

NORTHERN DIVER

MINE WARFARE & MILITARY DIVING SPECIALISTS



USER MANUAL

**Hydrotherm
Rechargeable Heated Gloves**

READ BEFORE USE



Please read this user instruction carefully before attempting to use the Hydrotherm Heated Gloves as it contains important information on the correct care, handling and use of the equipment. Keep this manual with the equipment.

The safety and performance of the unit depends not only on the Hydrotherm Heated Gloves but also on the ancillary equipment used with them. Ensure any ancillary equipment is compatible with the Hydrotherm Heated Gloves and other equipment used. These instructions should be retained for reference during the life of the product.

If you have any questions concerning the material contained in this manual, please contact the supplier of the equipment. Do not use the gloves if a repair is needed, contact your local distributor.

Important notes:

- Turn the batteries off and disconnect the batteries immediately if any discomfort occurs.
- After every use turn power off and disconnect the batteries, install the protector cap to the battery pins.
- Disconnect the batteries from the gloves before storage.
- Clean and flush out the gloves and connectors from the salt water, debris and foreign matter before allowing the gloves to completely dry before storing.
- Lay the gloves on a flat surface, do not bend or twist the gloves.
- Do not place heavy objects on top of the gloves.
- The cables must be connected and disconnected by holding the connectors, do not pull the wires or battery to disconnect.

Before each use, please check the gloves for any damage, this could include:

- Splits or cuts in cables.
- Twisted or deformed cables.
- Fraying exposing the heating element.
- Damage to the glove heating element.
- Damage to the battery.
- Damage or deformation to the connectors.

SYMBOLS



This symbol is used to refer to instructions.



This symbol is used to indicate information which is crucial to the operation of the Hydrotherm Heated Gloves.

TABLE OF CONTENTS

TOPICS	
Description	P5
Package Contents	P5
Instructions for Use	P6
Battery Charging	P11
Storage	P13
Care	P15
Specifications	P16
Safety information	P17
Fault finding	P22
Environmental Protection	P23
Reporting Complaints	P24
Warranty	P25
Find Us	P26

DESCRIPTION

Hands are particularly susceptible to the chill and often the first part of the body to suffer in low temperatures. When cold and numb they can cause discomfort and be incapable of the proper handling of equipment. Capable, warm hands are much more beneficial, especially if you need to act quickly to escape an emergency situation underwater.

The Hydrotherm heated gloves are intended and well-suited for extremely cold environments and underwater use as establishing and maintaining warmth is quickly achieved. There is a heating element that covers the back of the hand and finger tips, keeping the entire hand warm.

PACKAGING CONTENTS



ITEM	DESCRIPTION	QUANTITY
1	Hydrotherm Heated Gloves	1
2	Battery	2
3	Single Wall Charger	2
4	Cable Protector Cap	4
5	Packaging Case and Sleeve	1
6	Silicone Grease	1
7	Manual	1

INSTRUCTIONS FOR USE



Make sure the batteries are connected before entering the water/commencing the dive.

3.1 Check the contents.



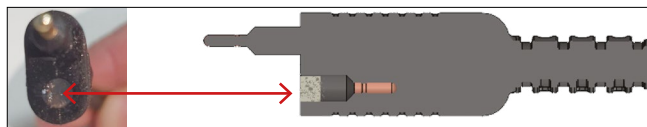
Remove the sleeve, open the case and check the contents.

3.2 Fully charge the batteries for first use.



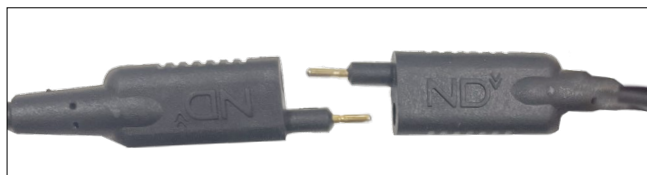
Remove the cable protector caps from charger and glove ends. Refer to section 4 for charge instructions.

3.3 Apply grease.



Apply a small amount of the silicone grease to the pin of the cable end before each dive and a small amount of grease to the socket shown with the red arrows.

3.4 Connect the batteries to the gloves.



Push the two cable heads together.

3.5 Secure the batteries.



Secure the batteries in the pockets, sliding to place.

3.6 Try on the gloves.



Don the glove and ensure a comfortable fit.

3.7 Turn the gloves on.



Turn the gloves on/off by touching the power symbol to the white marker on the top of the opposite battery.

3.8 Check the heat.



The red light should indicate the gloves are on and warming, they should warm in 15-20 seconds.

3.9 Turn off the batteries.



Turn the gloves off by touching the power symbol to the white marker on the top of the opposite battery.

BATTERY CHARGING



Battery charging should be done in a dry clean environment.

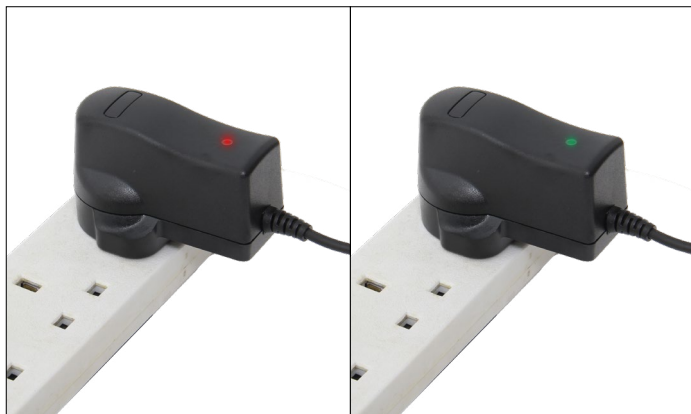
4.1 Connect the single wall adapters to the wall outlets.



4.2 Connect the two water proof connectors from the power adapters to the glove connectors.



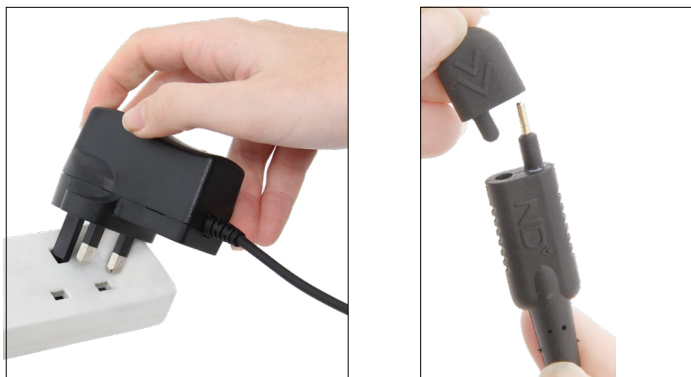
4.3 Switch the wall socket on.



On the charger a red LED will illuminate during charge, once fully charged it will change to green to indicate full charge.

Note - the RED LED will be on the battery during charging.

4.4 Charging complete.



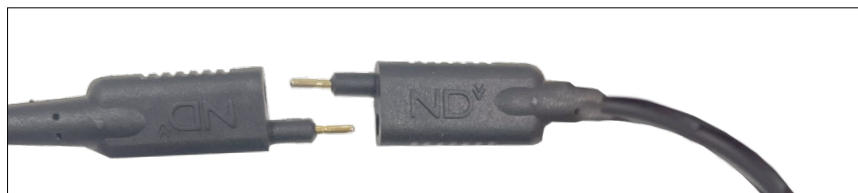
When fully charged, switch off the plug, disconnect and re-apply the cable protector cap.

STORAGE

5.1 Correctly store all equipment after use.



5.2 Disconnect batteries, clean and flush out the gloves & connectors from salt water, debris and foreign matter.



5.3 Allow the gloves to completely dry and install battery caps before storing.



Even if the batteries are fully discharged, do not store the gloves connected to the batteries.

5.4 Do not place any heavy objects on top of the gloves.



In order to avoid damaging the gloves, do not leave any heavy objects on top of them, and do not leave the gloves folded. This can damage the heating element.

5.5 Long term battery storage.

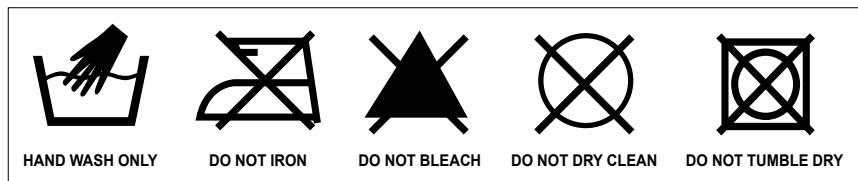
If the batteries are to be stored for long periods, the battery voltage should be 7.2v - 8.4v and kept in temperature conditions of 20°C - 1°

It is strongly recommended that batteries are charged at least once every 3 months.

CARE

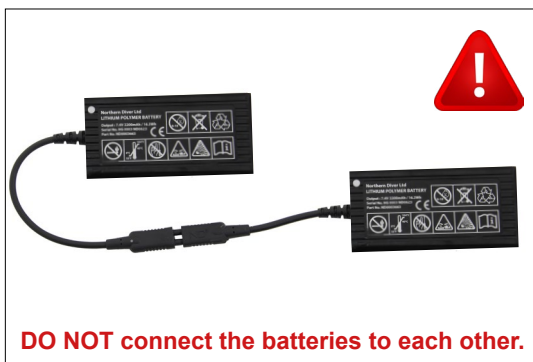


6.1 Washing.




Hand wash your gloves in cold water. Do not tumble dry, spin or bleach. Before washing, disconnect and remove batteries from gloves.

6.2 Cleaning and Care.



Be sure to wash any muck, grime or salt out of the connectors after use. Allow the connectors to dry completely before connecting to power. Do not use the battery for any other piece of equipment.

SPECIFICATIONS

ITEMS	SPECIFICATIONS
Product Name	Hydrotherm Gloves
Manufacturer Information	The Hydrotherm Gloves are designed and manufactured by Northern Diver Ltd
Year of Manufacture	The year of manufacture is given on the certificate
Regulatory Status	 REGULATION (EU) 2016/425 CE MARKED TO PPE DIRECTIVE
Depth Rating	0 - 100 Metres
Battery Specification	Output: 7.4V 2200mAh 16.3Wh Lithium-ion Polymer (LiPo)
Charger	Input: 100-240V 0.5A Output: 8.4VDC 1A 50/60 Hz
Box Dimensions Weight	L*W*D 320*80*20mm 500g
Materials	Glove: 4mm Superstretch Neoprene Battery case: Aluminium, Battery: Lithium-ion Polymer (LiPo)
Environmental Condition	Ambient Operational: -10°C to +50°C Temperature Storage: -10°C to +50°C (less than 1m)

SAFETY INFORMATION



WARNING!

Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and / or serious injury. Save all warnings and instructions for future reference.

The heating module in the gloves may overheat in some exceptional circumstances and/or due to improper usage. It is the users responsibility to use the gloves as instructed and follow these general rules.

ELECTRICAL SAFETY

Do not mishandle the power cable. Do not use the cord for carrying or pulling off the batteries. Keep the cord away from fire, sources of heat, oils, sharp edges and moving parts.

PERSONAL SAFETY

Do not use the gloves when tired or under the influence of drugs and alcohol. A moment of distraction may result in serious personal injury.

SPECIFIC SAFETY RULES

Do not use the gloves with an infant, child, a helpless person, anyone insensitive to heat or anyone with a medical condition.

Do not use the gloves if any part of the complete system is damaged.



WARNING!

Read all safety warnings and instructions.

Before using the charger and battery, read and follow the warning notices on this manual.

BATTERY CHARGER

The charger is for use with the batteries provided.

Do not use incompatible batteries.

BATTERY

Do not use the battery at ambient temperatures below 0°C (32°F).

Do not use the battery at ambient temperatures above 40°C (104°F).

During charging the temperature should be between 5°C to 35°C (41 to 95°F).

Connecting the batteries with each other is absolutely prohibited.

It will cause serious damage to the battery and could cause risk of fire or injury to the user.

When the battery is not in use, remove it from the gloves and battery charger and fit the battery protective cap.

NOTE

The battery will draw small amounts of current even when off.

It should be charged and **conditioned** if stored for long periods of time.



CAUTION!

Read all safety warnings and instructions.

If you find rust, bad odour, overheating and / or other irregularities when using the battery pack for the first time, return it to your supplier or vendor.

DO NOT subject the battery pack to intense sunlight or hot temperatures, for example: left in a car during hot weather. Otherwise, acid leakage, overheating and/or its service life will be shortened.

The battery pack incorporates built-in safety devices. DO NOT use it in a location where static electricity (greater than the manufacturer's guarantee) may be present. Otherwise, the safety devices may be damaged, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

The guaranteed recharging temperature range is 5°C to 35°C (41°F to 95°F). A recharging operation outside this temperature range may lead to acid leakage and/or overheating of the battery pack, and may cause damage to it.

If acid leaking from the battery pack makes contact with your skin or clothing, immediately wash it away with running water. Otherwise, skin inflammation may occur.

Store the battery pack in a location where children cannot reach it. Also, make sure that a child does not take out the battery pack from the battery pack charger or equipment.

Before use, carefully study the operation manual and precautions. For further information, contact Northern Diver International Ltd.

Keep this manual safe for future reference.

BATTERY HANDLING PRECAUTIONS

DO NOT disassemble or modify the battery pack. The battery pack is equipped with built-in safety/protection features.

DO NOT connect the positive (+) and negative (-) terminals with a metallic object such as a wire.

DO NOT transport or store the battery pack together with metal objects such as necklaces, hair pins, etc.

DO NOT heat up battery pack in anyway.

DO NOT use or leave the battery pack near a heat source such as a fire or a heater (80°C/176°F or higher).

DO NOT recharge the battery pack near fire or in extremely hot weather. Hot temperatures can trigger its built-in protective features, inhibiting recharging, or may damage the built-in protective features.

DO NOT pierce, strike or throw the battery.

DO NOT use an apparently damaged or deformed battery pack.

DO NOT recharge the battery pack in any other way other than those specified in this manual.

DO NOT directly solder to the battery pack connector.

DO NOT reverse the positive (+) and negative (-) terminals.

DO NOT connect the battery pack to an electrical outlet, vehicle cigarette lighter, etc.

DO NOT force the connections if you cannot easily connect the battery pack terminals to the battery pack charger or other equipment. Confirm that the terminals are correctly orientated before connection.

DO NOT use the battery pack for a purpose other than those specified. Otherwise, its guaranteed performance will be lost and/or its service life will be shortened.

DO NOT use the battery pack in combinations with primary battery packs (such as dry-cell battery packs) or battery packs of different capacities or brands.

If the recharging operation fails to complete even when a specified recharging time has elapsed, immediately stop further recharging.

If the battery pack gives off an odour, generates heat, becomes discoloured or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the equipment or battery pack charger and stop using it.

Should any of the above occur, the battery pack may leak acid, overheat, emit smoke, burst and/or ignite.

If the battery pack leaks, and the electrolyte gets into the eyes, do not rub them. Instead, rinse the eyes with clean running water and immediately seek medical attention. Otherwise eye injury may occur.

FAULT FINDING

Fault	Cause	Remedy
Glove not warm	Glove switched off Check LED is on	Read instructions Switch on
	Battery flat	Read instructions Recharge battery
	Glove disconnected	Read instructions
Glove too warm	Switch off	Read instructions
	Disconnect cable	Read instructions

FOR TECHNICAL SUPPORT

Contact Northern Diver customer services centre on +44(0) 1257 82 67 01
or email engineering@ndiver.com

ENVIRONMENTAL PROTECTION

There are no known risks associated with disposal of the Hydrotherm Heated Gloves at the end of their working life. All electrical components should be disposed in compliance with Directive 2006/95/EC relating to Low Voltage equipment.

Compliant with IEC60086-4 & IEC60079-11 Safety Standards.

REPORTING COMPLAINTS

When a complaint is discovered, immediately contact your supplier of the equipment and provide the following details:

- Customer name and address.
- Person you wish to receive the investigation report (if required).
- Serial number where applicable.
- Nature of the complaint and any serious consequences that may have arisen.

Then isolate the equipment and await instructions from the supplier.

PRODUCT CHANGES

Northern Diver (International) Ltd is continually developing its product range and reserves the right to alter product specifications without notice.

LIABILITY

Northern Diver (International) Ltd assumes no liability for damages, losses, or cost incurred consequentially through the operation or malfunction of any Northern Diver (International) Ltd product.

WARRANTY

The product is covered against all manufacturing defects for a period of one year from the date of purchase proven by a sales document, excluding:

- Non-conforming use or use other than that foreseen or illustrated in this manual.
- Negligence, attempts to make repairs or modifications by personnel not expressly authorized by Northern Diver that jeopardize correct operations or prevent adequate checks and tests to meet repair needs under the warranty.
- Defects due to damages, incorrect use, accident, tampering, negligence or neglect and in the event of modifications or repairs made by unauthorized personnel that jeopardize correct operations or prevent adequate checks and tests to meet repair needs under the warranty.
- Temporarily rented products.
- Scratches or damages to any surface, due to normal product use by the consumer.
- Normal wear or deterioration damages due to transport, falls or accidents.
- Use of non-original or not Northern Diver approved spare parts.
- Equipment that has been replaced with non-original or not approved by Northern Diver parts.
- Defects or damages due to product use in conditions other than those described in this manual.
- Northern Diver assumes or undertakes NO LIABILITY for any loss or damage suffered as result of the use, misuse or reliance on the Products with non-original parts not approved by Northern Diver.
- Broken or damaged wires or connections unless directly due to material or factory defects.
- Defects or damages due to humidity, liquids or foreign objects introduced within the battery pack or that have rusted any part of the battery.

Transport and packaging fees to or from Northern Diver Ltd. are the responsibility of the purchaser.

FIND US

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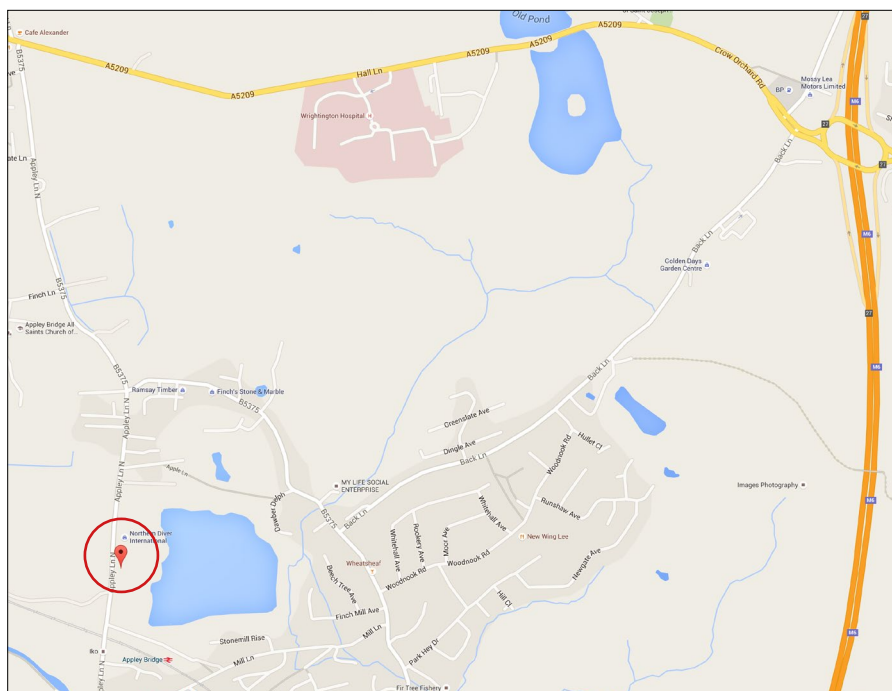
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