

NEPTUNE SPACE PREDATOR FULL FACE MASK  
OWNER'S MANUAL



OCEANREEF<sup>®</sup>  
connecting divers

For nearly 60 years, OCEAN REEF has been involved in the underwater diving industry. We have contributed much to this industry, from fins and snorkels to the most modern systems of underwater communication. Through the spirit of intrepid pioneers, brilliant inventors, passionate divers, and dynamic entrepreneurs, OCEAN REEF has been able to turn dreams into reality in the underwater world.



OCEAN REEF USA



OCEAN REEF ITALY

In order to limit our paper consumption, and as a part of our environmental friendly and responsible approach, OCEAN REEF prefers to put user documentation online rather than print them out.

Please refer to our web site:  
[www.oceanreefgroup.com](http://www.oceanreefgroup.com)



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# NEPTUNE SPACE PREDATOR OWNER'S MANUAL

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The DPLs (Individual Protective Device) scrutinized in these operating instructions have undergone every possible test for design validation by:

Germanisher Lloyd  
Vorsetzen 35  
20459 Hamburg—Germany  
Notified Body n.: 0098

### **Full face Mask Neptune Space and SL35TX**

comply with CE Certification in accordance with 89/689/EEC directives under the UNI EN250:2000 standard rules for underwater activities , including cold water use.

### **PREMISE**

The DPLs in question are a separate part of the self-contained underwater breathing apparatus, commonly known as SCUBA.

They comply to European regulation EN-250:2000. They can be stored at a temperature of between 32° and 140° F. It is necessary that this equipment only be used by fully trained, certified divers.

**Operating restrictions:** The DPLs in question cannot be used with diving products without the CE mark and the air supply must meet the requirements of EN 12021. Incorrect use, non-original spare parts and insufficient or poor maintenance, besides being dangerous to the health and life of the user, releases **MESTEL Safety** of any responsibility and nullifies the warranty.

The series of DPLs described in the following manual are the following:

**NEPTUNE SPACE with 1st stage SL 35TX: full face mask with integrated 2nd stage regulator and SL 35 TX 1st stage.**

### **WARNINGS, CAUTIONS, NOTES**

Pay special attention to information provided in warnings, cautions, and notes, that is accompanied by these symbols:



A **WARNING** indicates a procedure or situation that, if not avoided, could result in serious injury or death to the user.



A **CAUTION** indicates any situation or technique that could cause damage to the product, and could subsequently result in injury to the user.



A **NOTE** is used to emphasize important points, tips, and reminders.

# NEPTUNE SPACE PREDATOR

## INTRODUCTION



The Neptune Space PREDATOR mask was developed through experience gained from producing products for military personnel protection. All designs and materials were tested to obtain superior performance and increased safety.

The front cover of the mask's state-of-the-art integrated regulator is made of laser-cut ANTICORODAL®. This part has a light gold finish which recalls the helmets of the first deep water divers. The adjustment knob and its internal trim screw are made by stainless steel AISI 316 to provide the maximum strength.

A stainless steel AISI 316 frame and six stainless steel fast-release buckles not only give the mask a sturdy feeling, but also provide an unbreakable framework. Each part is laser-cut and hand finished.

**The high quality of the product does not allow the user to ignore the problems connected with the correct use of the product and the rules for safe diving.**



The Space PREDATOR mask is Nitrox compatible up to 40% of oxygen. (NOT valid in the European Countries)

## GENERAL PRECAUTIONS AND WARNINGS

**Before using this mask, you must have successfully received training and certification in the technique of SCUBA diving from a recognized certification agency (or any U.S. Military or government operated diving school). Use of this equipment by a person who is not certified by a recognized agency shall render all warranties, express or implied, null and void.**



Use of SCUBA equipment by uncertified or untrained persons is dangerous and can result in serious injury or death.



This mask is not configured for commercial use with surface supplied air. Always pressurize the Neptune Space RAPTOR gradually by opening the cylinder valve SLOWLY.



**NEVER** lubricate any part of the Neptune Space PREDATOR or cylinder valve with any lubricant. Lubrication must only be performed by an OCEAN REEF trained technician.



**DO NOT** apply any type of aerosol spray on the Neptune Space. Doing so may cause permanent damage to certain plastic components, including the second stage housing.



**DO NOT** leave a cylinder standing unsecured with the Neptune Space PREDATOR attached to the valve. Doing so may cause permanent damage to the Neptune Space and cylinder valve if the cylinder falls over against the first stage.



Factory prescribed service for this product must be performed at least once annually by a factory trained OCEAN REEF Service Technician who is employed by an Authorized OCEAN REEF Dealer. Repair, service, disassembly, or first stage adjustment must not be attempted by persons who are not factory trained and authorized by OCEAN REEF.



**Neptune Space PREDATOR is not CE certified to be used with NITROX!**



The Neptune SPACE might be used with NITROX gasses up to 40% O<sub>2</sub>. It is always recommended to use cleaned air from specified cleaned air source. SL35TX 1st stage can't be used with NITROX. Always use NITROX compatible 1st stages when NITROX is required.

**Note:** not valid in the European Union.



When diving in cold water (below 45° F, or 7° C), you must have received training and certification in the techniques of cold water diving from a recognized training agency.

Before connecting the regulator to the tank, check the following:



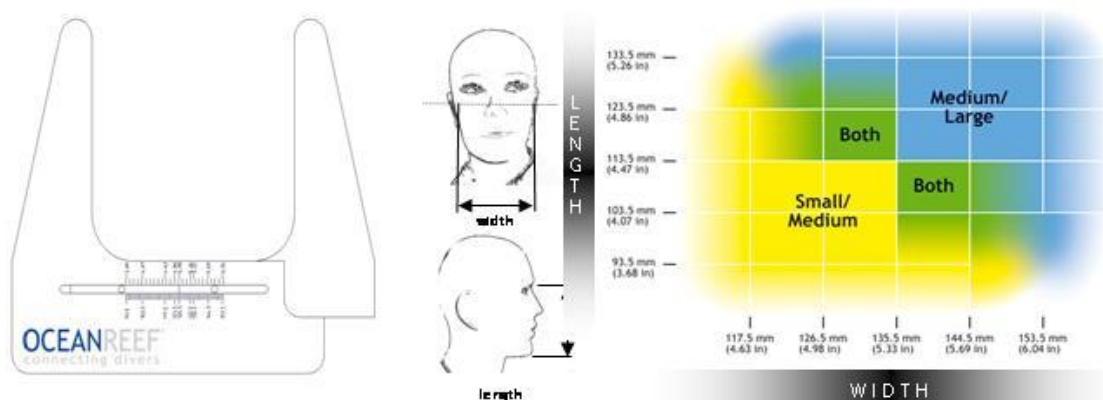
- Check that the O-ring on the tank is in place on the valve and is in perfect working condition (INT WITH Yoke nipple CGA 850 version only). If it is damaged or missing, it should be replaced.
- Verify that the instrumentation and accessories have been installed correctly.

## WHAT'S THE CORRECT MASK SIZE?

The Neptune Space PREDATOR is available in two sizes, Small/Medium and Medium/Large.



In order to determine whether a diver should wear a S/M or M/L mask, OCEAN REEF has designed a Mask Measuring Kit. The sizing and measuring system were designed in accordance with the official measuring procedure used in the Los Alamos Scientific Laboratory Charts at the SBCCOM Mask Fit Facility-Aberdeen Proving Ground (Maryland, USA).



Before purchasing a mask, the customer may use the calliper to take two simple face measurements. Using the Full Face Mask Size Recommendation Chart, he or she can evaluate the size category into which the measurements fall. There are three different size categories on the chart: Small/Medium, Both, & Medium/Large. If the measurements fall within the both category, then the diver should technically be able to wear either full face mask (M/L or S/M), and in that case should try on a mask to select the best fit. Please note that the chart boundaries fade. The fading areas represent less common face measurements. It is very likely that a mask will still fit comfortably even if measurements are located in these fading areas.

## USE OF CONVENTIONAL REGULATORS

A special adapter allows the connection of several kinds of regulators. The adaptor is available in two sizes, medium (standard) and small. This adapter fits in place of the surface air valve (code 33020: S, code 33021: M).

## USE OF OVER-INJECTED REGULATORS

Over injected regulators have a diaphragm with an inhalation cracking pressure below zero. These regulators “free flow” easily, and as a result, should not be used with the Neptune Space PREDATOR or other Neptune masks.

Changes in regulator performance can also be caused by the different positions assumed during a dive; **the use of a regulator with flow adjustment is recommended.**



When descending the adjustment knob must always be turned on to get the proper air flow. Do not turn off the adjustment knob while descending.

## 1ST STAGE SL 35 TX



The Neptune Space PREDATOR may be used with this high performance, balanced diaphragm 1st stage with anti-freeze kit. The first stage has adjustable medium pressure and is made of brass with a satin finish body, stainless steel piston, Teflon seat, and stainless steel spring.

It is available with the following characteristics:

- Standard connection 200 bar (code 9922)
- DIN connection 300 bar (code 9923)
- 2 high pressure ports 7/16 -20 UNF
- 4 Medium pressure ports 3/8-24 UNF
- Flow rate of approx. 4800 l/m at 140 bars

## AIR CIRCULATION

The Neptune Space PREDATOR air circulation system is designed to minimize fogging and reduce the amount of CO and CO<sub>2</sub> build-up. The silicone oral-nasal pocket is built with two one-way valves through which air is inhaled.



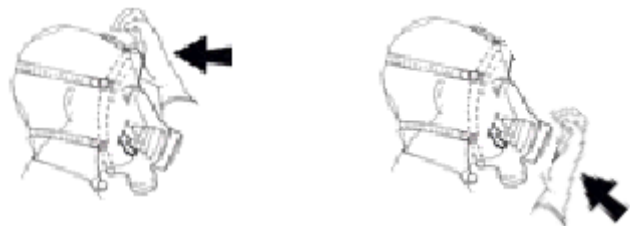
Exhaled air is directed through a valve under the oral-nasal pocket, limiting the mixing of this air (containing high amounts of CO<sub>2</sub>) with the fresh air from the regulator. The direction of exhaled air is controlled by a four position exhaust valve. The adjustable valve allows exhaust to flow in four directions:

- A—to the left
- B—to the right
- C—both (direction of least resistance)
- D—no exhaust



Position D, the “off” position is used when the diver is in a “head-down” position which, due to pressure on the second stage, causes the regulator to free flow. Placing the exhaust valve in the off position causes pressure to build in the mask, preventing free flow and returning the system to an “air on demand” situation.

## EQUALIZATION



The Neptune Space PREDATOR is equipped with a simple patented internal device to close the nostrils and allow underwater equalization. By loosening the screw it is possible to move the plate up and down to find the most comfortable position to equalize. The silicone caps may easily be turned. By turning the caps you may adjust them to fit a larger or thinner nose (distance between the nostrils). Two additional plastic inserts are supplied. By removing the silicone cap it is possible to install the insert in the plate (cap post) increasing the distance of the cap from the plate and allowing it to fit closer to the nostril. This is sometimes necessary for flatter noses or when a hood is used under the mask.

To close the nostrils for equalization, simply press the top part of the mask (or push on the regulator front cover especially if using the visor light). The two equalization silicone caps will move upward and close the nostrils.

The silicone caps when correctly positioned should allow breathing through the nose and close the nostrils only when pressing the top part of the mask to equalize

## QUICK STEPS

### BEFORE DIVING

1. Adjust the equalization system to fit perfectly your need and test it on your face until you feel completely comfortable.



2. Don the mask (make sure surface air valve or octopus port is open to allow air in if installed).
3. Completely pull down the central part of the strap and adjust the 6 straps, middle ones first, than bottom ones and finally the top ones.



4. With the LP hose plugged in press the purge button of the 2nd stage and check that the air flows freely. Release the button and check that air stops flowing.



5. Close surface air valve before descending (if installed).



### DURING A DIVE

1. Breathe normally through your nose or mouth, whichever is most comfortable.



2. To equalize, press the front part of the regulator or the top of the mask (without pushing the purge button).

**For more information watch the tutorial videos on [www.oceanreefgroup.com](http://www.oceanreefgroup.com)**

#### AFTER DIVING



1. Carefully rinse the regulator with fresh, gently flowing water. **Do not press the purge button.**
2. Make sure the dust cover is firmly in place to keep water out of the first stage.
3. Attach the regulator to the tank after rinsing and press the purge button for 10-15 seconds to purge any water or debris from regulator.
4. When storing equipment, do not tightly loop the hoses and avoid pulling on them when the regulator is attached to the tank. Do not bump the Neptune Space. If you do, check for any damage.
5. When storing the mask, turn the adjustment knob counterclockwise.



**OCEAN REEF highly recommends that you practice in a pool before using your mask in open water.**

#### PURGING

The mask can easily be purged in the event that water enters the mask by pressing the exhaust button on the second stage. The water will flow out of the lower valve. The diver should be facing straight ahead, with the exhaust valve being the LOWEST part of the system.

#### SERIAL NUMBER

The regulator housing is marked with a serial number that identifies the product for warranty purposes.



### MAINTENANCE AND CLEANING

TYPE OF ACTION	BEFORE A DIVE	AFTER A DIVE	EVERY YEAR	EVERY 2 YEARS
RINSE		X		
GENERAL FUNCTION CHECK	X			
REGULATOR SERVICING			X	
MASK SERVICING				X

For optimum longevity of the mask and the proper functioning of its parts we recommend rinsing the mask thoroughly in fresh water after every use. DO NOT clean the visor with any abrasive materials. We recommend drying the visor, especially the inside parts, with a soft, clean cloth.

### STORAGE

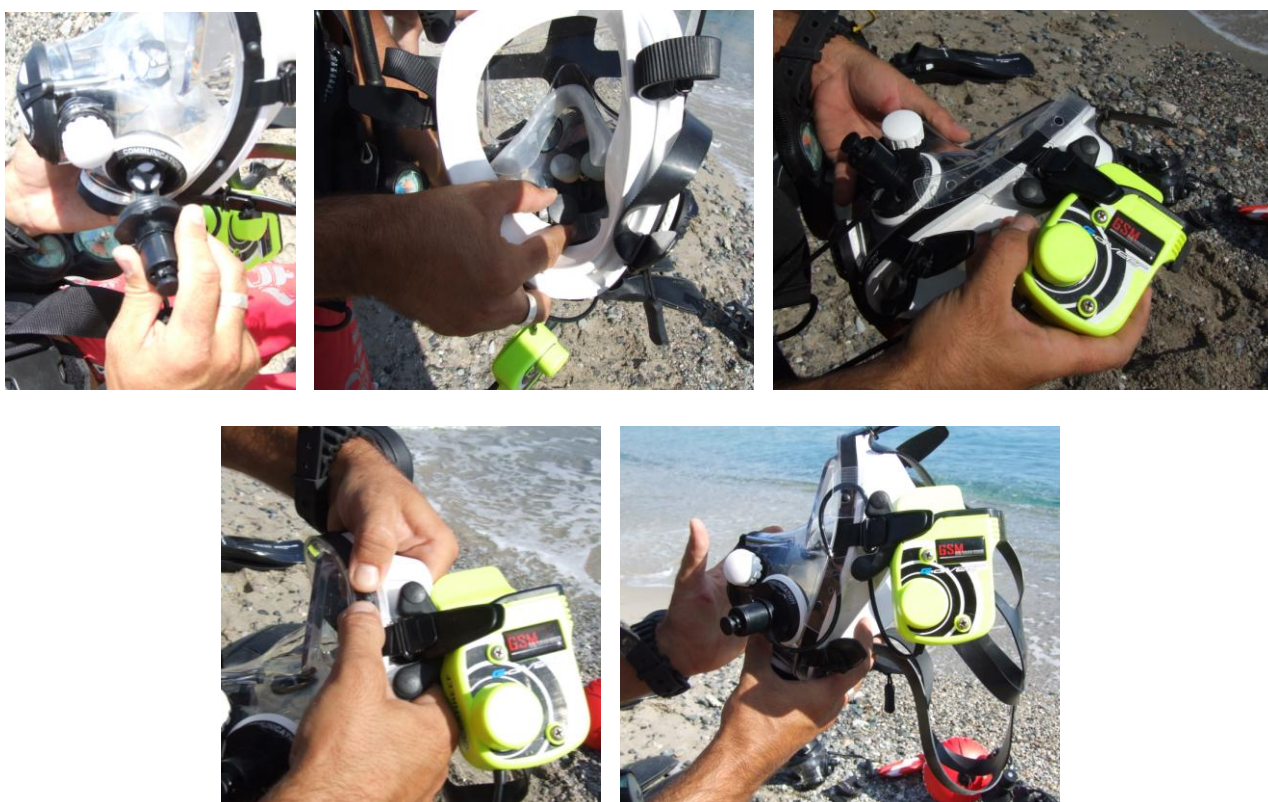
The mask must be stored in a dry place with no direct sunlight and far from sources of heat. Do not store it at temperatures below -4°F (-20°C) or above +122°F (+50°C). We suggest you use the AC-4 visor protector and the carrying bag included in the package when storing the mask to avoid accidental abrasion (see section 2.4.3).

## COMMUNICATION

### COMMUNICATION APPARATUS

The Neptune Space PREDATOR may be used with various communication systems between divers and/or the surface. It is compatible with most underwater communication systems if supplied with the proper adapter and/or DIN connection. Information may be obtained from your OCEAN REEF dealer.

### INSTALLING THE UNDERWATER COMMUNICATION SYSTEM



The microphone support (PTT) is screwed into the connection located on the left side of the mask and identified with the words COMMUNICATION SYSTEM. The COM unit is installed on the left side of the head harness attaching the Neptune Assembly Connection System (NACS) on the 2 visor supports as per NACS/COM unit instructions.

**For more information watch the tutorial videos on [www.oceanreefgroup.com](http://www.oceanreefgroup.com)**


### USE OF THE UNDERWATER COMMUNICATION SYSTEM

For correct use of the underwater communication system read the specific manual.

## TROUBLESHOOTING

### VISOR FOGS

#### **Warning: Fogging is a Signal That Mask Is Not Positioned Correctly On Face!**

- 
- a) orinasal mask positioned incorrectly or pinched.
  - b) orinasal mask improperly seated—check that it is properly tucked around communication port and exhaust valve.
  - c) Top harness straps pulled too tightly—loosen.
  - d) Bottom harness straps not pulled tight enough.

### AIR LEAKS

- a) Hair/hood trapped inside mask skirt.
- b) Sewing on hood—skirt will not necessarily seal on all hoods, especially if sewing on hood is where mask skirt fits.
- c) Straps pulled too tightly or improperly.

### REGULATOR FREE-FLOWS

- a) Adjustment knob opened too much—regulate by closing knob in face-down position.
- b) Purge button has sand/pebbles stuck inside.
- c) Regulator needs servicing \*.
- d) 1st stage intermediate pressure not  $140\pm 3$  psi / 9.5→9.8 bar.

### REGULATOR HARD TO BREATHE THROUGH

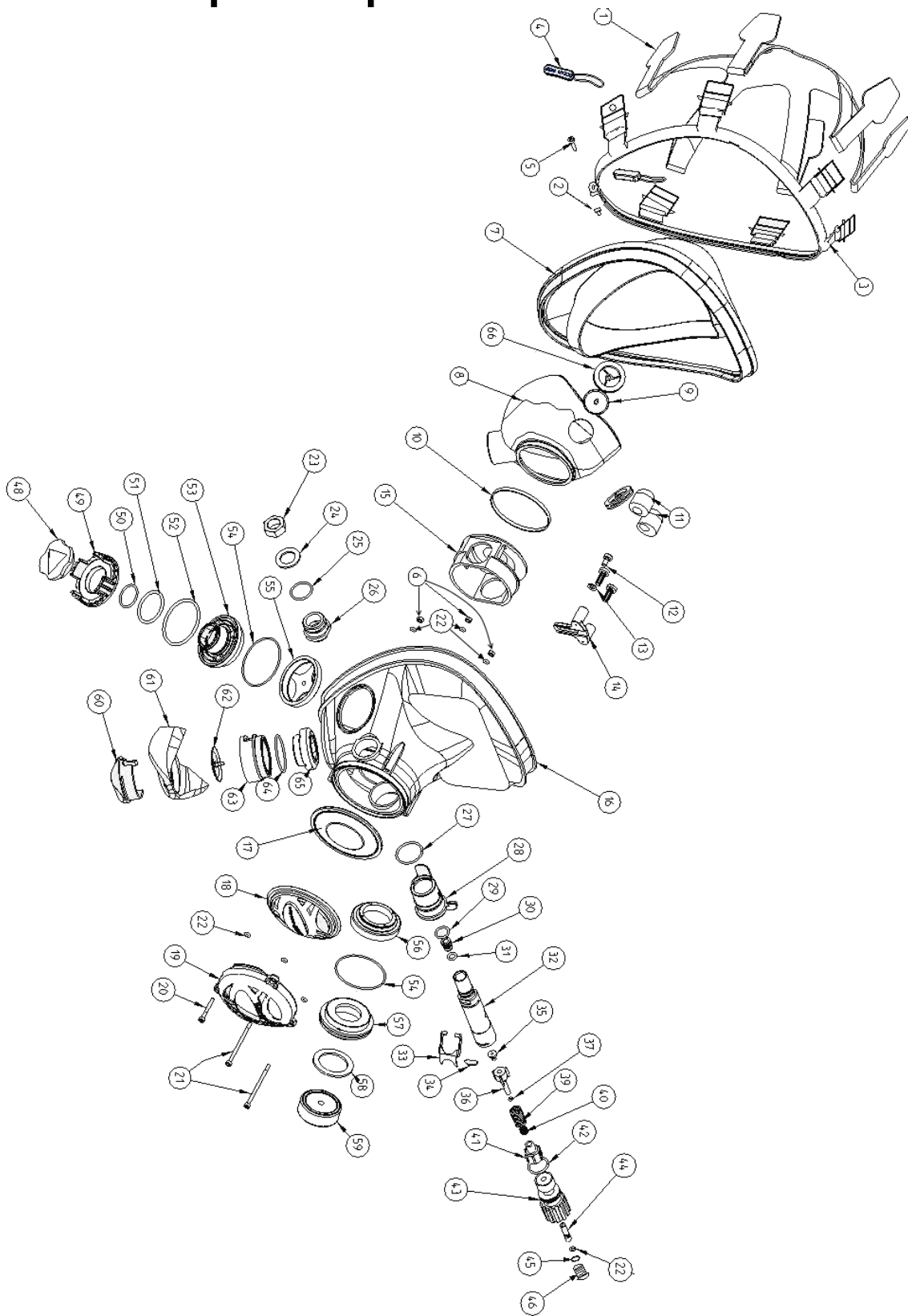
- a) Adjustment knob closed too much—regulate by opening knob in face-down position.
- b) Regulator needs servicing \*.
- c) 1st stage intermediate pressure not  $140\pm 3$  psi / 9.5→9.8 bar.

### FFM VIBRATES

- a) Harness straps not adjusted properly—tighten bottom straps.
- b) Adjustment knob opened too much.
- c) Neptune Space adjustment too soft—make proper adjustment with adjustment tool \*.
- d) 1st stage intermediate pressure not  $140\pm 3$  psi / 9.5→9.8 bar.

**\* OCEAN REEF recommends that the regulator be serviced at least once a year, or after 100 dives. This should only be performed by an OCEAN REEF dealer or an authorized OCEAN REEF repair station which uses original spare parts. This also applies to any periodic serving and/or repairs required.**

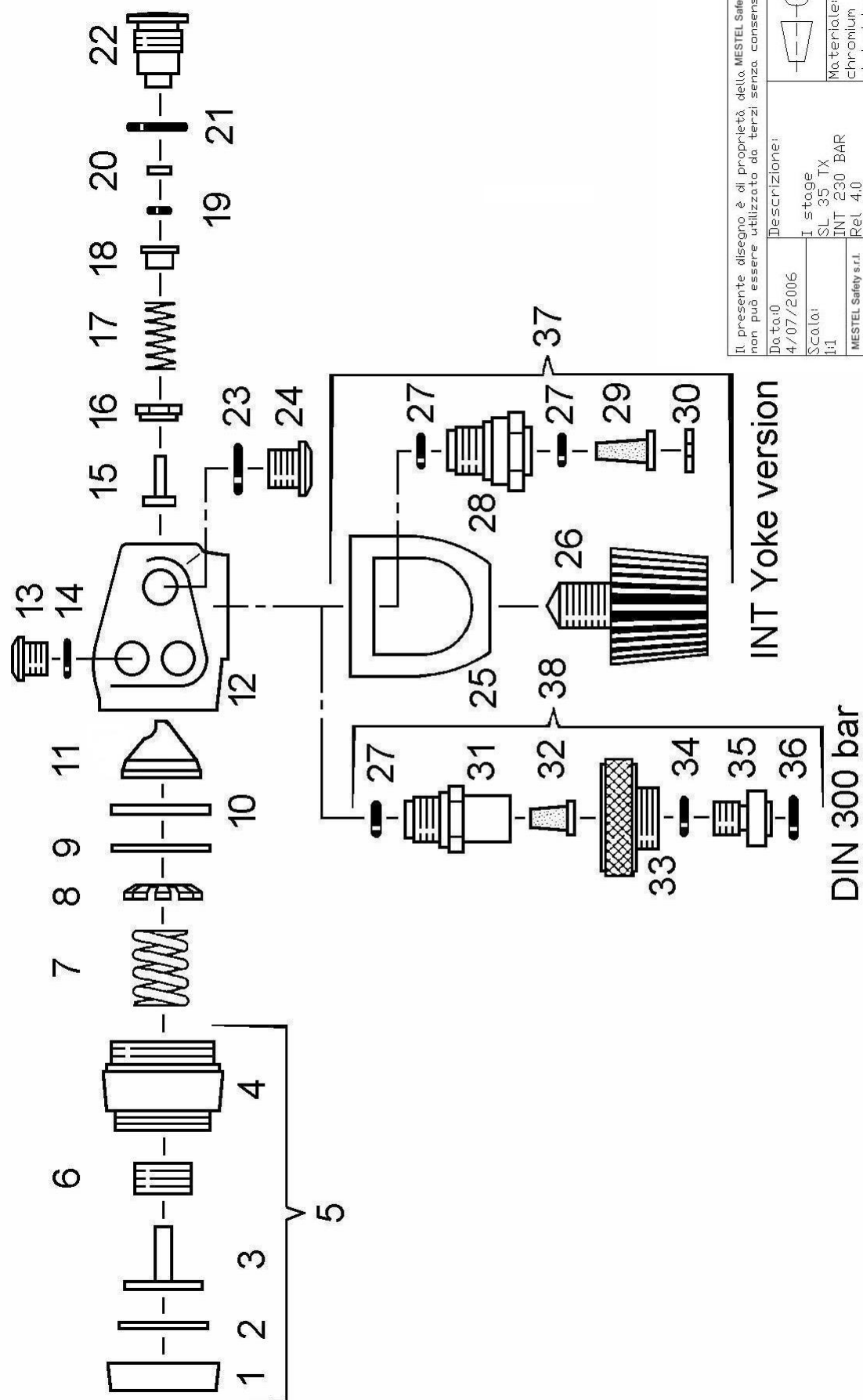
# Neptune Space *PREDATOR* rel 2.2




# Neptune Space *PREDATOR* rel 2.2

Part	Code	Key	q.ty
Glacier Strap	OR002903	1	1
Clamping band w/buckles–Predator	OR006803	3	1
Screw M4X6	OR006804	5	1
Cap nut M4	OR006805	2	1
NG-24 Nut M3 3mm	6529	6	3
N-6AS Face seal black medium / large	1351	7	1
N-6AS Face seal black small / medium	1363	7	1
Orinasal black 22mm holes(2) 28 (1)	1349	8	1
Orinasal valve holder	1377	66	2
Orinasal valve	1376	9	2
MI-14 Orinasal Band	6718	10	1
SB-5C Eccentric Equal. Block (2pcs)	6924	11	2
Equalizer extension ,short (2pcs)	6926		2
Equalizer extension , long (2pcs)	6927		2
Equalizer extension , x-long (2pcs)	6928		2
Screw M4x8	15255	12	1
Washer M4 for screw M4x8	15253	13	1
SB-5A Equalizer	6925	14	1
Regulator housing - Space w/drain. hole	8448	15	1
Visor - Space	7015	16	1
Inhal. Diaphragm w/puck-Space rel 7	6781	17	1
Predator reg. front cover Anticorodal gold	20079	19	1
Screw short - Space regulator front cover -M3	6962	20	1
Screw long - Space regulator front cover -M3	6961	21	2
O-ring 2010	6965	22	7
Hex nut	15433	23	1
Body washer	15257	24	1
Insert OR 2075	6964	25	1
Insert	6970	26	1
O-ring x dive/prediver 24 X 2	6963	27	1
Dive/prediver	6972	28	1
O-ring 2025	9673	29	1
Nozzle	9672	30	1
O-ring 114	9420	31	1
Valve body	15532	32	1
Demand lever	15448	33	1
Wedge	15447	34	1
Seat balanced poppet	8866	35	1
Balanced poppet	9675	36	1

Part	Code	Key	q.ty
O-ring balanced poppet 2.6 x 1	15439	37	1
Quick release	6810	4	2
Spring l 33-Ø thread 0,9-Ø.int.8,4	6966	39	1
Spring l 8,5-Ø thread 0,9-Ø.int.5,5	6980	40	1
Balance poppet chamber	15470	41	1
O-ring 2068	15446	42	1
Adjustment knob w/screw for Predator - stainless steel	OR006801	43	1
Trim screw for Predator - stainless steel	OR006802	44	1
OR 2031	9409	45	1
Predator Adjustment knob plug (LP plug)	9822	46	1
Silicone button w/Space logo- black	20082	18	1
Diamond surface ait valve cup	8902	48	1
Thread locking ring for Diamond surface air valve	8669	49	1
O-ring 2081 nbr	9644	50	1
O-ring 3112 nbr	8643	51	1
O-ring 3168 nbr	8644	52	1
Surface air valve body	8656	53	1
NG-12 O-ring 46,9x1,5	6501	54	2
NG-10 side connector bushing	6514	55	1
MP-2 Com System bushing rel 7.1	6549	56	1
NG-9 Side Connector	6304	57	1
NG-13 Standard seal	1361	58	1
NG-9B Plug	6515	59	1
<i>Directional Exhaust valve cover</i>	<i>OR006511</i>	<i>60</i>	<i>1</i>
<i>Directional Exhaust valve deflector</i>	<i>6504</i>	<i>61</i>	<i>1</i>
ER-09 Exhalation valve	8811	62	1
<i>Directional Exhaust valve holder</i>	<i>OR006510</i>	<i>63</i>	<i>1</i>
M-10-O ring 2131 33x1,78	6710	64	1
NG-15 Bushing w/holes	6518	65	1
800 mm standard hose	9950		
Hose protector	9311		



Il presente disegno è di proprietà della MESTEL Safety s.r.l. non può essere utilizzato da terzi senza consenso		
Data: 04/07/2006	Descrizione:	
Scala: 1:1	I stage SL 35 TX INT 230 BAR Rel 4.0	Materiale: chromium plated brass Tolleranze:
MESTEL Safety s.r.l. Via Europa 6 10040 S.Brozze Genova Tel.+39 010 6598611 Fax+39 010 6598622 www.mestel.it		S/N

## SL 35 TX (1ST STAGE) 4.0

Key	Code	R-DIN	R-YOKE	Designation
1	9810	1	1	Retaining cap
2	9811	1	1	Diaphragm Ø33 x 1.5
3	9812	1	1	Pressure piston
4	9813	1	1	Intermediate ring
5	9814	1	1	Anti freeze kit
6	9815	1	1	Adjusting screw
7	9816	1	1	Spring
8	9817	1	1	Spring Plate
9	9818	1	1	Friction Ring
10	9819	1	1	Diaphragm Ø36.9 x 2
11	9820	1	1	Piston guide
12	9821	1	1	Regulator body
13	9822	3	3	LP plug, 3/8 UNF
14	9823	4	4	O-ring 7,65 x 1,78
15	9824	1	1	Piston
16	9825	1	1	Guide ring
17	9826	1	1	Spring
18	9827	1	1	Retaining cap
19	9620	1	1	O-ring 2,9 x 1,78(2012)
20	9829	1	1	Back pressure ring 3,2 x1,5
21	9411	1	1	O-ring 14,00 x 1,78(2056)
22	9831	1	1	Balancing chamber
23	9832	2	2	O-ring 8,73 x 1,78
24	9833	2	2	HP plug, 7/16 UNF
25	9834		1	Yoke INT, 9/16-18 UNF
26	9835		1	Yoke screw, 9/16-18 UNF
27	7831	1	2	O-ring 9,25 x 1,78 (2037)
28	9837		1	Yoke fastener
29	9838		1	Filter element YOKE
30	9839		1	Retaining ring
31	9840	1		Hand wheel fastener, 300 bar
32	9841	1		Filter element DIN
33	9842	1		Hand wheel DIN, 300 bar
34	9843	1		O-ring 10,82 x 1,78
35	9844	1		Retaining screw DIN, 300 bar
36	9845	1		O-ring 11,00 x 2,5
37	9846			Conversion kit, YOKE
38	9847			Conversion kit DIN, 300 bar

## Warranty

1. OCEAN REEF Neptune Space PREDATOR have a limited lifetime warranty to be free of material or manufacturing defects of any component but the regulator ones.
2. Regulator parts are guaranteed to be free of material or manufacturing defects for a period of 24 months from the time the unit is purchased.
3. . For the duration of the guarantee, the Company's responsibility is limited to replacement of any parts that are defective in our opinion, and that have not been used incorrectly or handled negligently. The mask must be returned to the outlet from which it was bought, along with the warranty card. The cost of transport is to be prepaid by the customer.
4. Even during the guarantee period, this guarantee shall not be valid where:
  - Damage was caused by incorrect handling or carelessness.
  - Damage was caused by the mask falling after it was purchased.
  - Damage caused by fire, earthquake, floods, lightning, or other natural disasters.
  - The warranty card is not produced.
  - Our name, the date of purchase, and the seller's name do not appear on the warranty card.



NOTES:

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