

version 1.3

DIVEX



MIL SERIES HANDBOOK

**DESIGNED FOR EXTREMELY COLD
AND HOSTILE ENVIRONMENTS.**

THANK YOU

FOR CHOOSING

DIVEX

Welcome to the World of Divex Diving



As an owner of a Divex MIL Series regulator you will experience years of carefree diving.

All our regulators are built entirely by hand, one by one, at our workshop in Stockholm, Sweden. Every regulator is designed and built to last a lifetime of commercial use.

As of 2011 the MIL Series is the latest incarnation of our regulator line, a line that stretches back over 40 years in time with continuous development.

At Divex, fieldworthyness in combination with high performance, are non-negotiable design criteria.

Every product that leaves our workshop is designed to work, and to work flawlessly.

Every Time.
Every Dive.

We congratulate you to a superb choice of regulator.

*Development Team of Divex
Stockholm, Sweden*

A background image of a diver underwater, silhouetted against a light, hazy water environment. The diver is positioned on the left side of the frame, facing right. The overall tone is sepia or aged, with a soft, diffused light source from the right, creating a gradient across the page.

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All new ideas are critically evaluated and constantly tested in the cold waters of Sweden. There are more than four decades of evolutionary improvement behind this regulator. It meets the demands of modern diving and the modern diver in terms of safety, performance, ease of use and maintenance.

The 960 MIL, as well as all Divex regulators, is equipped with an upstream second stage. The first stage design is equipped with a balancing chamber which ensures that the regulator is perfectly balanced at all times. The result is superior intermediate pressure accuracy.

Another unique feature of this regulator is its resistance to freezing. No antifreeze caps or other supplemental fittings are used. Exceptionally large diameters and low intermediate pressure, all leading to reduced airspeed while still maintaining an enormous flow rate. The design minimizes moving parts, providing a regulator that resists freezing even under the most extreme conditions.

The first stage design features six (960) or five (970) low pressure ports. Moveable second stage connections allow the diver a vast variety of different connection options. This means that there is a configuration available for virtually every diver and situation.

Both the first and second stages are venturi force boosted. This feature ensures that the diver has more than adequate gas supply at all times. The venturi force automatically increases with depth and therefore minimizes the negative effects of increased gas density. The deep diving characteristics these properties provide are also facilitated by the low intermediate pressure due to lower gas density. Most other brands use 8-10 bar = higher gas density at larger depths.

To keep exhaled air out of the divers line of sight the exhaust tee has been extended.

Since one of the greatest points of flow restriction is the bite area and consequently the front teeth, the MIL Series second stage is equipped with a specially designed mouthpiece that gives you a much more comfortable bite at the same time as it keeps your teeth from blocking the air path. This is our very own design.

IMPORTANT

- A dive regulator is considered as life support equipment, treat it as such.
- This regulator is designed for air-diving in non-contaminated waters.
- Rinse your equipment thoroughly after each dive with freshwater.
- Ensure your MIL Series regulator is serviced and passed annually by an Approved Divex Service Technician. All these technicians are issued a certificate – if in doubt contact Divex for a current list of Approved Divex Service Technicians in your area or visit www.divex.se.
- Ensure that you receive a copy of the service bill for your records.
- Ensure that the annual service is recorded in your regulator service record.
- If any questions or problems occur, please contact your local dealer or Divex directly. For a list of dealers, please visit www.divex.se.



Warning: Diving is a dangerous and potentially lethal activity. It is imperative that any person participating in any underwater activity is properly trained by a recognized training agency and is certified accordingly, prior to the use of this equipment. Also keep in mind that diving may require a certain degree of physical fitness. Always consult a physician at a regular basis. Use of this equipment by an untrained person renders any and all warranties null and void. Use of dive equipment by anyone who is not a trained or certified diver, or receiving training under the supervision of an instructor, could lead to serious injury or death.

Warning: Read this manual thoroughly. You must understand its contents, recommendations and instructions before using this regulator.

Warning: Intermediate pressure set from factory (5 bar) is the optimum setting for maximum performance of this regulator. Changing the intermediate pressure is prohibited and will decrease the performance of the regulator.

Warning: For your safety, follow service and maintenance instructions. Treat your diving equipment with highest care.

Warning: Never attempt to change or modify this regulator in any way, this could lead to serious injury or death and renders all warranties.

Warning: Never connect a Divex 1st or 2nd stage with any other manufacturers 1st or 2nd stage. Divex 1st and 2nd stage components are designed to work together as a unit. Furthermore, due to the low intermediate pressure in the system, connecting Divex regulator components with other manufacturers components is very dangerous and could lead to serious injury or death.

Warning: This regulator is compatible with breathing air that have a maximum oxygen content of 21%. The MIL Series regulator is not certified for enriched air gas mixes. Make sure that the gas you use for diving conforms to the applicable standards of the jurisdiction this equipment is used in.

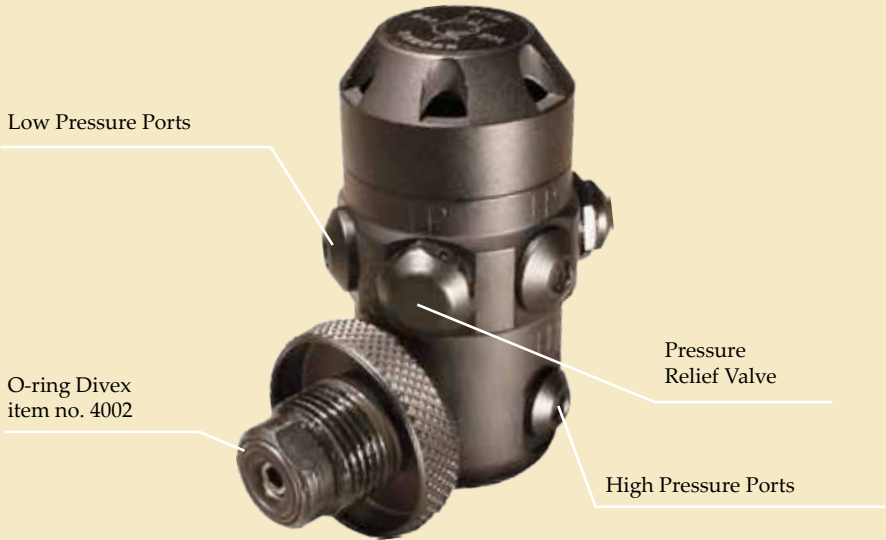
Warning: Use only Low Pressure regulator / octopus hoses manufactured by Divex.

Warning: You must never separate the regulator hose from the 2nd stage hose connection. Only Approved Divex Service Technicians are authorized to disassemble the regulator hose from the 2nd stage.

Warning: If buddy breathing is necessary, the second stage must be horizontal and the exhaust valves must be lower than the mouthpiece, otherwise water will not drain properly.

Warning: Use only Divex original mouthpiece for maintaining best breathing performance.

REGULATOR 1ST STAGE



Protection Cap



Hose for backup 2nd
stage (octopus)

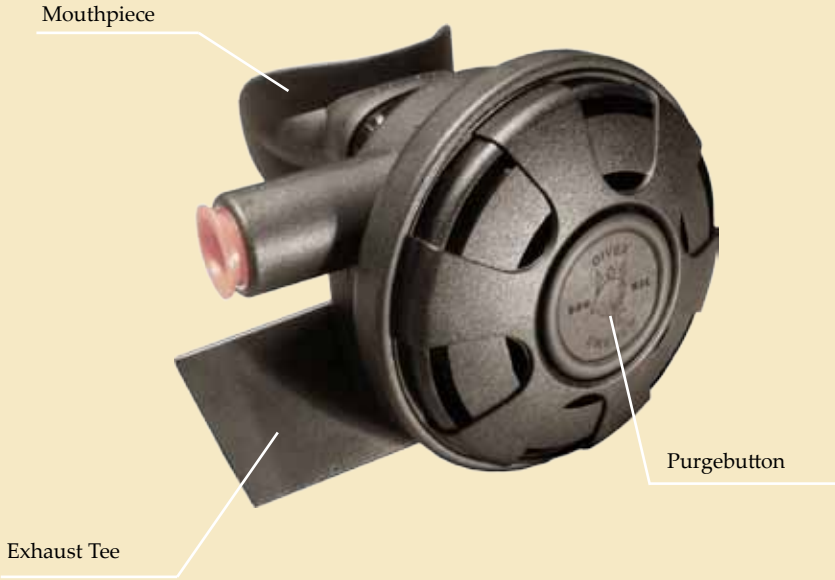
Hose for primary 2nd
stage

IMPORTANT INFORMATION

The MIL Series regulator components are specially designed to work together as a system. The regulator hose socket for the 1st stage has a special design in order to enable the Deep Diving Boost Effect. Only use regulator hoses manufactured by Divex.

Warning: Never use an octopus hose without having a regulator hose connected to the same 1st stage. This may result in severe lack of performance of the whole regulator.

REGULATOR 2ND STAGE



O-ring DIVEX
item no. 4040

O-ring DIVEX
item no. 4001



1st stage

Valve type:	Upstream piston valve Venturiassisted
Maximum primary pressure:	300 bar (DIN-connection)
Connection – Incoming:	DIN-connection (G5/8")
Intermediate pressure:	5.0 bar above ambient pressure
Connection – Intermediate:	
Low pressure	
Port thread	6 or 5 x M13x1
Thread with adaptor	2 x UNF 3/8-24
High pressure	
Port thread	2 x UNF 7/16"
Other features	Pressure relief valve

2nd stage

Valve type:	Venturiassisted double action upstream tilt valve (Double action = tilting movement and axial movement of valve).
Exhaust:	Dual outlet membranes.
Other features:	Swivel hose connection. Hose in from right side.

Hose

Hose type:	Reinforced rubber hose with protection sleeve. (80 cm standard)
Connection 1st stage:	M13x1
Connection 2nd stage:	M14x1 swiveling
Working pressure:	20 bar
Burst pressure:	80 bar

CERTIFICATION

Certifications and restrictions

Divex MIL Series regulators should be used with air that conforms to at least EN 12021.

This regulator is tested to the standard EN 250:2000.

CE approval by

Notified Body 1380
VOP-026 Sternberk, s.p.
divize VTUPV Vyskov
V. Nejdeleho 691
682 003 Vyskov
Czech Republic

Although every Divex regulator is carefully inspected prior to shipping, make sure you examine your regulator thoroughly when you first unpack it. Should obvious defects or damage be noticed, please return the regulator and all accessories along with proof of purchase to the dealer where you made your purchase.

Warning: Even though every regulator is carefully inspected and tested at the factory you must never dive with a regulator that you suspect is defective.

Before your first dive, take the time to carefully set up the location of the regulator hoses, inflator hoses and pressure gauges according to your needs. Make sure your DIVEX regulator does not interfere with other equipment. Take extra care to ensure that no hoses can become entangled in your harness or BCD.

The 1st stage features 6 or 5 M13x1 Low Pressure ports. The first stage will have 2 of the ports supplied with adaptors that accept UNF 3/8"-24.

One M13x1 port will accept a second stage hose and one port must be dedicated to the supplied Pressure Relief Valve. The adaptors are designed so that they can be allocated freely according to your needs.

If a Backup 2nd Stage is to be part of the configuration, its hose socket will fit into any of the Low Pressure ports. The Backup 2nd Stage hose has a unique socket that disables the Deep Diving Boost Effect in order to retain the deep diving characteristics for the Primary 2nd Stage.

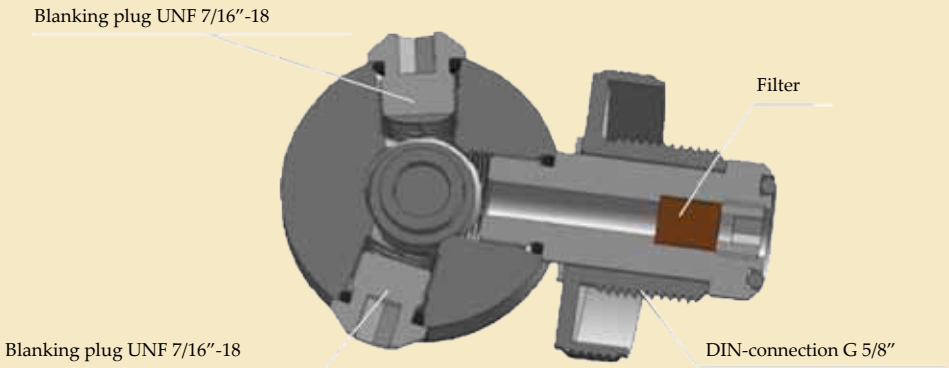
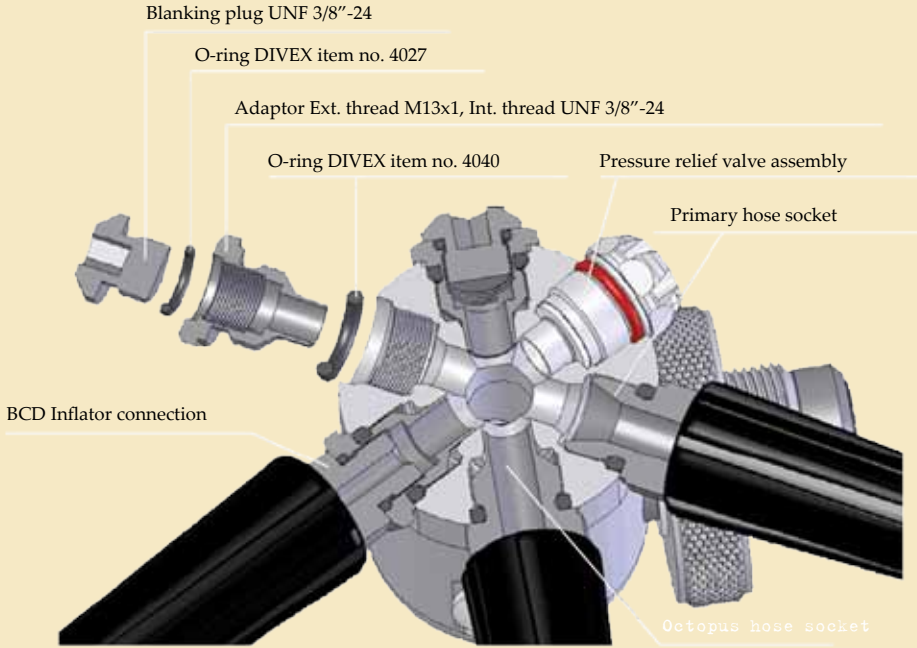
Since the second stage is an upstream valve it's vital to have a Pressure Relief Valve fitted to this regulator. One of the six or five Low Pressure ports must have a Sivex Pressure Relief Valve installed at all times. This valve must not be substituted with any other pressure relief mechanism.

Warning: A MIL Series regulator must never be used under any circumstance without the supplied Pressure Relief Valve, this could lead to serious injury or death.

Warning: If the Pressure Relief Valve is activated, abort the dive immediately.

The regulator features 2 High Pressure ports UNF 7/16". Any standard High Pressure hose or transmitter can be attached to either of these ports. We recommend using the port where you have the least amount of interference and bending of the hose.

FIRST STAGE CONNECTIONS



PREPARATION - CHECKLIST

- Determine which ports will provide the best orientation for your primary and backup 2nd stages. Tighten to approximately 0,2 Nm (20 inch pounds) with a 16 mm wrench. Make sure that you have the right hoses for your primary and backup 2nd stage.
- Inflator hoses must be connected to the 1st stage using the provided adaptors and tightened to no more than 0,2 Nm (20 inch pounds) with appropriately sized metric wrenches.
- Make sure that the O-rings not were damaged during the assembly, and that all other connections are tight and snug.
- Seal the intake of the 1st stage by pressing a finger over the High Pressure DIN connection and inhale through the 2nd stage(s) in order to assure that there is no leakage.
- Exhale through the 2nd stage(s) to ensure the exhaust functions works properly.
- Connect your Divex regulator to the cylinder valve and pressurize the regulator carefully. Check for any leakage.
- Purge the 2nd stage(s) several times to ensure they function properly, and that no debris has become lodged in the unit during shipping or storage and that the regulator holds air without any leakage.
- Breath deep breaths through the mouthpiece of the 2nd stage(s), and ensure there is no freeflow.
- You are now ready to dive with your DIVEX regulator.

Warning: If any leakage or malfunction occur, abort the dive immediately.

Note: When alternating hose locations, always use the proper size metric wrenches. The use of adjustable style wrenches will mar the finish and round corners of fittings, it may even unduly stress swaged fittings.

If you should experience the regulator to give violent airflows, you can very carefully move the Ejectorarm clockwise (1-2 mm). The Ejectorarm can be seen by looking into the second stage through the mouthpiece. The general setting is “one-o-clock”.

Diving

This regulator is tested to a depth of 50 metres. Diving deeper than 50 metres exceeds the limitations of EN 250:2000 approval.

When buddy breathing, the exhaust valves must be lower than the mouthpiece while switching, otherwise the 2nd stage might not clear thoroughly when exhaling.

When entering water, always have your primary regulator in your mouth, while having the backup 2nd stage readily available.

Turn the mouthpiece downwards to avoid a freeflow when entering the water. To stop a freeflow, block the mouthpiece with your hand or two fingers.

Warning: If any leakage or malfunctions should occur or if buddybreathing is needed, abort the dive immediately.

Warning: If the Pressure Relief Valve is actuated during diving, abort the dive.

Cold water diving

The MIL Series regulator is an outstanding coldwater regulator, no freezcap or other addition is necessary due to the regulator design.

When coldwater diving, follow these recommendations:

- Avoid unnecessary breathing and purging of your regulator above the water surface.
- Avoid getting water into the 2nd stages above the surface.
- It's crucial to make sure that there has been no entrance of water into the regulator. Water in a regulator due to e.g. inappropriate washing increases the risk of freezing.

DIVING CHECKLIST

1. Check (and clean if necessary) the connection O-ring, filter and sealing surface on the regulator.
2. Firmly connect the 1st stage to the cylinder valve.
3. Open the cylinder valve slowly to avoid pressure shocks.
4. Perform a breathtest on the regulator by inhaling and exhaling. Check for air leakage.

If a small airleak from the 2nd stage occurs, breath or purge the 2nd stage. If it's still leaking, the settings are changed and service is required.

Warning: Do not dive with any regulator that is leaking or free flowing.

Note: When this check list is complete, the regulator is ready to be used for diving. Do not neglect other checks and procedures, such as buddy control.

Your regulator must be rinsed with clean freshwater after every dive.

When rinsing, pressurize the regulator in order to prevent water from entering.

Warning: If even small amounts of water enter the regulator, the regulator must be serviced before diving. Water content in the regulator may produce sediments which increases the risk of freezing.

Use only water and household dish detergent to clean any portion of your Divex regulator or any of its components.

After rinsing, purge your regulator thoroughly in order to ensure that any water that may have found its way into the unit does not remain in the regulator.

To remove the regulator from the cylinder, close the cylinder valve and purge out the air from the regulator. Disconnect the DIN fitting.

Dry, with a clean lint free cloth, the area around the DIN connector, and affix the protective cap at the 1st stage. Always use the protective cap on the DIN connection when the regulator is not in use.

Warning: Do not store the regulator in direct sunlight or in extreme temperatures.

Note: Your regulator should be serviced annually, even if it has not been in use since the last service, in order for the lifetime warranty to be valid.

Divex warrants this regulator against defects in materials and workmanship for the lifetime of the original owner. Service and Maintenance (annual or total) must without exception be performed at least every 12 (twelve) months by an Approved Divex Service Technician for the warranty to be valid. This warranty does not cover regulators purchased from others than Authorized Divex Dealers.

This manual contains Warranty Applications: PT 1 & 2. These Warranty Applications must be filled in thoroughly and sent to the Divex within 30 (thirty) days from purchase.

If during the period of the warranty, this regulator proves defective under normal use and service due to defective materials or workmanship, Divex will, at its option, either repair or replace this regulator on the condition stated here after.

Conditions

1. Warranty will be granted only with a valid warranty card, properly issued to the end user by an Authorised Divex Dealer. The card must explicitly state the regulators serial number along with date of purchase. DIVEX reserves the right to refuse warranty service if this information has been removed or changed after the original purchase from the Dealer.
2. The warranty is not applicable in cases other than defects in material, design and workmanship.
3. The warranty does not cover the following:
 - Periodic checks, maintenance, repair and replacement of parts due to normal wear and tear.
 - Damage to this regulator resulting from:
 - Abuse or misuse, including but not limited to the failure to use the regulator for its normal purpose or in accordance with the instructions of Divex on use and maintenance of the regulator.
 - Repair performed by non-authorised service workshops, opening of the unit by a non-authorised technician.
4. The regulator will never be considered defective in materials, design or workmanship if it needs to be adapted, changed or adjusted in order to conform to the national or local technical or safety standards in force in any country other than the one for which the regulator was originally designed and manufactured. This warranty shall not reimburse such adaptations, changes or adjustments, or attempts to do so, whether properly performed or not, any damage resulting from them, nor adaption, change or adjustment to upgrade the regulator from its normal purpose as described in the manual without the prior written consent of Divex.
5. Repair or replacement under the terms of this warranty may be fulfilled functionally equivalent reconditioned units. Replaced faulty parts or components will become the property of Divex.
6. This warranty does not affect the owners statutory rights, nor the owners rights against the dealer arising from their sales / purchase contract.

Your regulator must be serviced by an Authorized Divex Service Technician at least annually. All Approved Divex Service Centers are listed at www.divex.se.

This regulator must not be serviced or disassembled by anyone other than an Approved Divex Service Technician. This regulator is considered as life support equipment. Treat it as such.

Proper servicing and maintenance is essential for your safety. A service record label is provided separately.

There are two different services:

Annual service

- Pretest of the regulators performance.
- Disassembly of the 2nd stage(s).
- Washing of all the 2nd stage(s) parts incl. the hose(s).
- Dry cleaning with compressed air.
- Parts deemed unfit for proper function will be replaced.
- Assembly of the 2nd stage(s).
- Control of the intermediate pressure (1st stage).
- Adjustments and pressure setup of the 2nd stage(s).
- Breathtest.
- Leak test of the whole regulator.
- Confirmation of regulator performance.

Full service

Replacements of parts as follows:

- Pretest of the regulators performance.
- Total disassembly of the regulator.
- Degreasing of all parts.
- Washing of all metal parts in acid and alcalic baths.
- Washing of all parts in industrial soap and water.
- Dry cleaning with compressed air.
- All o-rings and sealing elements are replaced.
- Parts deemed unfit for proper function are replaced.
- All threads are lubricated.
- Setup of the intermediate pressure.
- Assembly of the 2nd stage(s).
- Control of the intermediate pressure (1st stage).
- Adjustments and pressure setup of the 2nd stage(s).
- Breathtest.
- Leak test of the whole regulator.
- Confirmation of regulator performance.

Reminder: Parts wear out and need to be replaced.

WARRANTY RECORD

Filled in by Dealer

Date of purchase:

Regulator model:

Serial no. 1st stage:

Serial no. 2nd stage:

Serial no. Octopus:

Dealer stamp:

Dealer signature:

DO NOT SEND THIS COPY !

This information should be saved for yourself with your regulator.

If the regulator is resold by the original owner, please make sure that the new owner sends in the current owner information to Divex.

DIVEX KB
Box 12022
102 21 Stockholm
SWEDEN

Filled in by Dealer

Date of purchase:

Regulator model:

Serial no. 1st stage:

Serial no. 2nd stage:

Serial no. Octopus:

Dealer stamp:

Dealer signature:

Filled in by Divex

Date of Arrival:

Warranty Commitment:

Signature:

OWNER INFORMATION

Full name:

Address:

Zip code and City:

Country:

Tel incl area code:

E-mail:

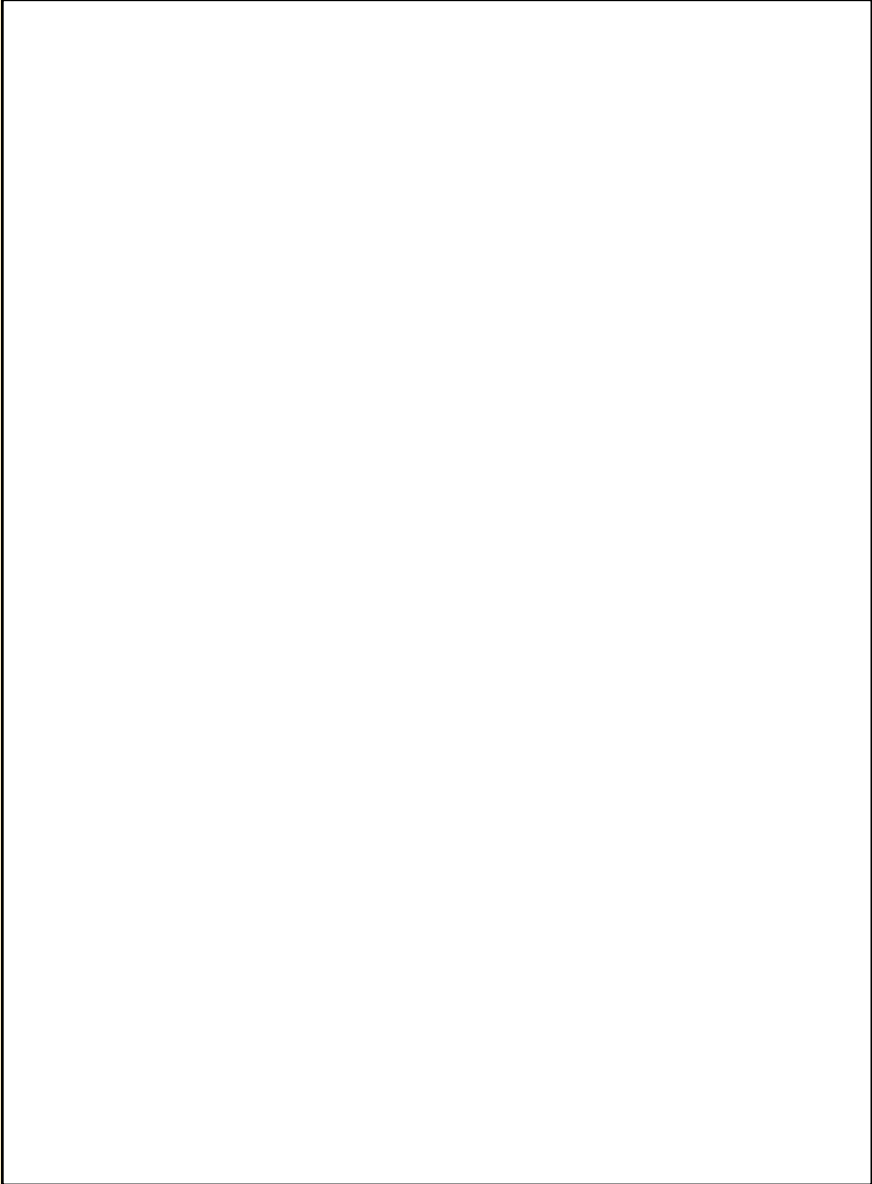
IMPORTANT!

This form must be filled in thoroughly for the warranty to be valid.

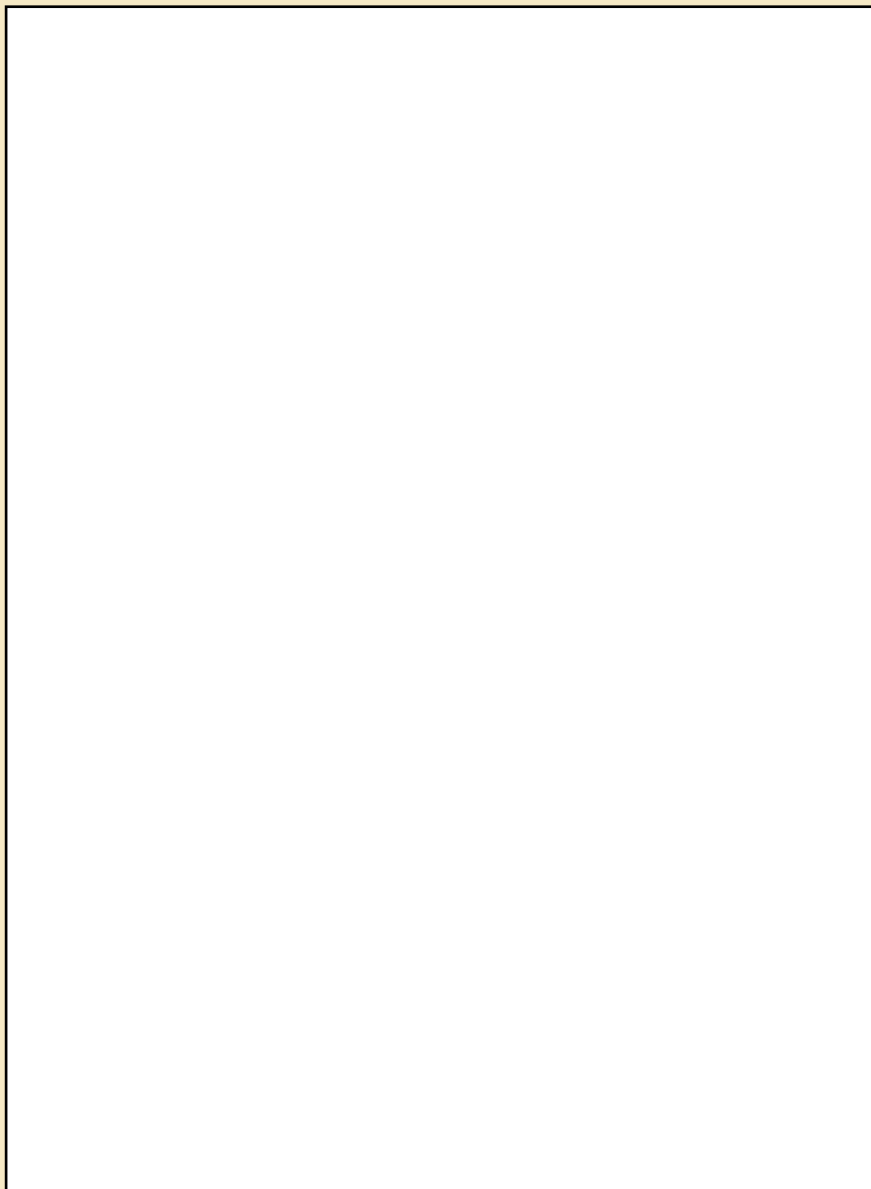
Yes, I want to receive information about new products and updates.

No, I only want this information to be used by DIVEX to keep track of my regulator for safety reasons.

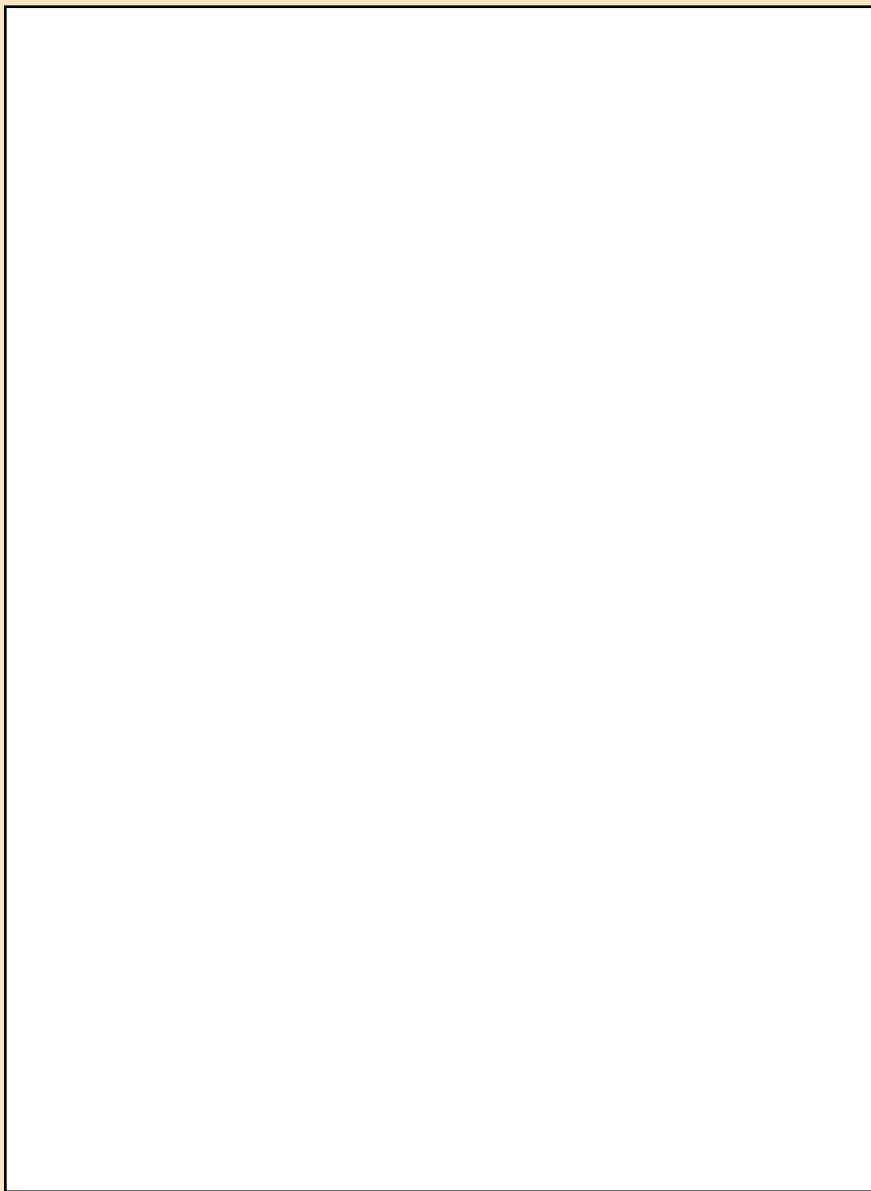
NOTES



NOTES

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MIL SERIES

UNIQUE. DISCRETE.

WWW.DIVEX.SE