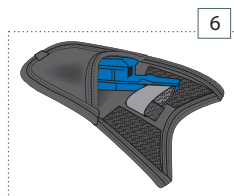
3
Fit velcro strap
through knife
scabbard



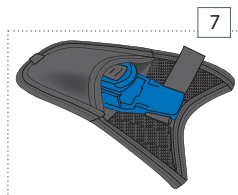
4
Fit knife scabbard
into pocket



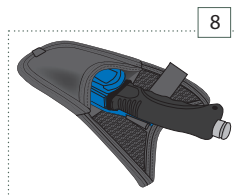
5
Fit velcro strap
through webbing



6
Feed velcro strap
back through
scabbard



7
Press velcro strap
onto backing velcro
top lock



8
Fit knife into
scabbard

HEAVY-DUTY SHOT FILLED ANKLE WEIGHTS

Northern Diver's heavy-duty nylon ankle weights, with Fastex buckle fastening, allow divers to fine-tune ankle weighting by using lead shot. Follow these instructions to fill or adjust the ankle weights.



Size small - Max. capacity 0.4kg

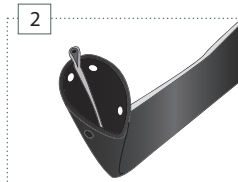
Size large - Max. capacity 0.7kg



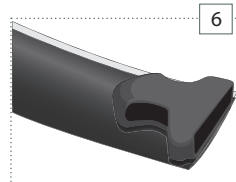
Detach sealing clip from the ankle weight tube



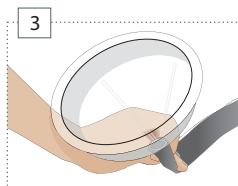
Fit the sealing clip onto the tube



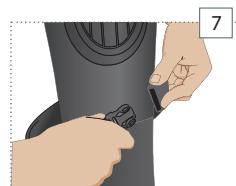
Open the ankle weight tube (where the clip has been removed) ready for filling with shot



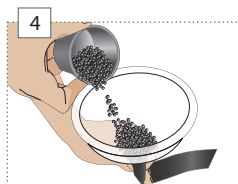
Turn the tube over and fit the locking clip on the other side and press fit



Insert a funnel into the tube opening



When fastening for diving attach with the clip at front of the leg, rotate the ankleweight ...



Pour shot into the funnel whilst lifting the tube allowing the shot to flow freely and fill the tube. Note - if no funnel is available shot can be poured directly into the tube



... until the Northern Diver logo is facing the front

REFILLS & ACCESSORIES



Refills for everything shown in this drysuit manual and any products demonstrated are available directly from Northern Diver or from any Northern Diver dealer.

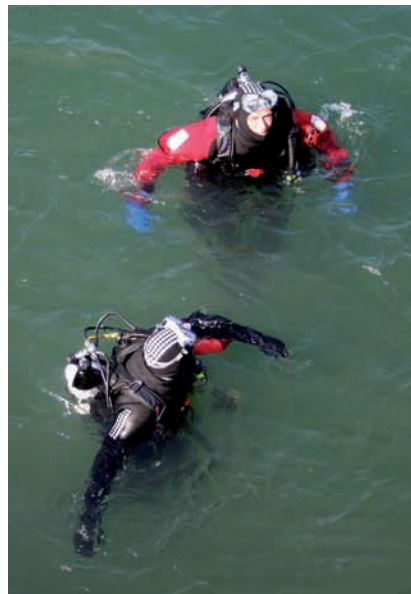
To find your nearest dealer visit www.ndiver.com/dealers or call us on 01257 254444.

Did you know that Northern Diver is the Tier 1 supplier to the UK armed forces, supplying the MoD with wetsuits, drysuits, thermal suits, specialist footwear and bags plus bespoke specialist equipment?



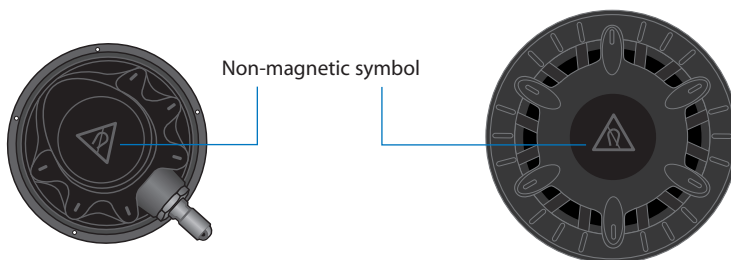
In fact, Northern Diver manufacture and distribute everything any diver will ever need. Drysuits, undersuits, masks, fins, snorkels, gloves, boots, regulators, gauges, BCDs, bags, torches, and much more. Plus specialists equipment for commercial divers, including suits for contaminated water diving, Search and Rescue suits, military diver's suits, and Fire Brigades and Coast Guard drysuits.

For your copy of the latest drysuit and product brochures contact Northern Diver or visit www.ndiver.com/downloads



IMPORTANT INFORMATION

- 1] Follow all instructions. Improper use of a drysuit can cause loss of buoyancy control including uncontrolled descents and ascents with a risk of serious injury or death.
- 2] Improper use or misuse of a drysuit can result in exposure to thermal hazards and rapid body overheating or cooling which could result in stroke, seizure, hypothermia and death.
- 3] This manual is NOT a substitute for proper qualified drysuit instruction and is not supplied as such. This manual is supplied as a guideline for drysuit maintenance only.
- 4] Diving in conditions that contain chemical, biological or nuclear contaminants is extremely hazardous and should not be attempted without being specially trained and equipped. The Northern Diver suit you have purchased has not been adapted for use in polluted or abnormal conditions and is therefore not covered under warranty.
- 5] Military drysuits - If your suit is to be used in conditions where the suit requires a non-magnetic signature, please carry out adequate checks to confirm that the zips and valves fitted to your drysuit comply with your directive relating to this use. Non-magnetic inflation and exhaust valves can be identified with the following symbol:



EMERGENCY PROCEDURES

Diving should never be undertaken without adequate training under qualified supervision. We offer some suggestions for rectifying problems on this page but this is merely scratching the surface and may not be suitable for any particular situation. Remember, training in a safe environment with a suitably qualified instructor is essential.

INFLATOR VALVE IS STUCK OPEN

If your drysuit inflator valve becomes stuck open, meaning the suit is inflating uncontrollably, disconnect the inflation hose and press your dump valve at the same time. This exercise should be practised in a safe environment whilst wearing normal diving gloves. If you have a cuff dump you will be able to dump the excess air by raising your arm. In an extreme emergency, such as when you cannot vent sufficient air through the exhaust valve then you can raise your arm whilst lifting the seal on your wrist or by pulling the neck seal away from your skin. These procedures will allow air to escape from the suit quickly but will also allow water to enter the drysuit.

If you experience an uncontrolled ascent due to over inflation it is important to exhale as you ascend.

We recommend you do not undertake any diving without adequate back-up or redundancy in your buoyancy device (and having been trained in its use) to ensure a safe return to the surface.

INFLATOR VALVE IS STUCK CLOSED

Use your training to ascertain the correct method for regaining the surface, such as buoyancy control, ditching of weights, etc.

EXHAUST VALVE IS STUCK OPEN

If your drysuit exhaust valve becomes stuck open, your drysuit will not retain air and will therefore not give proper buoyancy. Water is also very likely to enter the suit via the valve. Abort the dive and use your buoyancy device to return to the surface and follow what was learned during your training.

EXHAUST VALVE IS STUCK CLOSED

If your drysuit exhaust valve becomes stuck closed it may not be possible to vent air from your drysuit which could result in an uncontrollable ascent. Air can be dumped by pulling the wrist or neck seals away from the skin allowing air to escape. This action may cause water to enter the drysuit.

WATER ENTERS THROUGH EXHAUST VALVE

This may be caused by dirt, etc. under the valve or a damaged diaphragm. Abort the dive immediately and use your buoyancy device to return to the surface.

AIR LEAKS THROUGH INFLATOR VALVE

If this occurs you should disconnect the inflator hose from your drysuit and use your buoyancy device to return to the surface. Air will need to be dumped as usual when ascending.

DRYSUIT BECOMES FLOODED

In the unlikely event of this happening, it may be caused by a tear, seal or zip failure, etc. You should use your buoyancy device to return to the surface.

It may help to keep the leaking area as low in the water as possible to help keep any remaining air in the suit. Cold water in the suit means that it should be removed as soon as possible after surfacing.

Be aware that it is normal for the inside of a drysuit to be damp with perspiration and a small amount of water should not be assumed to be because of a leak or suit failure.

DROPPED OR LOST WEIGHT BELT

If you intend to practise this procedure, you should do so only under the close supervision of a suitably qualified instructor in a controlled environment.

Do not attempt to drop your weight belt until you are clear about the emergency procedures in your training.

Remember, dropping your weightbelt can injure other divers and other marine life.

YOUR DRYSUIT DETAILS

PLEASE NOTE YOUR DRYSUIT DETAILS FOR
FUTURE REFERENCE

01 DRYSUIT SERIAL NUMBER

02 DATE OF PURCHASE

03 COLOUR(S)

04 SUIT TYPE

05 SIZE

06 BOOT SIZE

07 NOTES (Repairs, etc)

WEIGHT & TRIM



Download all the information
you'll ever need about
Northern Diver products at: www.ndiver.com/downloads

WEIGHT & TRIM

A unique approach to managing weight and buoyancy allowing fine tuning your weight distribution.

The Northern Diver Weight & Trim is the most comfortable and ergonomic it has ever been. It has a loyal following of divers who swear by it's ease of use and ability to trim the weight distribution around a diver's body.

Once in use, the weights are securely fastened but can be easily and independently jettisoned if required. The pockets can be used for carrying weights or cargo and the attached knife loops fit the Northern Diver KN65 diving knife.

- Padded shoulder straps for increased comfort & support
- Independent quick-release weight system
- Knife loops fit KN65 diving knife
- Includes 2 detachable thigh pockets with drains
- Each weight pocket is capable of holding up to 9kgs
- Suitable for lead block or lead shot

Size Options:

Size	Waist Size + Suit	Waist Size
S-M	30-40"	26-36"
L-XL	37-47"	33-43"
XXL	44-54"	44"+

CYLINDER CLAMP SYSTEM

The Northern Diver Cylinder Clamp System is manufactured from highly durable, anodised aluminium.

The male (shorter) component attaches to the main cylinder using the BCD cylinder attachment straps/bands and the female (longer) component attaches to the pony cylinder using the included stainless steel clips. Protective rubbers prevent the clip damaging the tank paintwork. The main clamp assembly also has protective rubber inserts.

The pony cylinder component simply slots into the main cylinder component and the locking pin is released when a secure connection has been made. The clamp is released by pressing the locking pin and separating the cylinders.

- Securely attaches pony bottle to main tank
- Made from anodised aluminium
- Quick and easy to use
- 2-piece quick-release system
- Rugged construction

Highly Rated by Dive Magazine:
"Easy to use, robust but lightweight"



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email: info@ndiver.com

NORTHERN DIVER



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