



**REGULATOR  
OWNER'S  
GUIDE**

# CONTENTS

NOTICES.....	3
CE INFORMATION .....	3
INTRODUCTION .....	4
WARNINGS .....	4
NITROX/O2.....	5
DIVING IN COLD WATER .....	5
SETUP & DIVE .....	6
FIRST/SECOND STAGE PAIRING .....	7
REGULATOR FIRST STAGES.....	8
Preparation to mount a regulator on a cylinder .....	8
Mounting a regulator with a yoke inlet fitting.....	8
Removing a regulator with a yoke inlet fitting .....	8
Mounting a regulator with a DIN inlet fitting .....	9
Removing a regulator with a DIN inlet fitting .....	9
SECOND STAGE WITH A VENTURI SWITCH .....	9
Adjustments prior to entering the water .....	9
Adjustments during the dive .....	9
Adjustments after the dive .....	9
POST DIVE .....	10
REPAIRS AND SERVICE.....	10
ADDITIONAL SPECIFICATIONS .....	11
GUIDELINES FOR MINIMUM SERVICE INTERVALS	11
CE CERTIFICATIONS AND MARKINGS.....	11
RECORDS .....	12
INSPECTIONS/SERVICE RECORD .....	12
HOLLIS WORLD WIDE .....	13

## WARNINGS, CAUTIONS AND NOTES

Pay attention to the following symbols when they appear throughout this document. They denote important information and tips.



**WARNING:** are indicators of important information that if ignored would lead to severe injury or death.



Caution: are indicators of information that if ignored may lead to minor to moderate injury.



Notes: indicate tips and advice that can inform of features, aid assembly, or prevent damage to the product.



## COPYRIGHT NOTICE

This Guide is copyrighted, all rights are reserved. It may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine readable form without prior consent in writing from Hollis.

Hollis Regulator Owner's Guide © Hollis, 2015  
San Leandro, CA USA 94577  
(510) 729-5110

## TRADEMARK, TRADE NAME, AND SERVICE MARK NOTICE

Hollis and the Hollis logo are registered or unregistered trademarks of Hollis. All rights are reserved.

## PATENT NOTICE

U.S. Patents have been issued to protect the following design features: Orthodontic Mouthpiece (U.S. Patent No. 4,466,434) and Second Stage Regulator Depth Compensating Adjustment Mechanism (U.S. Patent No. 5,660,502).

## EC TYPE EXAMINATION CONDUCTED BY:

Products carrying the mark CE 0120 have the EC Type Examination conducted by:  
SGS United Kingdom Ltd, Inward Way, Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, United Kingdom:  
phone: +44 (0) 151 350 6666: CE 0120

Products carrying the mark CE 0474 have the EC Type Examination conducted by:  
RINA: Via Corsica 12, 16128 Genova, Italia: phone +39 010 53851: CE 0474

All products sold by Hollis in the EU (European Union) meet the following requirements where applicable. Compliance with the following where applicable.

EN 250:2014: This standard describes certain minimum performance requirements for SCUBA regulators sold in the EU (European Union). Testing identifies regulators that should not be used in water colder than 50 °F/ 10 °C, these regulators are marked >10 °C.

EN ISO 12209:2013: This regulator's thread and yoke connection conforms to ISO 12209:2013. Maximum working pressure: 300 bar (4351 PSI).

EN13949:2003: This standard describes special qualification testing for regulators that are to be used with gases whose oxygen content is greater than 22%. Regulators that have passed testing are marked NITROX/O<sub>2</sub>.

EN144-3: This standard describes the M26 regulator inlet fitting and M26 valve that must be used with gases containing over 22% oxygen sold in the EU (European Union). These inlet fittings and valves are marked with the maximum rated working pressure.

EN12021: This standard specifies the allowable contaminants and component gases that make up compressed air. This standard is the equivalent of the USA Compressed Gas Association's Grade E air. Both standards allow very small amounts of contaminants that are not harmful to breathe, but can cause a problem if present in systems using gases with a high percentage of oxygen.

## WARRANTY INFORMATION

For details, refer to the Product Registration Card provided by your Authorized Hollis Dealer. For additional information, visit the Hollis web site at: <http://www.Hollis.com>



## INTRODUCTION

**THANK YOU** for choosing a Regulator product from Hollis !

Features and operation of the various models of Hollis regulator first and second stages currently available are described in this owner's guide, and/or any addendum or supplement provided with it.

By following the instructions in this guide, you will understand how your regulator product works, how to make best use of its features, and how to maintain it for long term use.

Some information presented may not be applicable to the specific model of regulator or accessory that you purchased.



**DO NOT** dive with the regulator until you have read and understand all information provided with it.

Hollis promotes responsible diving practices and does not advocate diving beyond the limits recommended for recreational diving, Hollis regulator equipment is designed to offer continued safe and reliable performance in the event the need arises and the recreational diving limits are exceeded.



### **WARNINGS:**



**SCUBA diving is inherently dangerous. Improper use of SCUBA diving equipment may lead to injury or death.**



**In order to enjoy sport SCUBA diving safely, it is imperative that you receive proper training from a recognized and accredited SCUBA training organization. This training will include information about best practices to prevent injury or death.**



**If you do not fully understand how to use this Regulator, or if you have any questions, you should seek instruction in its use from your Authorized Hollis Dealer before you utilize this product.**



**This SCUBA diving Regulator reduces high pressure air stored in cylinders to a safe, breathable pressure. Care in handling the high pressure cylinder and Regulator must be taken to prevent injury or death.**



**The air must be of sufficient purity to prevent injury or death. Air must equal or exceed the requirements of CGA Grade E and EN12021.**



**SCUBA diving in water colder than 50°F/10°C requires special equipment, training, and preparation to prevent injury or death. See page 5 of this manual for more information relating to cold water diving.**



**SCUBA diving with gasses other than compressed air requires special training and preparation to prevent injury or death. See page 5 for more information relating to diving with gasses containing higher percentage of oxygen.**



**Do not use spray cleaners, solvents, or any lubricant on the Regulator.**



**This Regulator must be used together with an Instrument that measures and indicates the user's air supply pressure.**



**Prior to each dive inspect and test this Regulator for proper operation. If any part does not function properly, DO NOT USE!**



**Service should only be undertaken by Hollis trained and authorized personnel and facilities.**



## NITROX/O2

Hollis regulators sold outside of the EU are built using oxygen compatible components in a clean environment and can be used for gasses having oxygen content up to 40%.

 **WARNING: Oxygen exposure can be toxic and can cause injury or death. Air contains 20.9% oxygen; a gas with more than 22% oxygen is considered to have a high percentage of oxygen and is called NITROX.**

 Safely diving with Nitrox requires additional specialized training from a recognized and accredited SCUBA training organization. Nitrox has different depth and time limits than air and these limits change with the percentage of oxygen in the Nitrox. Hollis Nitrox dive computers can help monitor these safety limits.

Much of the information below is provided in compliance with EN13949 and EN144-3; this information documents best practices for using gasses with oxygen content above 22%.

Regulators sold in the EU and intended for use with Nitrox or oxygen must be tested to assure that the components and lubricants are safe for use in 100% oxygen at high pressure and at elevated temperature. This testing is described in EN13949:2003; regulators that have passed this testing are marked NITROX/O2. In the EU, regulators that have passed this testing are supplied with an EN144-3 M26 inlet fitting, marked with its maximum rated working pressure.

 **WARNING: Oxygen accelerates combustion. Use of Nitrox or oxygen introduces a risk of a catastrophic fire, the risk increases with the percentage of oxygen in the gas. Special care must be taken to reduce this risk.**

The regulator and all attached accessories must be prepared for use with high percentage oxygen gasses. This preparation involves special cleaning, the use of special oxygen safe components and lubricants.

Air used in SCUBA diving may contain minute amounts of flammable hydrocarbons that are considered safe to breathe. Over time these hydrocarbons may accumulate and represent a fire risk if used with Nitrox or oxygen. Specially filtered air is available, called hyper-filtered air. Regulators to be used with Nitrox and oxygen must not be used with normal compressed air.

 Regulators used with Nitrox or oxygen must be cleaned at least annually or any time normal compressed air has been used.

 Regulators used with gasses having oxygen content exceeding 41% must be serviced by Hollis trained personnel in a facility equipped to oxygen clean and assemble regulators for oxygen use.

## DIVING IN COLD WATER

EN250:2014 testing occurs at two water temperatures; 50°F/10°C and below 39°F/4°C.

Regulators marked >50°F/>10°C are approved for use in water 50°F/10°C or warmer.

All other regulators have been tested in water at or below 39°F/4°C and worked properly under the test conditions.

 **WARNING: SCUBA diving in water colder than 50°F/10°C requires special equipment, training, and preparation to prevent injury or death.**

Training for cold water is available from a recognized and accredited SCUBA training organization.

 **WARNING: When regulators get cold and wet, freezing can occur. Regulator freezing can result in rapid loss of air that may lead to injury or death.**

During regulator use, internal heat can be lost due to pressure drop that occurs in a regulator as it reduces the high pressure gas from the cylinder to a safer breathing pressure.



Cold water best practices that will help reduce the occurrence of regulator freezing:

-  Use properly maintained, good working dive equipment designed for cold water diving.
-  Use air specially dried for cold water diving in your tanks.
-  Warm the regulator, tank, BC, diver insulation, and the diver before the dive.
-  Open the tank valve slowly to reduce internal pressure drop cold.
-  Do not use the BC inflator, Suit fill, or purge button before going diving.
-  Keep the primary second stage dry before taking the first breath.
-  Do not breathe from the regulator until you are in the water.
-  Do not remove the regulator from your mouth while diving.
-  Do not allow an alternate air source to free flow.
-  Remove the regulator from your mouth when the dive is over.
-  Remember to rewarm all equipment and yourself before a second dive.

## SETUP & DIVE

A SCUBA regulator reduces the high pressure air stored in a cylinder to breathing pressure using two pressure reduction valves.

The First Stage valve automatically reduces the High Pressure air to a lower pressure which fills the hoses; this is called Intermediate Stage Pressure (ISP). The ISP is routed by low pressure hoses to the primary second stage which reduces the ISP to breathing pressure, also called ambient pressure. The ISP is also routed in other low pressure hoses to BC inflators, Dry Suit fill valves, and to Alternate Air second stages.

The Second Stage, also called a Demand Valve, closes and stops air flow when the diver is exhaling, and opens to supply air when the diver inhales. These are very simple valves and very dependable.

-  We strongly recommend that the installation of accessories be done by Hollis trained personnel in an authorized service facility.

 **WARNING: Improper installation of accessories may result in injury or death.**

-  Additional information is supplied in this manual for cold water diving and diving using Nitrox.

FIRST STAGE

		DC1	DC2	DC3	DC7	H02	DCX
		 EN250:2000 >4°C	 EN250:2000 >4°C	 EN250:2000 >4°C	 EN250:2000 >4°C	 EN250:2000 >4°C	 EN250:2000 >4°C
SECOND STAGE	210	 EN250:2000 >4°C					
	212	 EN250:2000 >4°C					
	221	 EN250:2000 >4°C					
	321	 EN250:2000 >4°C					
	500SE	 EN250:2000 >4°C					
	LX100	 EN250:2000 >4°C					
	LX150	 EN250:2000 >4°C					
	LX200	 EN250:2000 >4°C					

 **WARNING:** Only scuba devices complying with EN250:2014 and marked with an “A” may be used as an escape device by more than one user at the same time.

 **WARNING:** Scuba devices configured for and used by more than one diver at the same time must not be used at depths greater than 30 m and in water temperatures less than 10°C.



## REGULATOR FIRST STAGES

**WARNING:** Failure to prepare your First Stage properly for use in harsh environmental conditions, such as being subjected to sediment or the possible buildup of ice, or salt crystals, may result in injury or death.

Operation of your first stage is not visible when using a regulator. The first stage converts the tank's high pressure air to an intermediate pressure of approximately 140 psi that can be handled by the regulator second stage to deliver a smooth flow of breathing gas upon demand (i.e., when you inhale). Intermediate pressure gas is also available for inflation of a BC or dry suit.

**WARNING:** Under no circumstances should adjustment of an Hollis first stage regulator be performed by anyone other than an Authorized Hollis Dealer. Doing so may cause failure underwater, resulting in injury or death.

### PREPARATION TO MOUNT A REGULATOR ON A CYLINDER.

Inspect the tank valve for contamination or damage, clean or replace as required.

If diving with a DIN inlet fitting, check the sealing o-ring on the regulator DIN inlet fitting (refer to Fig. 3a) for damage and replace if required.

Check the regulator inlet for contamination and clean or return to an authorized service facility if required.

**WARNING:** High pressure cylinders present a risk of injury or death. Care must be taken to avoid impact to the cylinder or valve. Always open cylinder valves very slowly. Always point the valve outlet away from persons when opening.

### MOUNTING A REGULATOR WITH A YOKE INLET FITTING (FIG. 1):

Turn the yoke screw/knob to remove the inlet protector cap and remove the inlet protector cap from the sealing face of the regulator inlet fitting. Check the sealing face of the regulator inlet fitting for damage and service as required.

Place the regulator on the valve so the regulator inlet sealing face mates with the o-ring on the valve face. Check the hose orientation to assure that the primary second stage hose will be routed over the diver's right shoulder.

Tighten the yoke screw/knob to seal the regulator to the cylinder, finger tight only.

If a pressure gauge is attached, assure it is not facing a person.

Slowly open the cylinder valve. It should take a few seconds to pressurize the regulator.

Once a regulator is pressurized, fully open the valve and turn clockwise 1/2 turn.

Check the pressure gauge, and while observing the pressure gauge, take a few breaths from the regulator. The pressure indicator should not move while breathing. Read the Diving in Cold Water section for cold water best practices, which prohibit test breathing.

### REMOVING A REGULATOR WITH A YOKE INLET FITTING (FIG. 2):

- After the valve has been depressurized, loosen the yoke/screw knob enough to remove the regulator.
- Dry the inlet protector cap and place it over the regulator inlet.
- Tighten the yoke/screw knob to secure to inlet protector cap.



Fig. 1



## MOUNTING A REGULATOR WITH A DIN INLET FITTING:

Remove the DIN inlet protector cap. (fig. 3)

Insert the DIN inlet fitting into the DIN valve and check the hose orientation to assure that the primary second stage hose will be routed over the diver's right shoulder.

If a pressure gauge is attached, assure it is not facing a person.

Turn the DIN hand wheel clockwise to seal, finger tight only.

Slowly open the cylinder valve, it should take a few seconds to pressurize the regulator.

Once the regulator is pressurized, fully open the valve and turn clockwise 1/2 turn.

Check the pressure gauge, and while observing the pressure gauge take a few breathes from the regulator. The pressure indicator should not move while breathing. Read the Diving in Cold Water section for cold water best practices, which prohibit test breathing. Regulator removal from a cylinder after the dive.

Turn the valve hand wheel clockwise to close the valve.

Press the regulator purge valve to depressurize the valve, confirm with the pressure gauge.

## REMOVING A REGULATOR WITH A DIN INLET FITTING

After the valve has been depressurized, loosen the DIN hand wheel and remove the regulator.

Dry the inlet protector cap and place it over the regulator DIN inlet.

Assure that the protective cover is secure on the DIN inlet. (Fig. 4)

## ADJUSTMENTS PRIOR TO ENTERING THE WATER.

If present, set the dive-pre-dive Venturi switch (Fig. 5/6\_a) to positive (+) or dive, and turn the breathing effort adjustment knob (Fig. 3/4\_b) counter clockwise until it stops and then turn it clockwise one turn.

## ADJUSTMENTS DURING THE DIVE.

The breathing effort adjustment knob (Fig. 5/6\_b) can be turned to change the breathing effort to suit the diver's comfort.

## ADJUSTMENTS AFTER THE DIVE.

If present, set the dive-pre-dive Venturi switch to - or pre-dive.

Press the regulator purge valve to depressurize the valve, confirm with the pressure gauge.



Fig. 3



Fig. 4



Fig. 5

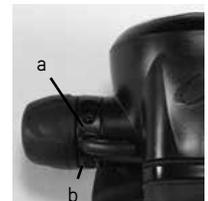


Fig. 6



## POST DIVE

After use, the regulator must be cleaned and dried before storage.

Before cleaning the regulator, assure that the inlet protector cap is in place. If equipped with a breathing effort adjustment knob, the knob should be turned clockwise until it clicks.

The best way to clean the regulator is to place the regulator on a cylinder, pressurize the regulator, then immerse the regulator and the cylinder in a container of warm fresh water and soak for 30 minutes or more.

If a cylinder is not available, assure that the inlet protector cap is securely in place and immerse in a shallow container of warm water and soak for 30 minutes or more.

After cleaning, wipe the regulator with a towel and hang to air dry.

Do not store the regulator with hoses tightly coiled.

## REPAIRS AND SERVICE

 **WARNING: DO NOT attempt to disassemble or repair the first or second stages, or to adjust the first stage. Doing so could cause malfunction while underwater resulting in serious injury or death. It will also void the regulator's limited warranty.**

In the event that any component of your regulator assembly requires any form of repair or service, return it to your local Authorized Hollis Dealer for professional service by a trained technician authorized to perform Hollis factory authorized service.

Once each year your complete regulator assembly should be inspected and serviced by an Authorized Hollis Dealer. More frequent service is recommended if you dive in severe conditions or more frequently than an average diver (see guidelines).

Annual Service consists of:

- Inspection
- Complete disassembly
- Thorough cleaning and evaluation of reusable parts
- Replacement of non-reusable parts
- Complete reassembly
- Final adjustment and testing

Costs for routine inspection and Annual Service are understood to be a normal part of operation, and are not covered by the regulator's limited warranty.

If Warranty Service is requested, or routine service parts are requested in accordance with a Registered Service Agreement, present the appropriate documents (i.e., card, receipts, and service records) to the Authorized Hollis Dealer when the regulator is delivered for service.



## ADDITIONAL SPECIFICATIONS FOR CONNECTING COMPONENTS TO HOLLIS REGULATOR FIRST STAGES

### Second Stage (Primary or Octopus):

Nominal Source Pressure = 140 psi (9.5 BAR) ± 5 psi (.5 BAR)

Maximum Source Pressure = 155 psi (11 BAR)

Thread Size = 3/8 - 24 UNF

Inhalation Effort = 1.1 to 1.3 ciw\* (cubic inches of water)

\* Delta 3 model = adjustable from 0.0 to 2.5 ciw

Exhalation Effort = 1.1 ciw\*

\* Omega II and Zeta models = 1.1 to 1.3 ciw

Flow Rate = 30+ scfm (standard cubic feet per minute)

Work of Breathing is equal to or better than USNavy and CEN

### Pressure Gauge or Pressure Transmitter:

Maximum Source Pressure = 5000 psi (350 BAR)

Thread Size = 7/16 - 20 UNF

## GUIDELINE FOR HOLLIS REGULATOR EQUIPMENT MINIMUM SERVICE INTERVALS

Due to variations of use and storage time that Hollis Regulator equipment may be subjected to, the Guidelines and defined Intervals given herein are subject to the discretion of the owner of the specific product. Inspection and/or service indicated must be performed only by an Authorized Hollis Dealer.

### Personally owned equipment used for recreational diving activity:

Equipment used 100 dives or less per year should be inspected at least once per year.

Equipment used more than 100 dives per year should be serviced after 100 dives prior to further use.

Equipment stored more than 6 months should be inspected/serviced as required, prior to use.

### Equipment used for dive training and/or consumer rental activities:

Equipment should be inspected prior to every use.

Equipment should be serviced at least once every 6 months regardless of use.

Equipment should be serviced after 100 dives prior to further use.

Equipment stored for more than 3 months should be inspected/serviced as required, prior to use.

### Regardless of ownership or intended use:

Equipment should be inspected/serviced if it displays any signs of leakage, malfunction, free flowing, any signs of deterioration, or improper performance or breathing effort.

Equipment should be inspected/serviced if the first stage inlet filter shows any sign of residue or discoloration.

Equipment must be inspected annually and serviced as needed or every other year, whichever comes first.

## CE CERTIFICATIONS AND MARKINGS

First Stage		Second Stage	
DC1	EN250:2000 >4°C	210	EN250:2000 >4°C
DC2	EN250:2000 >4°C	212	EN250:2000 >4°C
DC3	EN250:2000 >4°C	221	EN250:2000 >4°C
DC7	EN250:2000 >4°C	321	EN250:2000 >4°C
		500SE	EN250:2000 >4°C
		LX100	EN250:2000 >4°C
		LX150	EN250:2000 >4°C
		LX200	EN250:2000 >4°C



## RECORDS

First Stage Model \_\_\_\_\_

First Stage Serial # \_\_\_\_\_

Second Stage Model \_\_\_\_\_

Second Stage Serial # \_\_\_\_\_

Octopus Model \_\_\_\_\_

Octopus Serial # \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Hollis Dealer \_\_\_\_\_

Dealer Phone No. \_\_\_\_\_

## INSPECTION / SERVICE RECORD

First Stage Serial Number: \_\_\_\_\_

Second Stage Serial Number: \_\_\_\_\_

Octo Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Date	Service Performed	Dealer /



## HOLLIS WORLDWIDE

Hollis USA  
2002 Davis Street  
San Leandro, CA 94577  
Tel: 510/562-0500  
Fax: 510/569-5404  
Web: [www.Hollis.com](http://www.Hollis.com)  
E-mail: [info@Hollis.com](mailto:info@Hollis.com)

### OCEANIC EUROPE

Steinerne Furt 76  
D-86167 Augsburg, Germany  
Tel: +49 (0) 821-810-34220 Fax: +49 (0) 821-810-34229  
Web: [www.oceanic-eu.com](http://www.oceanic-eu.com)  
E-mail: [office@oceanic.de](mailto:office@oceanic.de)

### OCEANIC UK

Pelagic House  
Flightway Dunkeswell  
Honiton, Devon, EX14 4RB  
United Kingdom  
Tel: (44) 1404-891819 Fax: +44 (0) 1404-891909  
Web: [www.OceanicUK.com](http://www.OceanicUK.com)  
E-mail: [helpyou@oceanicuk.com](mailto:helpyou@oceanicuk.com)

### OCEANIC AUSTRALIA

4 Scotch Court  
Rosebud, Victoria 3939, Australia  
Tel: 61-3-5986-0100 Fax: 61-3-5986-1760  
Web: [www.OceanicAUS.com.au](http://www.OceanicAUS.com.au)  
E-mail: [sales@OceanicAUS.com.au](mailto:sales@OceanicAUS.com.au)

### OCEANIC ASIA PACIFIC

Oceanic Asia Pacific Pte Ltd  
35 Selegie Road Unit 03-10  
Parklane Shopping Mall  
Singapore 188307  
Tel: +65-6338-4568  
E-mail: [info@oceanicasia.com.sg](mailto:info@oceanicasia.com.sg)

### OCEANIC HAWAII and MICRONESIA

91-444 Komohana Street, No.  
Campbell Industrial Park  
Kapolei, Hawaii 96707  
Tel: 808-682-5488 Fax: 808-682-1068  
E-mail: [lbell@oceanicusa.com](mailto:lbell@oceanicusa.com)

