

XDEEP SCUBA REGULATORS

USER MANUAL

ENGLISH

[NX700] FIRST STAGE

[LS100] 2nd STAGE

[LS200] 2nd STAGE



READ CAREFULLY.
YOUR COMFORT AND SAFETY
IS WORTH MORE THAN 15 MINUTES.

CONGRATULATIONS!

YOU HAVE PURCHASED AN EXCELLENT PRODUCT, MANUFACTURED IN THE EUROPEAN UNION, MAINTAINING THE HIGHEST STANDARDS OF QUALITY AND SAFETY. LIKE ALL XDEEP PRODUCTS, IT HAS BEEN TESTED IN THE MOST EXTREME ENVIRONMENTS, INCLUDING DURING EXPLORATORY DIVES AS PART OF THE XDEEP EXPLORATION SUPPORT PROGRAM.

WE BELIEVE THAT THIS REGULATOR WILL MEET YOUR EXPECTATIONS, WHETHER YOU ARE A RECREATIONAL DIVER OR AN ADVANCED TECHNICAL DIVER.

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INTRODUCTION

01



BEFORE USING THE PRODUCT



Before you use any of the products described in this manual, carefully read all the information contained herein and ensure you understand the content fully. Familiarity with the information in this manual will be the first step in ensuring safe use and long-term enjoyment of the products described in this document.

This manual is intended as a guide for trained and certified divers only. Where appropriate knowledge and skills should reside with a properly trained diver, this manual does not seek to replicate that training and does not cover those subjects in detail. In no way can this manual act as a substitute for professional diver training or replace a training course under the supervision of a certified instructor. Before you use any of the products described in this manual, make sure that you have a relevant qualification to use this equipment issued by a registered and recognized dive training organization.

If any of the information contained in this manual is not clear to you, then, before using any of the products described in this manual, contact the manufacturer to ask questions or for more comprehensive information:

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IMPORTANT!



This manual uses two types of special alert notices, Danger and Warning. You should pay special attention to both. They indicate information which may be considered crucial for the health and life of the user and/or other people. You should read these very carefully:

DANGER

INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL INEVITABLY LEAD TO A SERIOUS ACCIDENT THAT MAY CAUSE DEATH OR DISABILITY.

WARNING

INDICATES A PROCEDURE OR A SITUATION WHICH, IF IGNORED, COULD RESULT IN DAMAGE TO THE PRODUCT AND/OR A SERIOUS ACCIDENT. IT MAY ALSO INDICATE INCORRECT AND UNSAFE PRACTICES OR IMPORTANT ISSUES TO WHICH YOU SHOULD GIVE YOUR FULL ATTENTION.



CE CERTIFICATION

02

The products described in this manual have been subject to certification in a notified body and meet the requirements of Regulation (EU) 2016/425 of the European Parliament of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC and the harmonized PN-EN 250:2014-08 standard up to the depth of 50m.

Assessment of the conformity of LS100, LS200, NX700 diving regulators has been performed by:

Polski Rejestr Statków S.A.,
Recognised certification unit nr 1463

Al.Gen.Józefa Hallera 126
80-416 Gdańsk
Poland

The Declaration of Conformity is available on the manufacturer's website at: <http://www.xdeep.pl/pliki>

The diving regulators described in this user manual:

1.

Are considered to be compliant with the Regulation of the European Parliament and of the Council (EU) 2016/425 if they are used with air conforming to PN-EN 12021:2014-08 standard. The diving regulators are designed for use by one person at a time. Do not share the diving regulator with another person at the depth greater than 30m and in water with the temperature lower than 10°C, as this may result in failure to meet the requirements of PN-EN 250:2014-08 and PN-EN 12021:2014 -08.

2.

They can be used with other elements of SCUBA diving set if they meet the requirements of Regulation (EU) 2016/425 of the European Parliament of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC and the harmonized PN-EN 250:2014-08 standard.

3.

They are considered to be a personal protective equipment, provided that they are correctly used in the conditions specified in this manual and that they comply with all recommendations and requirements contained in the user manual.

4.

They were marked in accordance with PN-EN-250_2014-08E.

WARNING

IN COUNTRIES THAT ARE NOT MEMBERS OF THE EUROPEAN UNION, THERE MAY BE ADDITIONAL CONDITIONS AND LEGAL REQUIREMENTS AS WELL AS STANDARDS FOR DIVING REGULATORS. BEFORE USING THE REGULATOR, CHECK THE CURRENT REQUIREMENTS IN THE COUNTRY WHERE YOU INTEND TO USE IT.



SAFETY RULES

03



DANGER

THE DESIGN PRIORITIES FOR THESE DIVING REGULATORS ARE SAFETY AND CONVENIENCE OF USE. INCORRECT USE CAN LEAD TO AN ACCIDENT. ALWAYS FOLLOW ALL OF THE FOLLOWING PRINCIPLES.

- 1.**
A diving regulator is a precision device and failure to observe the recommendations contained in this manual may lead to malfunction, serious failure, fire or explosion.
- 2.**
Before every dive, carefully inspect all your equipment components, including the diving regulator. You can find more information in the chapter: "Pre-dive inspection".
- 3.**
Never dive using a regulator that shows signs of malfunction, gas leakage, damage or wear. Any faulty regulator should not be used until inspected and serviced if required by an authorized XDEEP distributor.
- 4.**
Never lift or handle the cylinder or the scuba set by holding the first- stage of the diving regulator. Equipment should be handled only by gripping the cylinder neck or a suitable handle.
- 5.**
When unscrewing the regulator from the cylinder valve, ensure the valve is fully closed and the regulator fully depressurised. Unscrew very slowly with a very small movement to equalize any remaining pressure (any air hiss should stop). You may then fully unscrew the regulator continuing to do so slowly. When unscrewing the regulator, the pressure gauge glass should be pointed away from you and any bystanders, ideally towards the ground.
- 6.**
Before entering/jumping into the water, ALWAYS make sure that the cylinder valve is fully open. When using a two-cylinder apparatus, be sure to check the valves of both cylinders and manifold are open and in all configurations that gas is flowing on demand.
- 7.**
During the dive, you and your buddy should make frequent visual checks of each other's equipment, paying attention to any irregularities, especially air leaks from the regulator components and hoses. Agree a procedure with your buddy and rehearse the appropriate diving signs before diving.

8.

Never leave your regulator in direct sunlight or in a high temperature environment.

9.

Always follow the recommendations regarding regulator inspections and repairs, especially the requirements on the frequency of these important maintenance activities.

10.

Never attempt to repair or adjust the regulator by yourself. You can adjust the breathing effort using the adjuster, as described in this manual. All repairs and adjustments must be conducted by XDEEP service or a service technician authorized by XDEEP.

11.

Never use any lubricants, chemicals, aerosols or liquids to repair, clean or maintain any components of the diving regulator. The above-mentioned measures can be used only by authorized service technicians in the situations described in the XDEEP Diving Regulator Maintenance Manual.

12.

Never leave the SCUBA set or cylinder unattended and always protect them against falling. The fall of a cylinder from a height can lead to damage to the valve, the regulator and even an explosion.



USING WITH NITROX/EAN_x

04

DANGER

REGARDLESS OF LOCAL LEGAL REQUIREMENTS, XDEEP DIVING REGULATORS CAN ONLY BE USED WITH BREATHING GAS MIXTURES CONTAINING AN OXYGEN CONTENT OVER 21% BY PERSONS TRAINED AND CERTIFIED IN THE SAFE USE OF EANX/NITROX. ANY CERTIFICATION MUST BE ISSUED BY A RECOGNIZED BODY IN THE COUNTRY OF USE.

Use of Nitrox/EANx mixtures in non-EU countries

XDEEP diving regulators offered in countries that are not members of the European Community have been produced to work with enriched air up to 40% oxygen content. In order for the regulator to be used safely with enriched air, it is imperative that it is not contaminated, especially with hydrocarbons (e.g. compressor oil) in the course of its use. For this reason, regulators that are used with enriched air must be kept in oxygen clean condition, i.e. used exclusively with equipment that is also kept oxygen clean and free of contaminants.

The air compliant with the EN12021 standard or air often referred to as “standard compressed air”, or “Grade E” in the US, may contain hydrocarbons or traces of compressor oil that is not a respiratory hazard, but may contaminate the interior of the diving regulator, which may cause ignition during subsequent use with oxygen. Any regulators that have been used with such air, even if only once, require oxygen clean service conducted by an authorized service technician.

The maximum operating depth using EAN/Nitrox enriched mixture depends on the oxygen content in the gas.

Use of Nitrox/EANx mixtures in EU countries

In accordance with the requirements of PN-EN 13949:2005 standard, the regulators intended for use with mixtures with increased air content (EAN / Nitrox) must be appropriately marked and equipped with a connection in accordance with the guidelines of the above-mentioned standard. In accordance with the applicable standards, standard diving regulators equipped with a DIN connection are intended for use with compressed air containing 21% oxygen, meeting the requirements of EN12021. Do not use these regulators with mixtures containing over 21% oxygen, as this may cause premature wear, damage and even ignition resulting in serious injury or death.

MAIN PARTS OF THE REGULATOR

05

A yellow triangle is located on the right edge of the slide, pointing towards the center.

MAIN PARTS OF THE REGULATOR 1/2



XDEEP SCUBA regulators have a two-stage design in which the first stage reduces the pressure in the cylinder to an intermediate pressure and the second stage reduces this to ambient pressure.

This manual applies to the following XDEEP diving regulators:

NAME	TYPE	DESCRIPTION
NX 700	First-stage	Patented diaphragm first-stage with insulated diaphragm chamber and rotary head enabling LP port positioning at any angle.
LS100	Second-stage	Second-stage with Venturi effect control (pre-dive/dive) preventing regulator induction on the surface.
LS200	Second-stage	Second-stage with Venturi effect control (pre-dive/dive) preventing regulator induction on the surface and with adjustment for breathing effort control while diving.

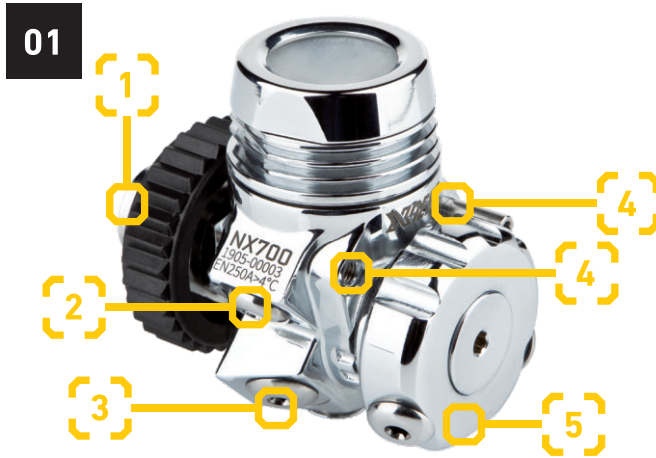


Fig. 1. First stage NX700 parts



1. Cylinder connection.
2. LP ports positioned symmetrically in the regulator body.
3. HP ports positioned symmetrically in the regulator body.
4. Modular Turret System (MTS) rotary head lock holes.
5. Modular Turret system (MTS) rotary head with LP ports.

MAIN PARTS OF THE REGULATOR 2/2



Fig. 2. Second-stage LS100 parts



- 1. Low Pressure (LP) hose connection.
- 2. Purge button activating gas outflow.
- 3. Venturi effect control slider (dive/pre-dive).



Fig. 3. Second-stage LS200 parts



- 1. Low Pressure (LP) hose connection.
- 2. Purge button activating gas outflow.
- 3. Venturi effect control slider (dive/pre-dive).
- 4. Breathing effort control adjuster.

The patented first-stage diving regulator NX700 is equipped with a range of solutions. These allow it to be configured so that in every configuration, the hoses are perfectly positioned. Hose routing should avoid bending or contact with the buoyancy compensator, which could negatively affect safety and cause premature wear of the hoses.

The key element is the rotary head located at the front of the first stage. The head can be locked at set angles depending on the preference and requirements of the user. The head can also be left to rotate. You can find more information on this topic later in this manual.

The Low Pressure (LP) ports in the rotary head are placed slightly in front in relation to the buoyancy compensator. The hose ports are also set at an angle so that the hoses that point downwards (e.g. the dry suit inflation hose, a second-stage long hose) bypass the inflated BCD without any interference.

As standard, the first-stage NX700 is equipped in a rotating head with three LP ports. This ensures the perfect arrangement of hoses in all standard configurations.

The Modular Turret System (MTS) allows for choosing from several different rotary and fixed heads with specific port positions. This enables optimum positioning and angles of the LP ports in all configurations, including non-standard or specialist applications (e.g. some rebreathers). Contact the manufacturer for information on the available options in the MTS system.





CONFIGURATION

06



DANGER

FOR SAFE AND EFFECTIVE OPERATION OF THE DIVING REGULATOR THE INTERMEDIATE PRESSURE MUST BE SET IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. FAILURE TO DO SO WILL CAUSE INCORRECT FUNCTIONING. DURING PRODUCTION EVERY XDEEP FIRST-STAGE IS SUBJECTED TO CORRECT ADJUSTMENT AND INSPECTION. THE INTERMEDIATE PRESSURE SHOULD NOT BE ASSUMED FROM THIS AND MUST BE CHECKED PRIOR TO THE INSTALLATION OF THE SECOND-STAGE.

Installation of LP and HP hoses

Depending on the set you have purchased, your diving regulator may be delivered with or without LP/HP hoses.

If you have never installed LP hoses and other accessories in your diving regulator or if you have any doubts whether you are able to do it correctly, we highly recommend that you use an authorized XDEEP service technician for the configuration. If trained and experienced you can complete the installation yourself, provided you follow all the recommendations below.

Before installation, please note that the regulator has two types of ports with different applications and threads:

- a.** Low Pressure ports, for connecting the second-stage diving regulator and hoses supplying buoyancy compensator (BCD) and dry suit. LP ports are equipped with a 3/8" UNF thread.
- b.** High pressure (HP) ports for connecting pressure gauges are equipped with a 7/16" UNF thread.

WARNING

LOW-QUALITY HOSES MAY POSE A THREAT. TO YOUR SAFETY INFORMATION ABOUT PROBLEMS WITH CHEAP LOW-QUALITY HOSES IS PROMINENT ON SOCIAL MEDIA. WE RECOMMEND USING ORIGINAL XDEEP NX SERIES HOSES, MANUFACTURED IN THE EU, USING ONLY THE BEST MATERIALS AND UNDER STRICTLY CONTROLLED CONDITIONS.

DANGER

NEVER CONNECT LOW PRESSURE HOSES AND DEVICES SUCH AS A SECOND STAGE DIVING REGULATOR, INFLATOR HOSE OR DRY SUIT HOSE TO THE HIGH PRESSURE PORT. THIS MAY CAUSE A RUPTURE DUE TO EXCEEDING THE WORKING PRESSURE OF THESE HOSES AND CAN LEAD TO SERIOUS INJURY.

To install the hose in the first-stage diving regulator, perform the following actions:

1.
Make sure that the regulator is not connected to a gas source and is not under pressure.
2.
Unscrew the port plug using a hexagonal wrench ("allen key", "inbus").
3.
Make sure that the O-ring on the end of the hose to be installed is clean, undamaged and free of debris.
4.
Lightly lubricate the O-ring with silicone grease, removing any visible excess. Do not lubricate the inside of the port or the thread of the hose end.
5.
Screw the thread of the hose end into the port of the first-stage diving regulator and then tighten it with a torque wrench to 15 Nm.

To install the hose in the second-stage diving regulator, perform the following actions:

1.
Make sure that there are no impurities on the thread or the inside of the connector, both on the hose side and on the regulator side, and that the O-ring on the end of the installed hose is clean and undamaged.
2.
Lightly lubricate the O-ring with silicone grease, removing any excess if necessary. Do not lubricate the connection thread or nut.
3.
Carefully insert the end of the hose into the hole in the LP hose connection on the first-stage diving regulator.
4.
Screw in the hose nut by hand until it stops, and then tighten the screw with a flat wrench to 15 Nm.

WARNING

BENDS IN HOSES TYPICALLY CAUSE ACCELERATED WEAR. THIS OFTEN LEADS TO A FAILURE AND POTENTIALLY LARGE GAS LEAKS DURING A DIVE. AVOID BENDING HOSES AND PAY ATTENTION TO BENDING AND PRESSURE THAT AN INFLATED BCD MAY PLACE ON ANY HOSE.

MTS system turret lock

The NX700 is equipped with a patented turret that allows the LP ports to be positioned at an angle that reduces, if not eliminates hose bending. Hose bends accelerate wear or can even block gas flow. The turret head can be locked in a specific position or kept unlocked allowing it to be rotated during a dive.

To lock the head in the desired position, turn it so that the groove in the head is aligned with the hole in the regulator body. It is then possible to screw in the locking pin until it stops using an octagonal wrench. Do not use too much force when screwing.

Guidelines for locking the turret suitable for specific configurations have been described in the next chapter.



HOSES LENGTHS AND PORT USE

07

HOSES LENGTHS AND PORT USE



The NX700 first stage regulator's construction provides a perfect 'without bends' routing of the hoses in every configuration. This prolongs the hoses' lifetime. To help achieve the most streamlined configurations, we have prepared guidelines on how to use each of NX700 first stage ports with recommended hose lengths for different set-ups.

These are only suggestions, and you can use longer or shorter hoses according to your preferences.

Hose configuration with a single tank system

When diving with a single tank, you can use the NX700 in a traditional recreational configuration with a short hose primary and an octopus. Alternatively, as often preferred by more advanced divers - with a primary 2nd stage on a long hose.

In both configurations, the first stage ensures the hoses' perfect alignment and enables inflating the drysuit from the port in the MTS head. It allows the hose to be routed in front of the wing/bcd thereby inflating without any pressure caused by an inflated bladder.

In single tank configuration, we recommend locking the MTS head of the first-stage.

WING MODEL	CORRUGATED HOSE LENGTH	INFLATOR HOSE LENGTH	
		SUGGESTED LENGTH (CM)	ACCEPTABLE RANGE (CM)
XDEEP NX Series (GHOST, ZEN)	33 cm / 13 inches	43	37-50
	40.5 cm / 16 inches	50	43-57
	48 cm / 19 inches	57	50-62
Wings with elbow adapter (ZEOS or other manfuactuurers)	33 cm / 13 inches	38	34-47
	40.5 cm / 16 inches	45	35-50
	48 cm / 19 inches	51	45-58

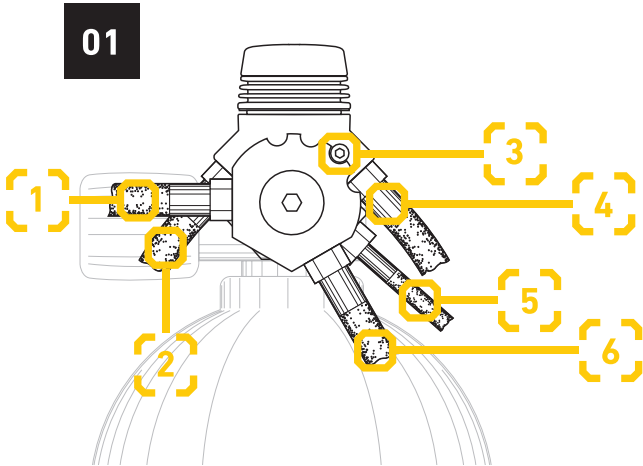


Fig. 4. Single tank configuration (short hose)

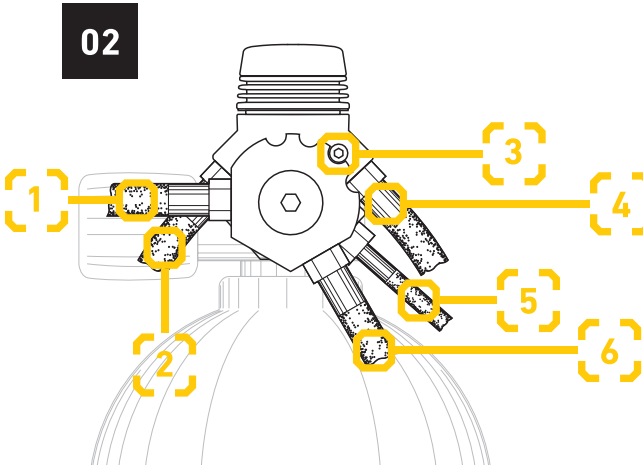


Fig. 5. Single tank configuration (long hose)



- 1. Primary 2nd stage
- 2. Octopus
- 3. Locking bolt
- 4. Inflator LP
- 5. HP gauge
- 6. Drysuit inflation



- 1. Secondary 2nd stage / short hose
- 2. Primary 2nd stage / long hose
- 3. Locking bolt
- 4. Inflator LP
- 5. HP gauge
- 6. Drysuit inflation

HOSES LENGTHS AND PORT USE



Hose configuration with double tank system (twinset)

In a double tank configuration, our suggestion enables easy access to the tank valves and preserves the maximum space for a user to operate the valves. The hose of the primary 2nd stage regulator and the drysuit inflation hose are routed out from the turret head. Thanks to this position, they are pass in front of the wing and remain unaffected when the bladder is inflated.

We recommend locking the MTS head of the secondary first stage (left valve but shown on right side in image) to keep the optimal port position. The MST head of the primary first stage (right valve as shown on left of image) should remain unlocked. This allows it to turn in an out of gas receivers direction and prevents blocking the gas flow due to a kinked hose.

WING MODEL	CORRUGATED HOSE LENGTH	INFLATOR HOSE LENGTH	
		SUGGESTED LENGTH (CM)	ACCEPTABLE RANGE (CM)
XDEEP NX Series (PROJECT)	33 cm / 13 inches	42	36-50
	40.5 cm / 16 inches	48	45-58
	48 cm / 19 inches	62	57-72
Wings with elbow adapter (HYDROS or other manfuacturers)	33 cm / 13 inches	40	35-46
	40.5 cm / 16 inches	45	40-52
	48 cm / 19 inches	50	45-60

03

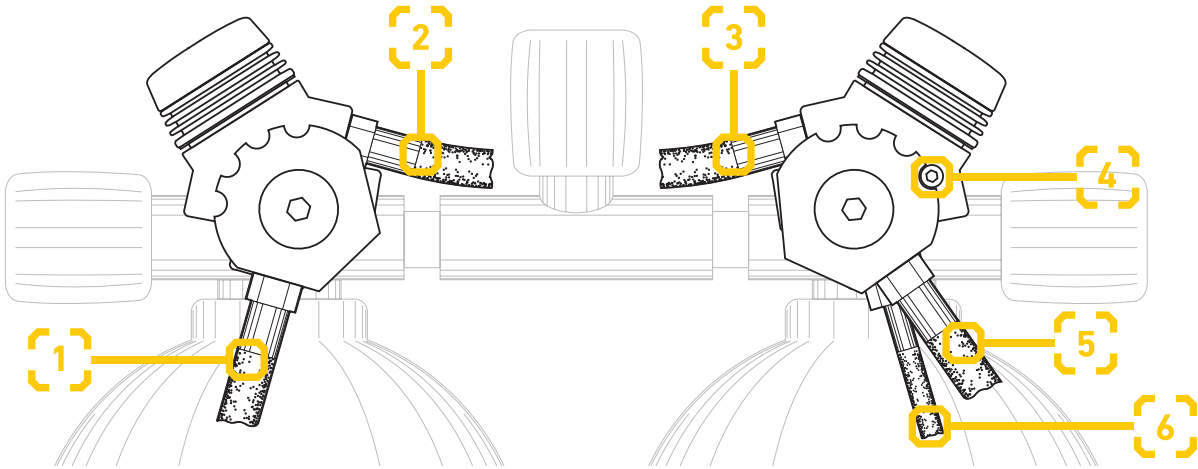


Fig. 6. Double tank configuration



- 1. Primary 2nd stage / long hose
- 2. Inflator LP
- 3. Secondary 2nd stage / short hose
- 4. Locking bolt
- 5. Drysuit inflation
- 6. HP gauge

HOSES LENGTHS AND PORT USE



Hose configuration with a sidemount system

The fundamental advantage of a sidemount configuration is its versatility and use in all kinds of diving, plus it is customisable to your personal preferences. Thanks to its versatility, the NX 700 first stage can be used in various styles of sidemount configuration. We recommend you choose the setup that suits your training, experience and preferences the best.

The most popular option is to connect the drysuit and inflator hoses to the ports located in the body, while connecting the second-stage regulators to the MTS head. In the case of an out-of-gas situation, you can then deploy the full length of the hose without the risk of kinking the hose and blocking the gas flow.

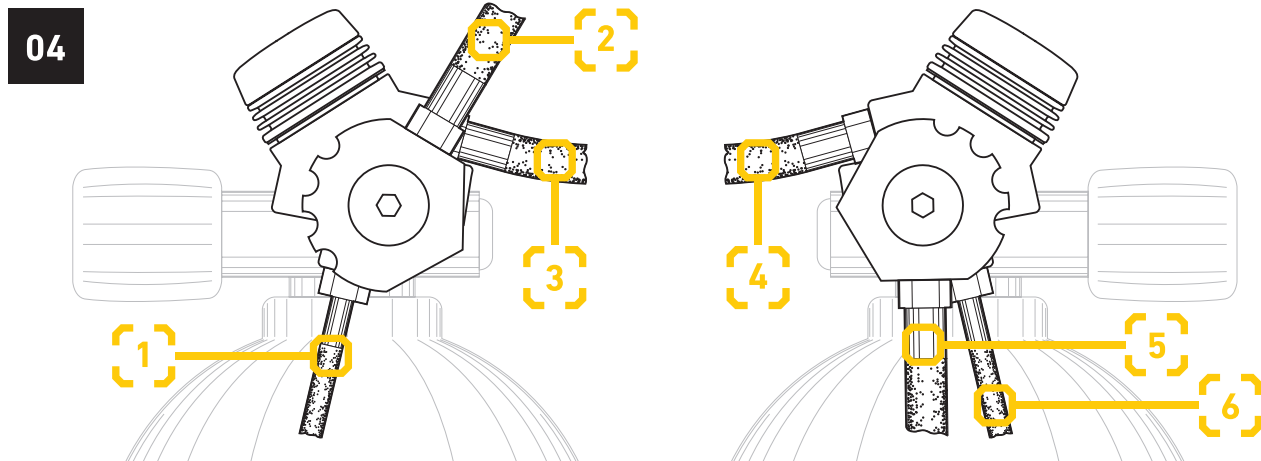


Fig. 7. Sidemount configuration - Variant A



1. Left HP Gauge
2. Left regulator (short hose)
3. Inflator LP
4. Drysuit inflation
5. Right regulator (long hose)
6. Right HP Gauge

The second option turns the first stage by 90 degrees towards the diver's body. In this configuration, the drysuit and inflator hoses' length must be longer as the ports are now pointing 90 degrees down. In return, this setup provides more freedom of movement, reduces stress on the hose connectors and extends the lifetime of both the drysuit's inflation valve and the BCD inflator.

05

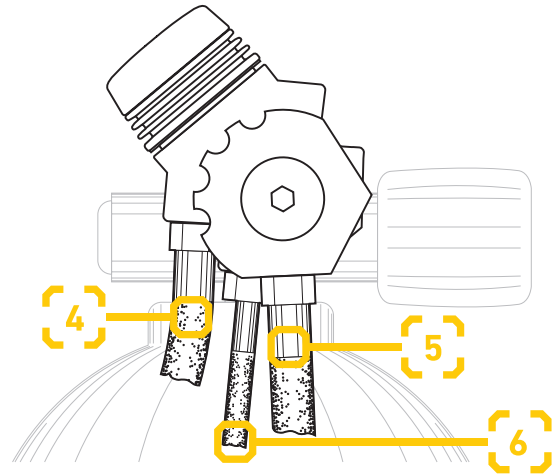
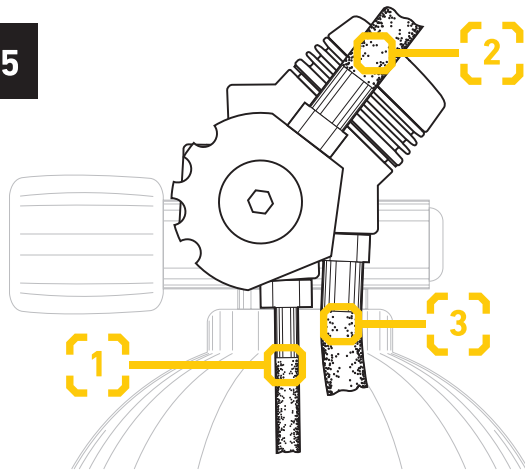


Fig. 8. Sidemount configuration - Variant B



1. Left HP Gauge
2. Left regulator (short hose)
3. Inflator LP
4. Drysuit inflation
5. Right regulator (long hose)
6. Right HP Gauge



CONNECTING THE SCUBA TANK

08

CONNECTING THE SCUBA TANK



WARNING

BEFORE ATTACHING THE FIRST STAGE TO A CYLINDER VALVE, ENSURE AT LEAST ONE SECOND STAGE OR LOW PRESSURE BCD HOSE IS CONNECTED TO THE FIRST STAGE. THIS ENSURES THE FIRST STAGE CAN BE DEPRESSURISED BEFORE REMOVAL FROM THE TANK ENSURING A SAFE AND DAMAGE FREE PROCESS.

ANGER

FIRE OR EXPLOSION CAN BE CAUSED BY CONNECTING A DIVING REGULATOR THAT IS NOT SUITABLE FOR USE WITH GAS MIXTURES OVER 21% OXYGEN TO A CYLINDER CONTAINING SUCH A MIXTURE. THIS CAN CAUSE SERIOUS INJURY OR DEATH. TANK CONTENTS SHOULD BE VERIFIED WITH AN O2 ANALYSER BY THE DIVER WHO WILL USE THE TANK AND MARKED ACCORDING TO TRAINING AND LOCAL REGULATIONS BEFORE ATTACHING THE REGULATOR.

In order to connect the regulator to the cylinder valve, it is necessary to perform the following steps in order:

1.

Check the condition of the cylinder valve, paying attention as to whether the thread inside the valve shows signs of wear or damage. If so do not use.

2.

Position the cylinder with the valve outlet facing away from you. Gently open the valve to release a small amount of gas to remove any contaminants that may have been inside the valve opening. Close the valve immediately.

WARNING! When doing this, do not point the cylinder outlet towards people or animals.

3.

Set the Venturi effect control slider (dive/pre-dive) to the „-“ (minus) position and remove the protective plug from the first stage regulator thread.

4.

Check the O-ring sealing the connection to the cylinder is correctly placed in the first-stage diving regulator and that it is not worn, dirty or damaged. If necessary, replace before attaching the regulator to the cylinder.

5.

You can apply a small amount of oxygen clean grease (e.g. Christo-Lube) on the thread to facilitate screwing and unscrewing.

ATTENTION: the grease should not be applied to the DIN or YOKE O-rings, as it may facilitate the accumulation of dirt, especially sand, on the O-ring surface and in the valve-side seat.

6.

Insert the thread into the cylinder valve and then, turning the handwheel ring, screw in the first-stage diving regulator thread until resistance is felt.

7.

Open the valve slowly and slightly to activate low level gas flow. If you hear a loud hissing noise, it means that the first-stage diving regulator connection to the cylinder valve has not been sealed. This may be caused by not screwing the thread fully in, or a damaged/soiled O-ring seal. Turn off at the cylinder valve and then check the screw-in of the thread or replace the O-ring seal.

NOTE: the cause of the gas outflow may also be the loosening of hoses or damage to the hose O-ring or plug. If necessary, immerse the cylinder with the diving regulator pressurised in water in order to locate the leak.

DANGER

CAREFULLY AND SLOWLY OPEN ALL CYLINDER VALVES, BUT ESPECIALLY WHEN USING MIXTURES WITH INCREASED OXYGEN CONTENT. FAST OPENING OF THE VALVE MAY RESULT IN HEAT WHICH, IN EXTREME CASES, CAN LEAD TO IGNITION AND AN EXPLOSION OR FIRE.



PRE-DIVE INSPECTION

09

PRE-DIVE INSPECTION



Before each dive, it is important to check all the working parts of the regulator and your equipment. Even if you were diving earlier the same day, check that all parts are clean, not showing signs of damage or wear and tear and are fully functional. This safety check is quickly and easily done by following the steps below in order:

1.

Check that no element of the BCD shows any signs of wear, paying particular attention to the condition of webbing, buckles, the outer shell and the LP hose.

2.

Check that none of the components of the regulator shows signs of wear or damage, paying special attention to the condition of the hoses around the metal ends and the condition of the band that secures the mouthpiece, as well as the mouthpiece itself. Inspect the hoses along their entire length for deformation or wear.

3.

Check that the outer diaphragm of the first-stage diving regulator is not damaged and that there is no moisture under it.

4.

Check the condition of the O-ring that seals the connection of the first-stage regulator to the cylinder valve. Replace it if you notice signs of wear. Then screw in the first-stage diving regulator to the cylinder valve.

5.

With the cylinder valve turned off, put the second-stage diving regulator in your mouth and try to breathe in. The regulator should not provide even the slightest amount of air. This checks there is no damage to the diaphragm of the second-stage diving regulator or it may identify another leak.

6.

Make sure that the pressure gauge indicator is reading 0 (zero) when the cylinder valve is turned off. Point the gauge face away from you for step 7

7.

Slowly and carefully open the cylinder valve fully and make sure that you cannot hear the characteristic hiss of escaping air. This may suggest a leak, e.g. at the hose connections to the first- or second-stage diving regulator.

8.

Set the pre-dive/dive Venturi effect control slider to the pre-dive position and if you are using the regulator with adjustable breathing effort, turn the adjuster to the extreme „-“ (minus) position. Then briefly press the purge button of the second-stage. The regulator should only supply air when you press the button and the button should move without any resistance or noise. Releasing the button should cause its immediate return to the start position and gas outflow should stop. During the test, also pay attention to whether the gas has an unusual smell, if so do not dive.

9.

Move the Venturi effect control slider to the „dive“ position and then turn the breathing effort adjuster to the extreme „+“ position, checking it does not cause any leakage.

ATTENTION: when performing the test, do not press the purge/bypass button as it will cause the regulator to allow gas flow. After finishing the test, move the slider to the „pre-dive“ position and the breathing resistance adjuster to the „-“ (minus) position.

10.

Put the second-stage regulator in your mouth, exhale to clear any water or contaminants and then breathe through it slowly and deeply several times. The regulator should provide the right amount of air and should not cause any discomfort or increased breathing effort.

11.

Once you have completed checking the regulator, make sure that the Venturi effect control slider is in the „pre-dive” position and the breathing effort adjuster is in the extreme „-” (minus) position.

WARNING

IF THE VENTURI EFFECT CONTROL SLIDER IS SET TO “DIVE” AND IT IS NOT IN YOUR MOUTH, IT MAY FREE FLOW. IF SO COVER THE MOUTHPIECE WITH YOUR FINGER AND SET THE SLIDER TO “PRE-DIVE” POSITION.





OPERATION

10



DANGER

BEFORE ENTERING INTO THE WATER, MAKE SURE THAT THE CYLINDER VALVE IS FULLY OPEN. ENTERING THE WATER WITH A CLOSED OR PARTIALLY OPEN VALVE CAN CAUSE DROWNING!

Submerging

Before submerging, put the mouthpiece into your mouth and then set the breathing effort control slider to the „dive“ position. If you have the ‚200‘ model second stage you can also adjust the breathing effort using the adjuster. This can also be done while submerged. This is recommended in the case of deep dives when the breathing effort increases with depth due to the increasing density of gas you breathe.

When descending stop at a maximum of three meters depth and, together with your buddy, mutually inspect your diving regulators for possible gas leaks.

During a dive

During a dive, breathe calmly and deeply. Make sure to avoid fast and shallow breathing and excessive effort.

If during a dive you have to take the second-stage diving regulator out of your mouth, when you put it back in, exhale or briefly press the purge button to remove water from the second-stage. Take your first breath slowly and repeat the purge/exhale if any water is detected to prevent choking.

Check the amount of gas remaining in the cylinder frequently with a pressure gauge. Please note that the pressure gauge may indicate more gas than there actually is. Always dive conservatively and follow your training regarding keeping a safe gas reserve.

Surfacing

After surfacing, move the Venturi effect control slider to the „pre-dive“ position to avoid potential free flows on the surface.

Disassembly after diving

After finishing the dive, press the „purge/bypass“ button while holding the second-stage in a horizontal position to remove any water that may have got inside. Then turn off the cylinder valve fully and press the purge/bypass“ button again to depressurise the regulator. Wait until the airflow stops before attempting to carefully disassemble from the cylinder valve.

WARNING

AFTER REMOVING THE REGULATOR FROM THE TANK IMMEDIATELY ATTACH A CLEAN AND DRY PROTECTIVE PLUG TO THE CONNECTION THREAD.

THIS PREVENTS WATER OR CONTAMINANTS PENETRATING INTO THE INTERIOR OF THE REGULATOR WHICH MAY CAUSE MALFUNCTIONING OF THE REGULATOR.

Rinsing and drying

After each use of the regulator in salt water or chlorinated water, immediately rinse the outside of the first and second stages thoroughly with fresh clean water. Rinse inside the second stage only with water. Never use water over 50°C for this purpose!

We strongly recommend rinsing with a hose while the regulator is still attached to the cylinder and still under pressure. Before rinsing, make sure that the valve is open. In this condition it is also possible to immerse the whole set in clean, fresh water. To rinse the internal part of the second-stage diving regulator/octopus - place the end of the hose so water flows through the mouthpiece and through the regulator for several seconds. High pressure water should not be flowed through the second stage

In a situation when it is not possible to immerse the whole set including the cylinder into clean water, you can rinse it without the cylinder (in an unpressurised state), provided:

1.
the 1st stage protective plug must be clean, dry and tightly screwed on the valve connecting thread;
2.
all hoses and plugs fitted must be properly tightened;
3.
the breathing effort control knob must be in the extreme „+“ (plus) position;
4.
the purge button must not be pressed while rinsing.

WARNING

NEVER PRESS THE “PURGE” BUTTON WHEN RINSING THE REGULATOR! THIS MAY CAUSE MOISTURE AND CONTAMINANTS TO GET INTO THE SECOND-STAGE VALVE, AND RESULT IN ITS INCORRECT OPERATION.

WARNING

IF YOU SUSPECT THAT WATER OR CONTAMINANTS MAY HAVE ENTERED THE INTERIOR OF THE FIRST STAGE OR THE SECOND STAGE VALVE, YOU SHOULD TAKE THE REGULATOR TO AN AUTHORIZED DEALER FOR SERVICE BEFORE USING AGAIN.

After rinsing, the regulator should be left to dry in a ventilated and shady place. Never leave the regulator in the sun or dry it on a radiator or with a hot air jet.

Storage

The diving regulator should be stored in a dry and shaded place, away from heat, chemicals, dust and small objects. Diving regulators equipped in a breathing effort adjuster should be stored with set in the extreme „-“ (minus) position. Make sure that the hoses are not bent or twisted during storage, as this may damage them. Do not store the regulator attached to a cylinder valve. In the case of storing a diving regulator with disassembled hoses, the ports should be protected against dust and small objects entering the inside of the regulator by screwing in the correct blanking plugs.





DIVING IN COLD WATER



DIVING IN COLD WATER



XDEEP diving regulators have an extremely high resistance to freezing. This is achieved by both the dry chamber first stage design and a substantive metal second stage valve structure, with thick walls providing excellent heat dissipation.

Although XDEEP diving regulators have been built for high resistance to freezing, incorrect use may increase the risk of freezing. Diving in conditions below 10°C requires appropriate training, experience and certification. We recommend the use of a double set of regulators (two first stages and two second stages) for each dive in water with the temperature below 10°C.

Observe the following instructions to reduce the risk of the regulator freezing:

1.

Make sure that the cylinder you use does not contain liquid water. This may happen if it was filled with high humidity air, even once.

2.

Make sure that the cylinder is filled with dry air. If you use filling services in a diving centre or a similar place, request confirmation that the air complies with air purity standards and that the permissible humidity level is not exceeded.

3.

Store the diving equipment in a dry place in at normal room temperature and protect it from low temperatures.

4.

If the air temperature is low, check the operation of the regulator in a warm room. Avoid breathing through the regulator and pressing the purge button before starting the dive.

5.

Make sure that the regulator and other equipment remain dry until you enter the water. This applies in particular to diving at air temperatures close to 0°C, when rain, drizzle or snow are likely.

6.

When diving at air temperatures close to or below 0°C, it is mandatory to avoid breathing from the regulator before immersion. Please note that at the time of immersion, the first stages may still be above water, while your head is already below the surface.

7.

During the dive, increased gas expenditure may cause the regulator to freeze. Avoid any activities that cause increased gas flow, e.g. using the purge button, using the inflator button when inhaling, excessive effort and simultaneous use of one regulator by two buddies.

8.

Try not to remove the regulator from your mouth during the dive, as cold water entering the interior of the regulator may increase the risk of freezing.

WARNING

FREEZING OF A DIVING REGULATOR IS A FREQUENT CAUSE OF DIVING ACCIDENTS. FOR YOUR OWN SAFETY, FOLLOW ALL THE ABOVE RULES WHEN DIVING IN WATER WITH TEMPERATURES BELOW 10°C.

REPAIR AND MAINTENANCE

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REPAIR AND MAINTENANCE



The diving regulators detailed in this manual do not contain any elements that can be repaired by the user, and any repairs (including lubrication and replacement of used elements) can only be performed by trained persons holding personal certificates issued by the manufacturer (authorized service technicians).

When repairing XDEEP diving regulators only elements and spare parts supplied by the producer must be used. Elements and spare parts from other sources, although seemingly identical, may have slightly different parameters which may negatively affect your safety and/or durability of the regulator.

The only maintenance procedure that may and should be performed by the user is rinsing the regulator in clean fresh water in the manner specified in this manual. The regulator must be rinsed every time after diving in salt water or chlorinated water. Never use detergents, cleaning agents or solvents to clean the regulator. In case of stubborn dirt, contact the manufacturer for additional information.

Servicing intervals

The servicing should be performed by the manufacturer or an authorised service technician in the following intervals:

Maximum every 12 months or after performing a maximum of 100 dives since the last servicing (whichever is the earliest);

If the diving regulator has not been used for more than 9 months or it is uncertain whether it was stored in the appropriate way or the history of its use is not known, it must be serviced before diving;

If the regulator is used for training or rental the servicing should be performed every 6 months or after a maximum of 50 dives.

WARNING

YOUR SAFETY DEPENDS ON THE CORRECT SERVICING. STRICTLY RESPECT THE SERVICING DEADLINES AND ENSURE THAT THEY ARE PERFORMED BY AN AUTHORIZED SERVICE TECHNICIAN USING ORIGINAL PARTS.

WARNING

THE USE OF A DIVING REGULATOR WITH AN UNKNOWN HISTORY OF OPERATION, STORAGE, REPAIRS, INSPECTIONS AND USE IS DANGEROUS AND IRRESPONSIBLE.

IT COULD RESULT IN A MALFUNCTION DURING A DIVE, WHICH COULD RESULT IN INJURY OR EVEN DEATH!

XDEEP SCUBA REGULATORS

USER MANUAL

[NX700] FIRST STAGE

[LS100] 2nd STAGE

[LS200] 2nd STAGE



REVISION 2

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