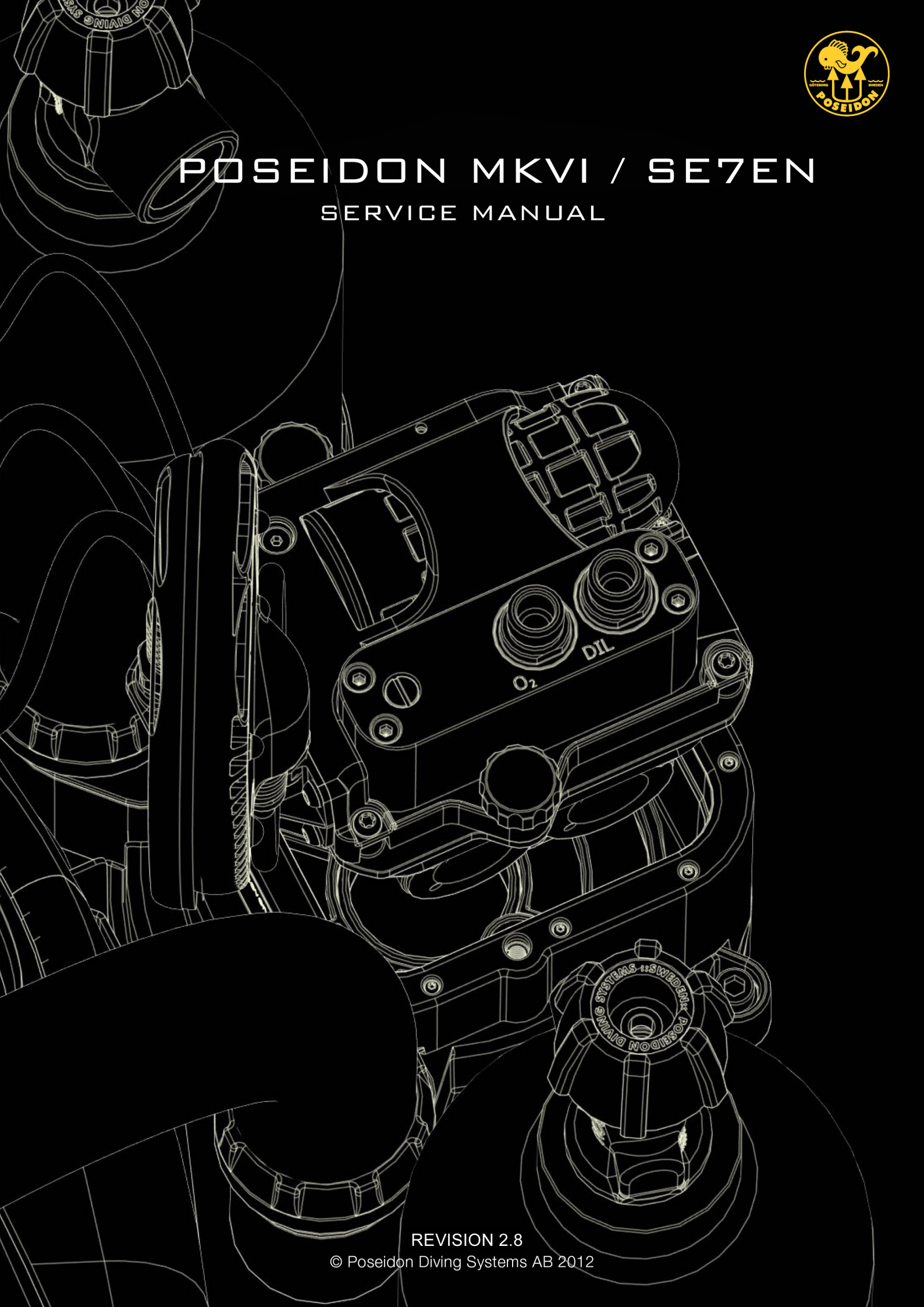




POSEIDON MKVI / SE7EN

SERVICE MANUAL



REVISION 2.8

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1. Safety regulations



The instructions in this service manual must be followed in detail step by step. Negligence can cause serious injury or even death.

Special warnings are marked with this symbol



Xstream Oxygen and Xstream Duration are used with 100% pure oxygen content. This requires special procedures while servicing; to clean the 1st stage and to keep it clean. Negligence to follow the instructions given in this manual introduces a risk for the customer of having a fire which in turn can cause serious injury or even death. Servicing the above-mentioned 1st stages, shall always be conducted in a clean environment using clean tools, as described in section 6 and in Appendix B of the Xstream Service manual v 2.4 or later.



To enhance safety during servicing, the regulators Xstream Oxygen and Xstream Duration shall be tested using clean air according to instructions on page 35. There is no need to test regulators in the servicing environment using gasses with > 21% oxygen.



Servicing must only be carried out by persons who have been trained and certified by Poseidon. Servicing Xstream Oxygen and Xstream Duration requires an additional certification as "POSEIDON OXYGEN TECHNICIAN".



Only POSEIDON original parts may be used for servicing. Where stated, POSEIDON original tools must be used.



Whenever a Discovery MkVI is serviced, a Service Record Document should always be created. On this document, you should note any/all suggestions of parts that you recommend the customer to change during the service. If the customer decides not to follow your recommendations, we strongly recommend that you get this in writing from the customer. All documentation related to a service should be saved and stored in a safe way.



Do not unscrew or open any screws/parts that are factory sealed. If this is done, without written authorization and/or instructions from Poseidon Diving Systems AB, all warranty on the unit is voided.

2. Introduction

Service manual structure

This service manual contains servicing and repair instructions and product information for the Poseidon MkVI Discovery rebreather and its different parts.

The service manual has been divided in to six (6) sections, each covering different parts of the unit. The sections are:

- A. 1st stages, Octopus and LP hoses
 - Xstream Deep 1st stage (Diluent side)
 - Xstream Oxygen 1st stage (EU version) / Xstream Duration 1st stage
 - Jetstream Octopus with LP hose
 - LP hoses (16 cm / 20 cm)

- B. Rebreather mouthpiece
 - Mouthpiece G1
 - Mouthpiece G2
 - Mouthpiece G7

- C. Scrubber Canister Housing
 - CO² removal cartridge housing
 - End plate with sponge
 - Cartridge top plate with sponge
 - Round pack
 - Cover and handle (SE7EN)





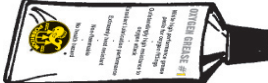

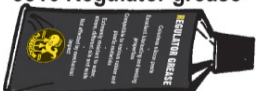

- D. Breathing loop
 - Breathing loop hoses
 - Counterlungs recreational
 - Counterlungs Tech (60m)
 - Water diversion manifolds
 - Counterlung overboard dump valve

- E. Electronics module and battery
 - Electronics module MkVI
 - Electronics module SE7EN
 - Primary display
 - H.U.D (Heads Up Display)
 - Battery with battery charger
 - High pressure sensors with HP hoses

- F. Valves (Only the EU version)
 - 200 bar single valve, diluent gas
 - 200 bar single valve, oxygen

2. Introduction

Symbols used through out this service manual

Icon	Description	Other information
	Remove old part. Destroy and give back to customer	
	Replace with new part	
	Visually inspect	
	Poseidon grease #1, article no 8515	8515 Oxygen grease 1 
	Poseidon grease #R, article no 8516	8516 Regulator grease 
	Warning. Negligence can cause serious injury or even death.	

Service kits

Poseidon has put together special service kits for the MkVI Discovery and SE7EN rebreather. These service kits contains all parts that are replaced during a service and it is strongly recommended that these kits are used.

The MkVI Discovery service kit package (article number 0009-000 / 0009-010) consists of the following service kits:

- Art nr 4824: Service kit Xstream Duration 90 1st stage (Non EU)
- Art nr 4828: Service kit Xstream Oxygen 90 1st stage (EU)
- Art nr 4822: Service kit Xstream Deep 90 1st stage
- Art nr 3549: Service kit Jetstream Octopus
- Art nr 0009-001: Service kit 200 bar Diluent valve (only EU version)
- Art nr 0009-002: Service kit 200 bar O2 valve (only EU version)
- Art nr 0009-003: Service kit Mouth piece
- Art nr 0009-004: Service kit Breathing loop
- Art nr 0009-005: Service kit Cartridge housing
- Art nr 0009-006: Service kit Electronics unit MkVI
- Art nr 0009-007: Service kit Banjo 90 DIL
- Art nr 0009-008: Service kit Banjo 90 O2
- Art nr 0009-009: Service kit LP hose

The service kits can be bought as a complete MkVI Discovery service kit package (article number 0009-000 / 0009-010) or as separate service kits.

Service kits

The SE7EN service kit package (article number 0009-018 / 0009-019) consists of the following service kits:

- Art nr 4824: Service kit Xstream Duration 90 1st stage (Non EU)
- Art nr 4828: Service kit Xstream Oxygen 90 1st stage (EU)
- Art nr 4822: Service kit Xstream Deep 90 1st stage
- Art nr 0009-001: Service kit 200 bar Diluent valve (only EU version)
- Art nr 0009-002: Service kit 200 bar O2 valve (only EU version)
- Art nr 0009-003: Service kit Mouth piece
- Art nr 0009-004: Service kit Breathing loop
- Art nr 0009-005: Service kit Cartridge housing
- Art nr 0009-022: Service kit Electronics unit SE7EN
- Art nr 0009-007: Service kit Banjo 90 DIL
- Art nr 0009-008: Service kit Banjo 90 O2
- Art nr 0009-009: Service kit LP hose

The service kits can be bought as a complete SE7EN service kit package (article number 0009-018 / 0009-019) or as separate service kits.

2. Introduction

EN 144-3

The European (EU) version of the MkVI Discovery / SE7EN is delivered with an Xstream Oxygen 1st stage that conforms to the EN 144-3 standard. That version has a DIN M26 connection thread.

All non-EU versions are delivered with an Xstream Duration 1st stage with a DIN G5/8 connection thread.

Upgrades / updates done over time

Since the introduction of the MkVI eCCR, we have done the following upgrades to the unit:

Powder coated round pack housing instead of anodized: 2009-06

- If there is a need to replace the canister bottom lid or “Mickey Mouse head” on units that have the old anodized round pack housing, the whole round-pack needs to be replaced.
- The anodized round pack housings were only used on units with serial number 299 or lower
- This is not an upgrade that will be implemented free of charge on e-modules with serial numbers lower than 1370.

Upgrade package: 2010-06

- Black CC hoses
- New mushroom valves (transparent) with holders
- Stiffer front cover for the mouthpiece
- Tank brackets
- New Teflon washer inside the mouthpiece (not applicable for the G2 mouthpiece)
- This upgrade package was distributed to all MkVI owners who bought their units prior to 2010-06-01, Free of Charge. It was included in all new units delivered from our factory after 2010-06-01.

New HUD, with thin cable: Starting with serial number 1082.

- This upgrade has no impact on the maintenance and servicing of the unit.
- This is not an upgrade that will be implemented free of charge on e-modules with serial numbers lower than 1082.

G2 mouthpiece: Starting with serial number 1167

- It's vital to keep track of what version the mouthpiece on a unit has, as the G1 and G2 mouthpiece have some different components. Exploded views and parts list of both the G1 and G2 mouthpiece and details on how to identify the different versions can be found in the MkVI service manual starting with version 2.3, released in October 2012.
- This is not an upgrade that will be implemented free of charge on units that was delivered with the G1 mouthpiece.

New depth sensor card: From serial number 1370

- This upgrade has no impact on the maintenance and servicing of the unit.
- The electronics card where the depth sensor is mounted was modified.
- This is not an upgrade that will be implemented free of charge on e-modules with serial numbers lower than 1370.

2. Introduction

Unfilled e-modules: From serial number 1607

- This upgrade has no impact on the maintenance and servicing of the unit.
- There's no gel filling in the e-module back-pack.
- This is not an upgrade that will be implemented free of charge on e-modules with serial numbers lower than 1607.
- E-modules that are sent to the factory for re-furbish and/or repair will be returned unfilled.

New color of the O2 sensor base (article number 6010-039): From serial number 1839

- Color has changed from white to black. Same article number and same size.
- This is not an upgrade that will be implemented free of charge on e-modules with serial numbers lower than 1839.

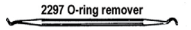
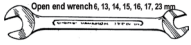
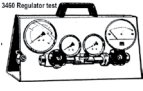



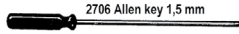

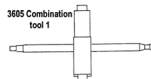
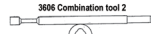

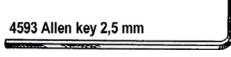
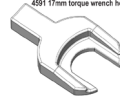


SE7EN

The SE7EN model was introduced in December 2013 and had the following components modified / added

- A back cover with incorporated carrying handle (added)
- E-module with detachable HUD, Display and HP sensors (modified)
- Bluetooth connection (modified)
- Mouthpiece G7 (modified)
- "Tech" counter lungs with manual addition valves. (added optional)



3. Tools

To service the different parts of the MkVI Discovery / SE7EN there are a number of tools required. Some of the tools are special tools for the 1st stages and 2nd stages and some other tools are standard tools available in most hardware stores. Below you will find a list of all tools needed, with a description of what it is used for.

Item	Description	1st stages	Octopus	Mouthp.	E-module	Other	Picture
2297 O-ring remover	Used to remove o-rings.	o	o	o	o	o	
Open end wrench 6, 13-23 mm	Various open end wrenches in millimeters are essential or assembly and disassembly of various things.	o	o	o	o		
3460 Regulator test	Used to check or finally adjust the regulator.	o	o	o			
0000-457 Testbox Mouthpiece	Used to set the Discovery mouthpiece cracking pressure			o			
4830 Ultra Sonic Cleaner	Used to clean all regulators. Mandatory for Xstream Oxygen and Duration.	o	o	o			
3771 Torque wrench	Used to set the torque on various parts of the 1:st stages.	o					
1246 Allen key 5 mm	Used to unscrew blindplugs and to adjust IP on Xstream.	o	o			o	
2706 Allen key 1,5 mm	Used to untighten and tighten the locking screw on Jetstream Octopus and Mouth piece valve tube.		o	o			
0000-368 Blind plug MP	Used to blind the inhalation CC loop connection when adjusting the cracking pressure of the ADV.					o	
3605 Combination tool 1	Used to to screw and unscrew various parts on the first stage and second stages.		o	o			
3606 Combination tool 2	Used to to screw and unscrew various parts on the first stage and second stages.	o	o	o			
2706 Adjusting tool	Used to adjust the cracking pressure on the Jetstream Octopus and MkVI mouth piece.		o	o			
4593 Allen key 2,5 mm	Used to unscrew and screw the first stage spring cover on Xstream. (3 screws)	o					
4591 17 mm torque wrench	Used to untighten and tighten the connection stem on Xstream first stages. used together with the torque wrench.	o					
Screwdrivers	Philips head screwdrivers.		o				
6010-311 O2 sensor tool	Tool used to remove the Oxygen sensors from the electronics unit.					o	

Revision: 2.8 Date: 17-04-12 Approved by: JN

3. Tools

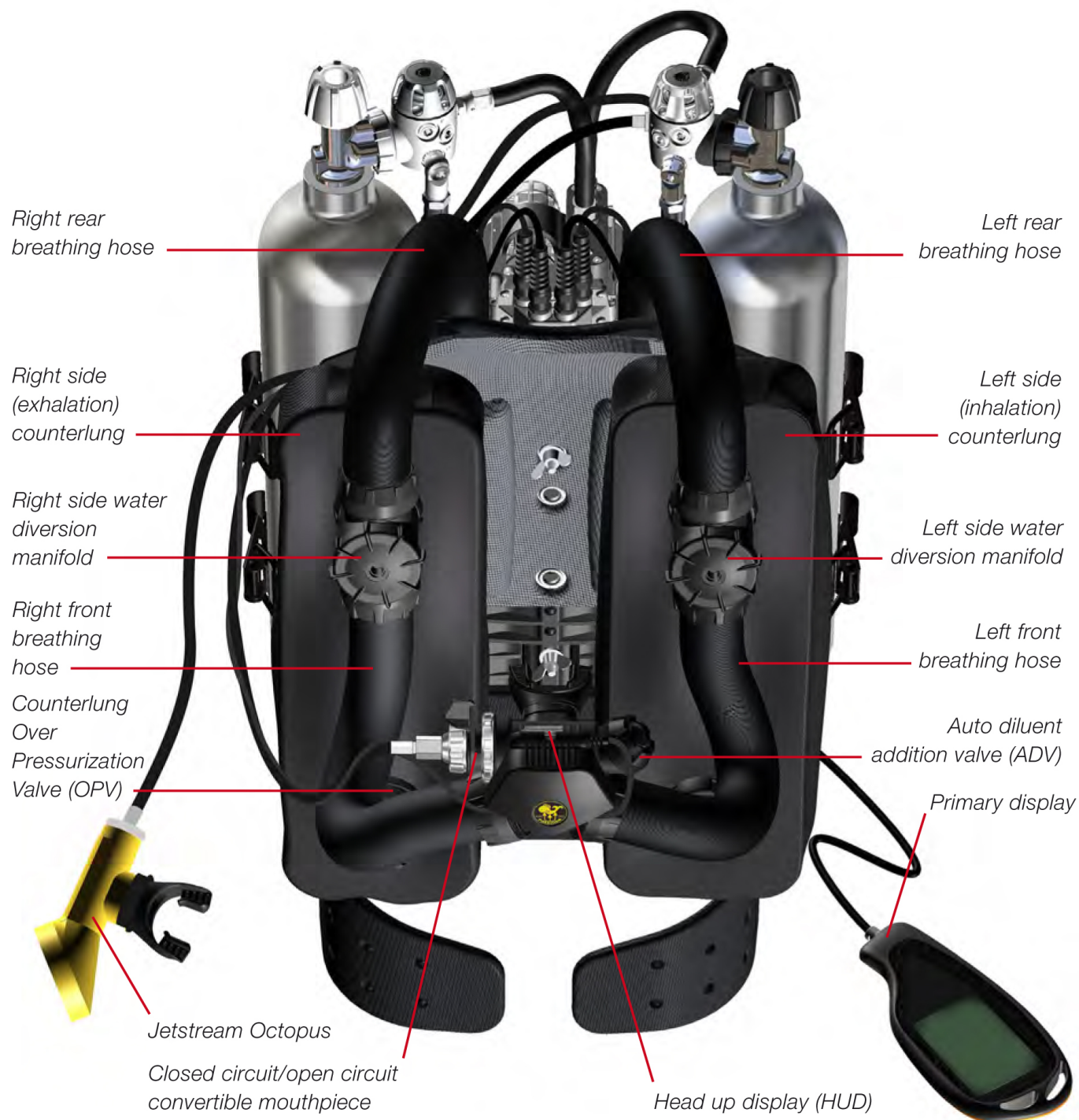
Item	Description	1st stages	Octopus	Mouthp.	E-module	Other	Picture
Articles of consumption							
8515 Oxygen grease #1	Only approved oxygen grease when lubricating oxygen critical parts on the high pressure side. Approved for 300 bar 60°C.	o				o	
8516 Regulator grease	Used for lubrication of air version regulators.	o	o	o	o	o	
4835 Poseidon fine clean ultra	5 litre	o					
4837 Lint free latex gloves		o					
4838 Hair net		o					

You will also need the following:

- A computer (PC) with a working IrDa port/adapter (MkVI)
- A Bluetooth connection enabled PC (SE7EN)
- The latest version of the PC config software (<http://www.poseidon.com>)
- The latest version of the Firmware (<http://www.poseidon.com>)
- The error codes of the most recent firmware version (<http://www.poseidon.com>)

4. Preparations

Discovery MKVI parts



Revision: 2.8 Date: 17-04-12 Approved by: JN

4. Preparations



Before you disassemble the unit

We recommend that before you start the disassembly of the unit, do a Pre-Dive check to verify if/that the unit is working or if there are any problems with it.

Remember to note any/all error messages shown during the Pre-Dive check!

4. Preparations

Disassembly of the MkVI & SE7EN unit

Start the servicing of the unit by disassembling it.

Make sure the battery is disconnected from the electronics unit and that the unit is turned off.

Remove the scrubber if it is still mounted inside the Carbon Dioxide removal cartridge housing.

Make sure that the tank valves are closed and the 1st stages depressurized.

Breathing loop and mouthpiece

Unscrew the left and right rear breathing loop hoses from the left and right breathing hose connections.

Unscrew the left and right rear breathing loop hoses from the left and right side water diversion manifold (T-section).

Unscrew the left and right Front breathing hoses from the left and right side water diversion manifold (T-section).

Unscrew the left and right Front breathing hoses from the mouthpiece.

Disconnect the HUD from the mouthpiece.

Disconnect the low pressure hose that connects the mouthpiece with the diluent 1st stage, from the mouth piece.

Unscrew the left and right side water diversion manifolds (T-sections) from the left side (inhalation) counterlung and the right side (exhalation) counterlung.

1st stages, low pressure hoses, Octopus, pressure sensors and tanks

Unscrew the diluent and oxygen low pressure hoses from the gas injection block.

Unscrew the diluent and oxygen low pressure hoses from the diluent and oxygen 1st stages.

Unscrew the low pressure hose that connects the Jetstream Octopus to the diluent 1st stage, from the diluent 1st stage.

Unscrew the high pressure sensors from the diluent and oxygen 1st stage.

Unscrew the diluent and oxygen 1st stages from the tank valves.

Open the Cylinder quick connection bands and remove the diluent and oxygen tanks.

4. Preparations

Disassembly of the MkVI unit

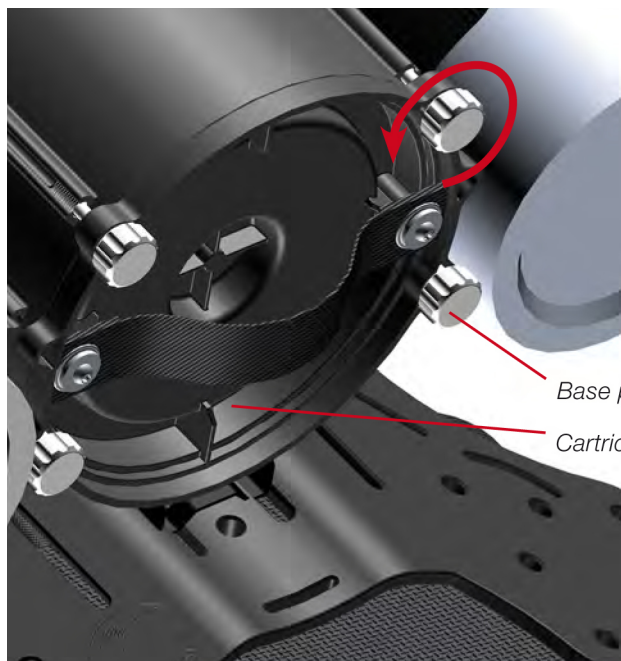
Electronics unit with primary display, H.U.D and pressure sensors.



Loosen the two hand nuts that holds the electronics unit in place.

Pull the electronics unit straight up to detach it from the Carbon Dioxide removal cartridge housing

Carbon Dioxide removal cartridge housing

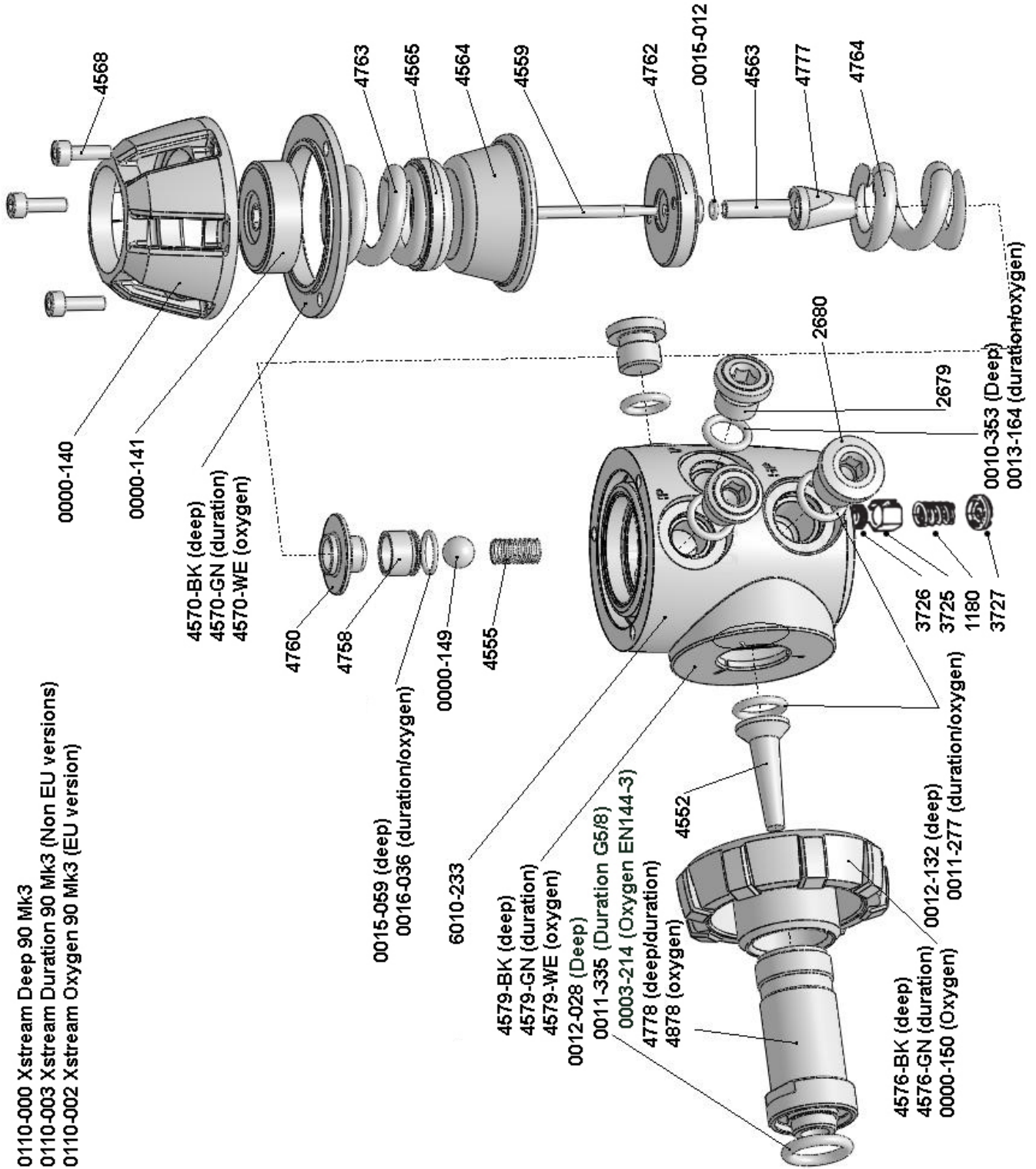


Unscrew the four (4) base plate hand nuts that secures the cartridge end cap to the cartridge housing. Make sure the four hand nuts are completely disengaged from the cartridge housing threads.

Remove the end plate from the cartridge housing by pulling it straight out.

5. 1st Stages, Octopus and LP hoses

1st Stages:

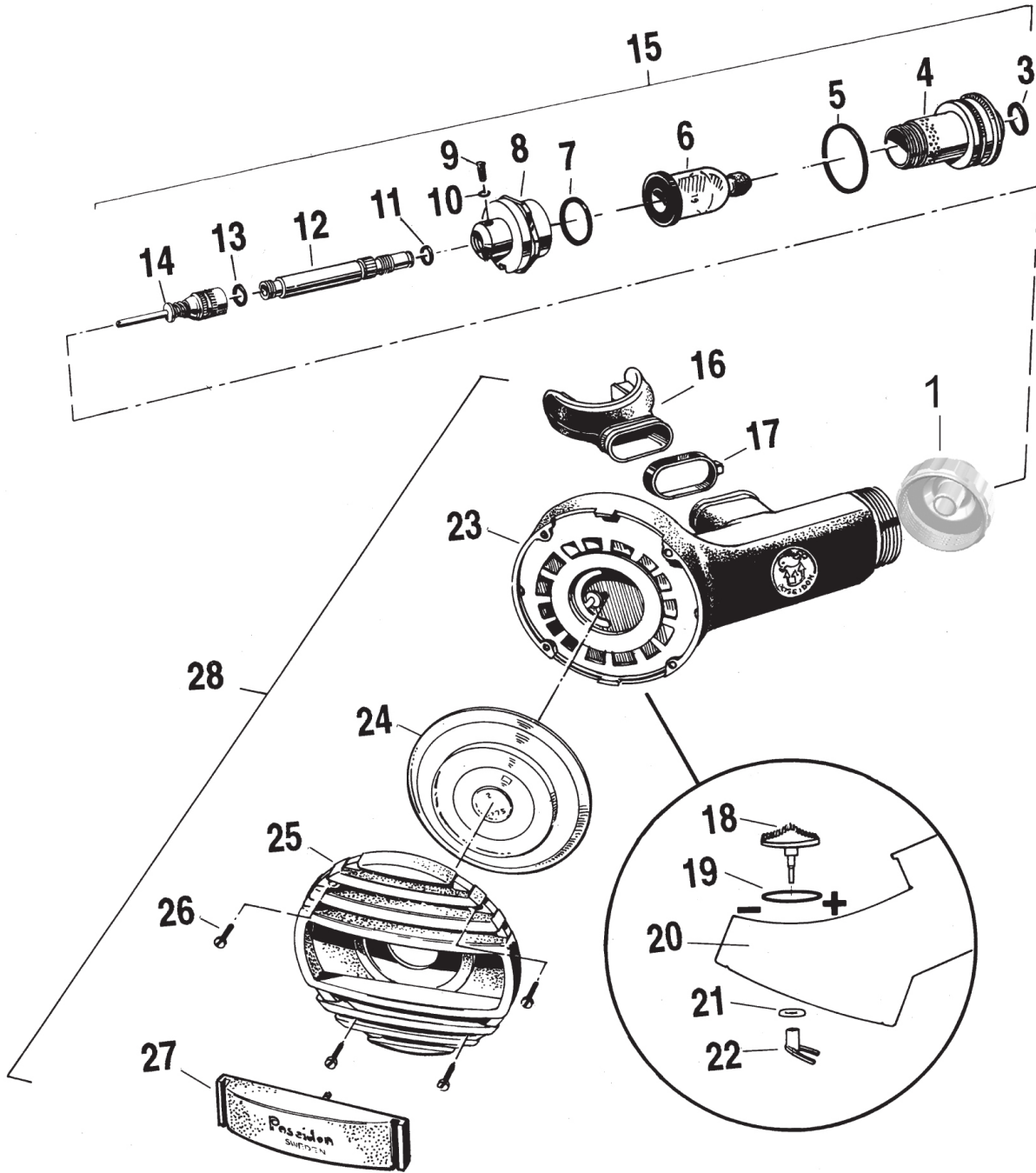


5. 1st Stages, Octopus and LP hoses

Item #	Description	Qty
0012-028	O-ring (Deep)	1
0011-037	O-ring, viton (Duration)	1
0011-335	O-ring. viton (Oxygen EN 144-3)	1
4778	Conn. stem 1.stage 90 Xstream Deep / Duration (G 5/8)	1
4878	Conn. stem 1.stage Oxygen EN 144-3	1
4552	Cup type filter long Xstream 90	1
0012-132	O-ring (Deep)	3
0011-277	O-ring (Duration/Oxygen)	3
4579-BK	Line protector Xstream, black	1
4579-GN	Line protector Xstream, green	1
4579-WE	Line protector Xstream, white	1
6010-233	Housing 1.stage 90 Xstream	1
4555	Spring for ball Xstream	1
0000-149	Ruby Ball 1.stage Xstream	1
0015-059	O-ring (Deep)	1
0016-036	O-ring, viton (Duration/Oxygen)	1
4758	Zytel valve seat Xstream	1
4760	Valve seat holder Xstream	1
4764	Valve seat spring Xstream	1
4777	Lower pin guide Xstream	1
4563	Pin bushing 1.stage Xstream	1
0015-012	O-ring	1
4762	Upper pin guide Xstream	1
4559	Actuating pin, Xstream	1
4564	Roll.diaphragm 1.stage Xstream	1
4565	Pressure plate 1.stage Xstream	1
4763	Adjust. spring 1.stage Xstream	1
4570-BK	Barrier 1.stage Xstream black	1
4570-GN	Barrier 1.stage Xstream green	1
4570-WE	Barrier 1.stage Xstream white	1
4767-CE	Cover Xstream 1st stage, chrome	1
4568	Screw cover M3x10 Xstream	3
4798-CE	Adjustment screw, chrome	1
2680	Blindscrew UNF7/16	2
2679	Blindscrew UNF3/8	5
0010-353	O-ring (Deep)	5
0013-164	O-ring, EPDM (Duration/oxygen)	5
4576-BK	Wheel G5/8" Xstream, black	1
4576-GN	Wheel G5/8" Xstream, green	1
0000-150	Wheel Xstream, White (Oxygen EN 144-3)	1
3726	Valve sealing	1
3725	Valve piston	1
1180	Pressure spring	1
3727	Locking screw	1

5. 1st Stages, Octopus and LP hoses

0100-006 Jetstream Mk3 Octopus



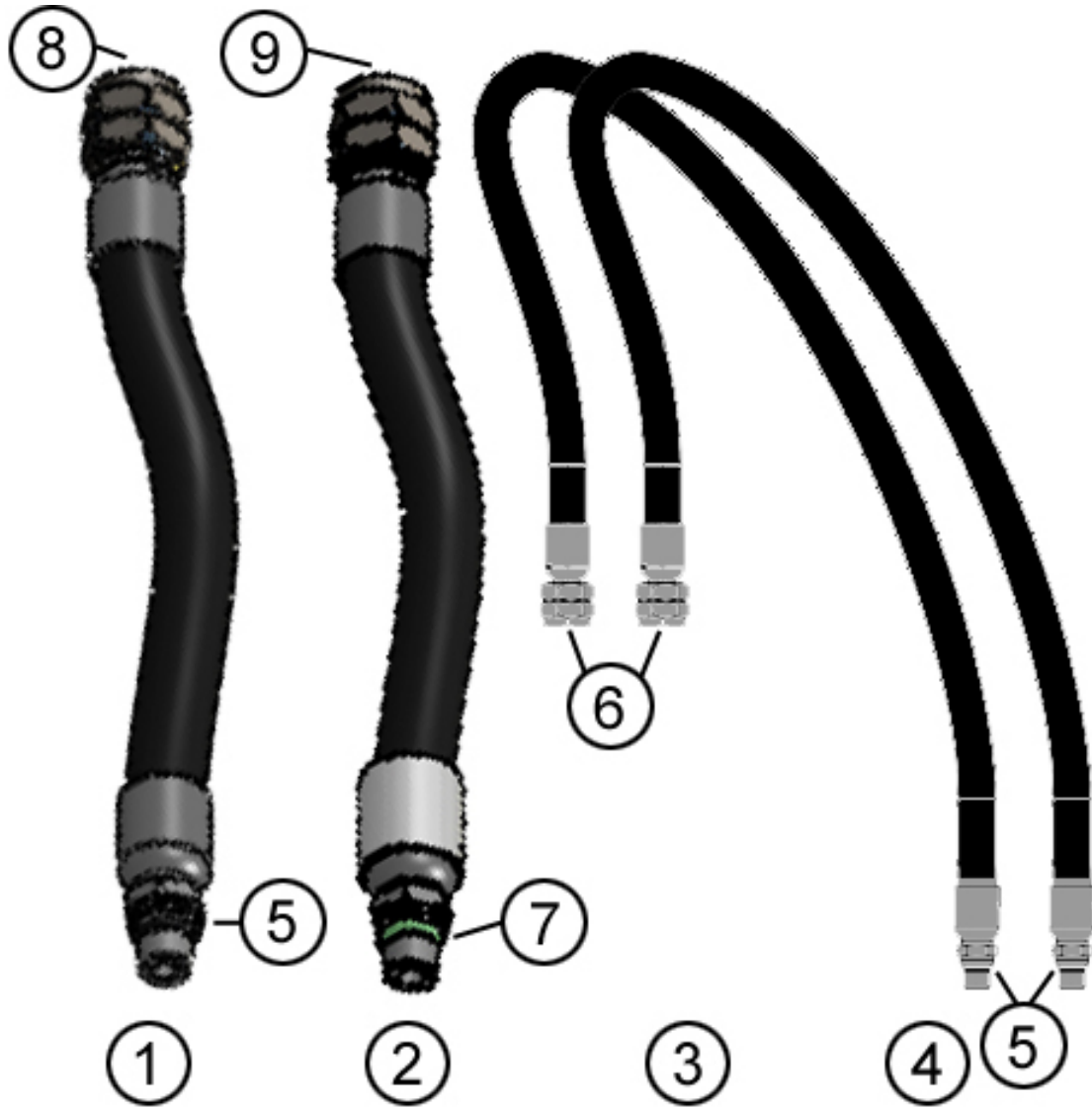
5. 1st Stages, Octopus and LP hoses

0100-006 Jetstream Mk3 Octopus

#	Item #	Description	Qty
1	0000-130	Hose Adapter	1
2	0130-002	LP hose, 9/16 - 90 cm / 35,4 inch	1
3	0010-355	O-ring	1
4	2857	Low pressure valve housing	1
5	0010-025	O-ring	1
6	3440	Valve insert	1
7	0012-007	O-ring	1
8	2974	Valve housing nut	1
9	2875	Stop screw	1
10	2787	Rubber plate	1
11	0015-019	O-ring	1
12	2839	Valve tube	1
13	0010-002	O-ring	1
14	2786	Servo valve, complete	1
15	3088	Low pressure valve, complete (parts 3 - 14)	1
16	3202	Mouth piece	1
17	1167	Locking strap	1
18	2711	Switch	1
19	0010-018	O-ring	1
20	3121	Housing	1
21	2794	Lock washer	1
22	2712	Diaphragm cam	1
23	3132	Housing, 2nd stage, incl parts 18-22, Yellow	1
24	2578	Diaphragm	1
25	2989	Cover for 2nd stage, yellow	1
26	2851	Screw	4
27	2853	Purge button	1
28	3104	Housing complete incl. parts 16-27, Yellow	1

5. 1st Stages, Octopus and LP hoses

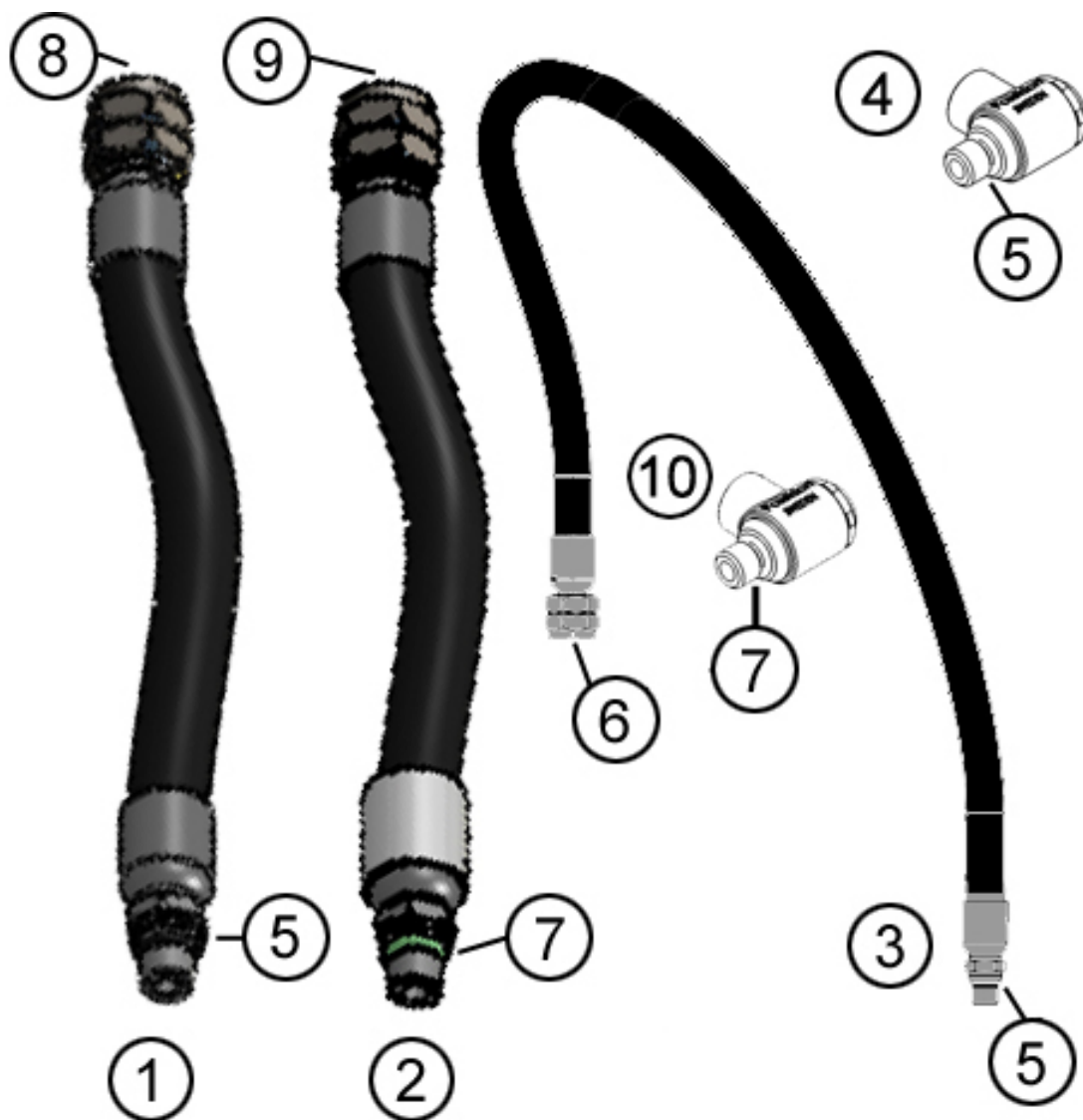
LP hoses - MkVI



Item #	Description	Qty
1	0130-017 - LP hose 16 cm DIL	1
2	0130-018 - LP hose 16 cm O2 (White - EU version)	1
2	0130-019 - LP hose 16 cm O2 (Green - US version)	1
3	0130-004 - LP hose Polyurethan 9/16-18 90cm	1
4	0130-002 - LP hose Mk3 - 9/16-18 90cm (Octopus)	1
5	0010-353 - O - ring	3
6	0010-009 - O-ring	2
7	0011-276 O-ring Viton	1
8	0010-009 - O-ring	1
9	0011-006 - O-ring Viton	1

5. 1st Stages, Octopus and LP hoses

LP hoses - SE7EN



Item #	Description	Qty
1	0130-032 - LP hose 20 cm DIL	1
2	0130-030 - LP hose 20 cm O2 (Same for both EU and US units)	1
3	0130-004 - LP hose Polyurethan 9/16-18 90cm	1
4	3289 - LP Svivel 90 DIL	1
5	0010-353 - O - ring	3
6	0010-009 - O-ring	1
7	0011-276 O-ring Viton	2
8	0010-009 - O-ring	1
9	0011-006 - O-ring Viton	1
10	0000-915 - LP Svivel 90 O2	1

5. 1st Stages, Octopus and LP hoses

1st stage service kits:

4822 Servicekit Xstream Deep90 Mk3 1:st stage			
Included	4758	Zytel valve seat Xstream	1 pc
	4552	Cup type filter long Xstream 90	1 pc
	0010-353	O-ring (Deep)	5 pcs
	0012-132	O-ring (Deep)	3 pcs
	0015-059	O-ring (Deep)	1 pc
	0015-012	O-ring	1 pc
	3726	Valve sealing	1 pc
	0012-028	O-ring (Deep/Dive)	1 pc

4824 Servicekit Xstream Duration90 Mk3 1:st stage (Non EU versions)			
Included:	4758	Zytel valve seat Xstream	1 pc
	4552	Cup type filter long Xstream 90	1 pc
	4563	Pin bushing 1.stage Xstream	1 pc
	0013-164	O-ring, EPDM (Duration)	5 pcs
	0011-277	O-ring, viton (Duration)	3 pcs
	0016-036	O-ring, viton (Duration)	1 pc
	0015-012	O-ring	1 pc
	3726	Valve sealing	1 pc
	0011-037	O-ring, viton (Duration)	1 pc

4828 Servicekit Xstream Oxygen EN 144-3 1:st stage (EU Version)			
Included:	4758	Zytel valve seat Xstream	1 pc
	4552	Cup type filter long Xstream 90	1 pc
	4563	Pin bushing 1.stage Xstream	1 pc
	0013-164	O-ring, EPDM (Deco/Duration)	5 pcs
	0011-277	O-ring, viton (Deco/Duration)	3 pcs
	0016-036	O-ring, viton (Deco/Duration)	1 pc
	0015-012	O-ring	1 pc
	3726	Valve sealing	1 pc
	4807-59	O-ring, viton EN 144-3	1 pc
	0011-037	O-ring viton	1 pc

The parts that needs to be replaced during a service are described in the Servicekits section above. Make sure that you have servicekits for the corresponding model and that you have all special tools required available. The tools required are described in the Tools section of this hand book.

⚠ For instructions on how to service the regulator follow the instruction below until you reach the "GO TO FINAL INSPECTION" text at the end of the instruction. The instructions in this handbook must be followed in detail step by step. Negligence can cause serious injury or even death.

5. 1st Stages, Octopus and LP hoses

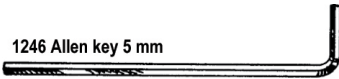
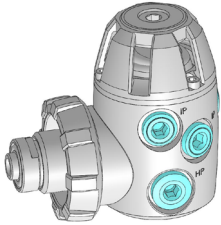
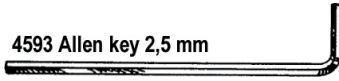
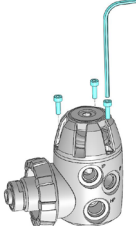
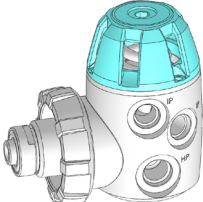
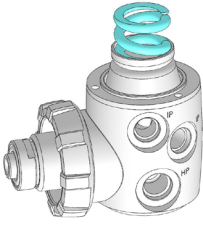
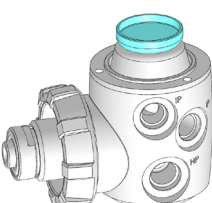
1st stage disassembly:

A service includes the following 5 steps:

1. Complete disassembly of the first stage.
2. Inspection of disassembled parts.
3. Cleaning prior to assembly.
4. Assembly.
5. Final inspection and adjustment.

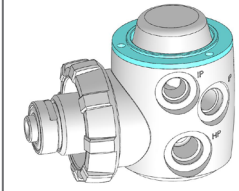
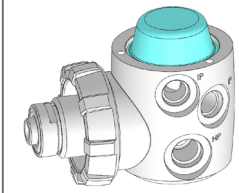
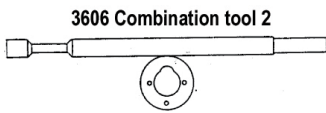
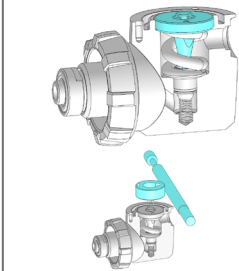
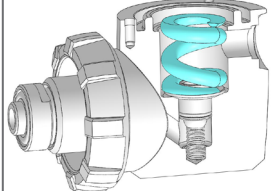

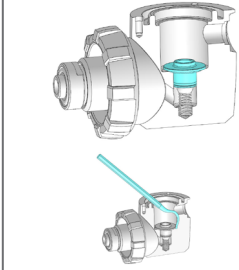
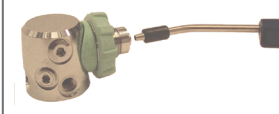
⚠️ Do not disassemble the regulator in the clean room environment. All parts shall be taken to the clean room environment after inspection and after the pre-cleaning process if such is needed. Otherwise you risk to contaminate the clean room environment. New parts should be stored in it's original packing until it is time for assembly.

⚠️ To remove o-rings, ONLY use o-ring remover tool 2297. Make sure not to damage o-ring and sealing surfaces!!

	Parts	Tools/Instructions	Picture
All first stages			
1	2680 Blindscrew UNF 7/16" 2 pcs 2679 Blindscrew UNF 3/8" 5 pcs	1246 Allen key 5 mm 	
2	4568 Screw M3x10 Xstream 3 pcs	4593 Allen key 2,5 mm 	
3	4767-CE Cover Xstream first stage chrome		
4	4763 Press. spring 1.stage Xstream		
5	4565 Pressure plate 1.stage Xstream		



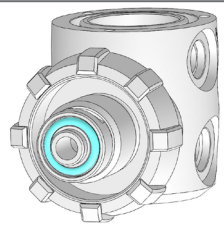

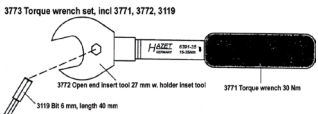
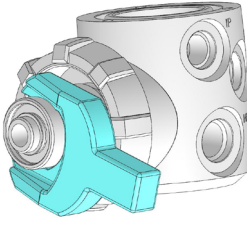
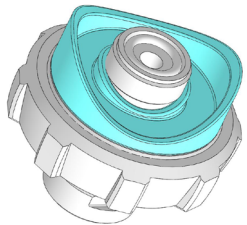


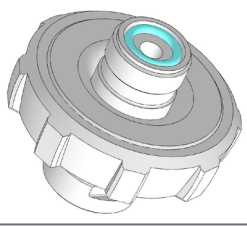
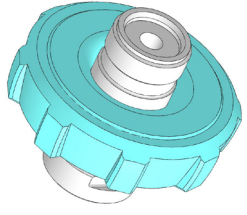

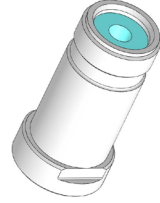



5. 1st Stages, Octopus and LP hoses

1st stage disassembly:

	Parts	Tools/Instructions	Picture
6	4570-BK Barrier 1.stage Xstream black 4570-WE Barrier 1.stage Xstream white 4570-GN Barrier 1.stage Xstream green		
7	4564 Roll. diaphragm 1.stage Xstream	Only use fingers. Tools may puncture the diaphragm	
8	Pin guide assembly	 3606 Combination tool 2	
9	4764 Valve seat spring Xstream		
10a	4760 Valve seat holder Xstream 4758 Zytel valve seat Xstream	 2297 O-ring remover	
10b	4760 Valve seat holder Xstream 4758 Zytel valve seat Xstream	The seat/seat holder may also be removed using compressed air, as shown in the picture.	

5. 1st Stages, Octopus and LP hoses

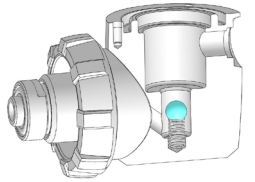
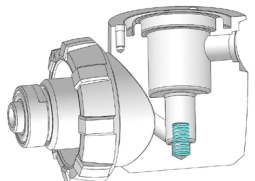
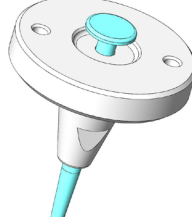
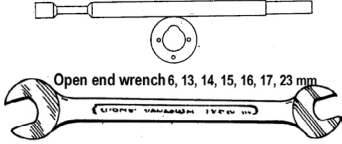
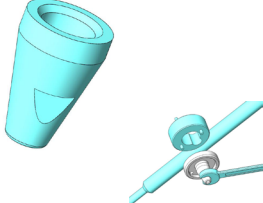

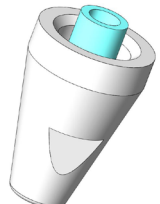


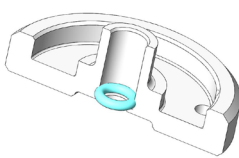


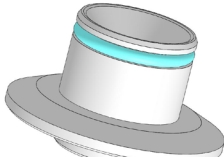
1st stage disassembly:

	Parts	Tools/Instructions	Picture	Picture
11	0012-028 O-ring (Deep) 0011-037 O-ring viton (Duration) 4807-59 O-ring, viton EN 144-3 (Oxygen EN 144-3)	 <p>2297 O-ring remover</p>		
12	4778 Conn. stem 1.stage 90 Xstream 4878 Conn. stem 1.stage EN 144-3 (Oxygen EN 144-3)	 <p>4591 17mm torque wrench head</p>  <p>3773 Torque wrench set, incl 3771, 3772, 3119</p> <p>3772 Open end insert tool 27 mm w. holder insert tool</p> <p>3119 30 mm, length 40 mm</p> <p>3771 Torque wrench 30 Nm</p>		
13	4576-BK Line protector, black 4576-GN Line protector, green 4576-WE Line protector, white			
14	0012-132 O-ring (Deep90/Dive90) 0011-277 O-ring Viton (Duration90)	 <p>2297 O-ring remover</p>		
15	4576-BK Wheel G5/8" black 4576- GN Wheel G5/8"green 0000-150 Wheel EN 144-3 white			
16	4552 Cup type filter long			
17	<p><u>Over pressure valve</u></p> <p>3726 Valve sealing 3725 Valve piston 1180 Pressure spring 3727 Locking screw</p>	<p>1. Remove the locking screw with a 4mm Allen wrench. Remove the pressure spring and the valve piston.</p> <p>2. Remove the valve sealing from the valve piston with an o-ring remover.</p>		<p>1. </p> <p>2. </p>

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5. 1st Stages, Octopus and LP hoses


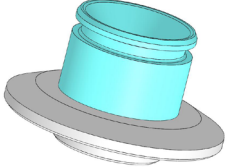


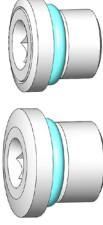
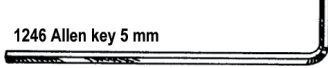
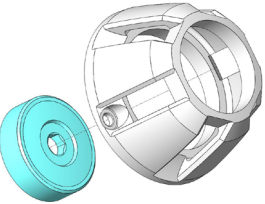
1st stage disassembly:

	Parts	Tools/Instructions		Picture
18	0000-149 Ruby ball 1.stage Xstream			
19	4555 Spring for ball Xstream			
20	4559 Actuating pin, Xstream			
21	4777 Lower pin guide Xstream	<p>3606 Combination tool 2</p>  <p>Open end wrench 6, 13, 14, 15, 16, 17, 23 mm</p> <p>6 mm</p>		
22	<p>4563 Pin bushing 1.stage Xstream</p> <p>Do not pull out nor replace the Pin bushing while servicing a Dive model. This should only be done while servicing Oxygen model.</p>	<p>Screw in M3 screw 4568 in the pin bushing and pull out.</p>		
23	0015-012 O-ring	<p>2297 O-ring remover</p> 		
24	<p>0015-059 O-ring (Deep)</p> <p>0016-036 O-ring, viton (Duration/oxygen)</p>	<p>2297 O-ring remover</p> 		

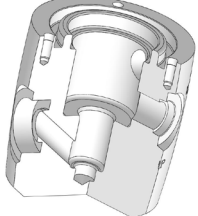
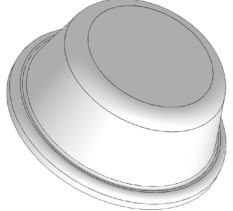
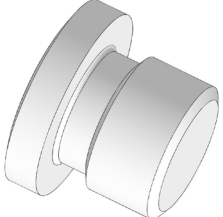
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5. 1st Stages, Octopus and LP hoses

1st stage disassembly:

	Parts	Tools/Instructions		Picture
25	4758 Zytel valve seat Xstream			
26	<p><u>On blindscrew UNF 3/8"</u> 0010-353 O-ring Deep 5 pcs 0013-164 O-ring EPDM Duration & Oxygen 3 pcs</p> <p><u>On blindscrew UNF 7/16"</u> 0012-132 O-ring Deep 2 pcs 0011-277 O-ring Viton Oxygen/Duration 2 pcs</p>	<p>2297 O-ring remover</p> 		
27	4798-CH Adjusting screw	<p>1246 Allen key 5 mm</p> 		

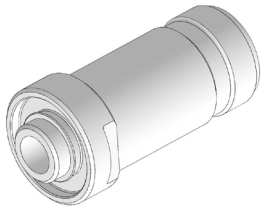
Inspection

	Parts	Tools/Instructions		Picture
1	6010-233 Housing 1.stage 90 Xstream	1. Check sealing surfaces		
2	4564 Roll.diaphragm 1.stage Xstream	1. Check for wear and tear		
3	2680 Blindscrew UNF7/16 2679 Blindscrew UNF3/8,	1. Check O-ring sealing surfaces		

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5. 1st Stages, Octopus and LP hoses

Inspection

	Parts	Tools/Instructions	Picture
4	4778 Conn. stem 1.stage Xstream	1. Check O-ring sealing surfaces	
	4878 Conn. stem 1.stage Xstream EN 144-3 (Oxygen EN 144-3)		

Cleaning

Xstream Deep Cleaning

⚠ Make absolutely sure Hydrochloric acid is NOT poured into the ultra-sonic cleaner. It would then destroy the ultra-sonic cleaner and the parts attempted to be cleaned.

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempodid* or 15% Hydrochloric acid for about 10 minutes. Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

**Hempodid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning*

Xstream Oxygen/Duration Cleaning for Oxygen Use

The process of cleaning for oxygen use and the information given herein shall be strictly adhered to. Only then can Poseidon guarantee the regulator will be cleaned to a cleanliness level which is acceptable for its intended use. This process has been verified to produce hydrocarbon residual levels less than 50mg/m2 and a particulate level less than Cleaning Test Level 100 (ASTM G 93 Spec.)

As an alternative, oxygen servicing procedures can be carried out in accordance with other herein listed organizations standard procedures and requirements. However, the use of cleaning agents, the order of the operating sequences and the time to treat parts during ultra sonic cleaning as specified in this manual must be adhered to. Wherever there is a conflict between the procedures and set of requirements, unless the other procedure represents a greater requirement for cleanliness, this manual takes precedence. Some methods, equipment, and detergents which are not mentioned in this manual can have a harmful or unknown effect on materials, such as e.g. ozone cleaning systems, strong acids etc. and shall therefore be discarded.

The other standard procedures that can be used given the limitations above are:
 EAN and Oxygen Servicing Procedures, Fourth Edition (ANDI)
 IANTD Gas Blender & Service Technician Program, First Edition, August 1999
 MIL-STD-1330D (SH) of the 20 September 1996

⚠ The safety of your customer and yourself depends on you carefully and strictly following these instructions. Negligence in any step can cause serious injury or even death.

⚠ You must be certified by Poseidon as oxygen technician to undertake this procedure.

⚠ Keep hands and tools clean and free from grease, except for what is required and stated in this manual.

5. 1st Stages, Octopus and LP hoses

Cleaning



Use protective clothing to prevent dust, fingerprints, hair, and particles to contaminate.



Use only dedicated and cleaned tools.



Ensure your oxygen handling is in conjunction with national laws.



Ensure no foreign contaminants, such as e.g. liquids, grease, particulate, dust, and mist can enter into the cleanroom area.

The cleanroom area and work environment requirements

The cleanroom area and work environment should be setup according to minimum demands listed in Appendix D. A cleanroom area and work environment audit should be performed once a year either by a service technician or by a from Poseidon appointed auditor. The checklist in Appendix D should be used to make sure that all criterias are fulfilled. For detailed instructions on how to perform and audit please refer to Appendix D.

Preparations and Pre-cleaning

1. These preparations and the pre-cleaning shall NOT be conducted in the clean room, since it may then contaminate the clean room.
2. If any part is visibly contaminated, it shall be pre-cleaned, including the parts listed below which shall not be ultra sonic cleaned.
3. Only undertake the pre-cleaning if you are sure you can move on to the cleaning stage immediately after. If the parts dry between the two stages of operation, undesirable deposits can be left on part surfaces.
4. Use IPA and a toothbrush to agitate away all visible contaminants. Rinse part(s) in municipal running water until all visible soil, particulate and cleaning agent is removed. When using IPA make sure you have sufficient ventilation. Please refer to the safety instructions of the IPA.
5. Use air of any quality to blow dry.

THE PROCESS BELOW SHOULD BE PERFORMED OUTSIDE THE CLEANROOM AREA

1. Wash your hands before this cleaning process.
2. Always ensure the UltraSonic cleaner is absolutely clean inside
3. Fill the UltraSonic cleaner with Poseidon FineClean Ultra and water in the ratio 1:5.
4. Let the UltraSonic cleaner reach its working temperature 60-70°C .
5. Place all parts in the basket. The parts shall be placed so that no air is trapped inside. Turn the part a few times under the solution until no bubbles are coming from it. Ultra Sonic cleaning agitates away contaminants, why it is important to finally place the part so that contaminants can drop out freely, i.e. open holes pointing down. Ensure parts are not contacting each other, since that may reduce the cleaning effectiveness.
6. Immerse and ultra sonic clean the parts for 20-25 minutes
7. The rolling diaphragm shall only be cleaned for 10 minutes
8. Bring all parts needed to assemble the complete 1st stage to the clean room.

5. 1st Stages, Octopus and LP hoses

Cleaning

THE PROCESS BELOW SHOULD BE PERFORMED INSIDE THE CLEANROOM AREA

Rinsing and drying in the cleanroom

From this stage and through the assembly stages cleanroom clothing including gloves shall be used.

Pick up each part from the basket and rinse carefully under running water at least 30 seconds per part, or;

Rinse in two stages keeping the parts in the basket. Immerse the basket with the parts in another container of at least 3 litres of clean water and agitate for at least 5 minutes. Then replace the rinsing water with new clean water (ideally deionised, distilled, and filtrated water), and rinse for another 5 minutes. Ensure all cavities are carefully rinsed. It is the internal rinsing which is the most important!

Dry the parts by using a cleaned blowgun and clean air, and blow dry each part carefully.

Verification

White light

All parts shall be observed for the absence of contaminations under strong white light and for the accumulations of lint fibres. This method will detect particulate matter in excess of 50 microns and other contaminations in relatively large amounts. The part being examined must be re-cleaned if any contamination is detected using this method. You shall have access to, and use if found necessary, a magnifying glass or a microscope with at least x10 magnification.

Ultraviolet light (Black light)

Examine all parts in darkness using an ultraviolet light of between 3200 to 3800 Angstrom wavelength. If a bluish-white fluorescent blotch, smear, smudge, or film is present, the part must be re-cleaned. Ultraviolet light inspection will help to verify that cleaned surfaces are free from any hydrocarbon fluorescence.

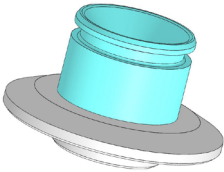

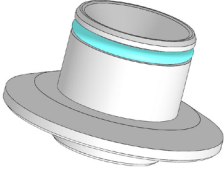

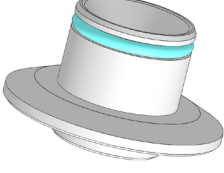
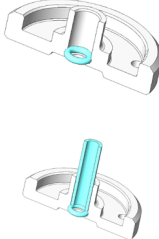
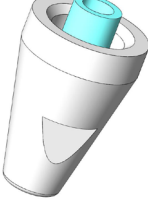
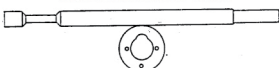
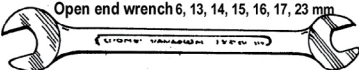

If parts cannot be used immediately for assembly, pack in clean plastic bags to avoid parts from being recontaminated.

5. 1st Stages, Octopus and LP hoses

1st stage assembly:

⚠ Lubricants shall be used sparingly. Excessive quantities of lubricant can trap particulate and other contaminants developing a potential fire hazard.


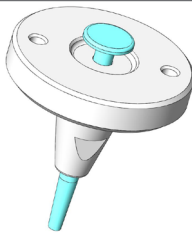
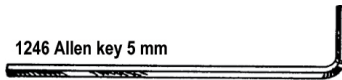
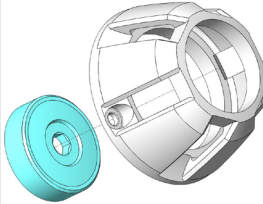

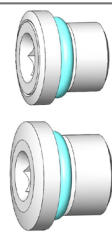
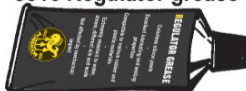
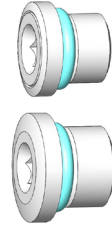
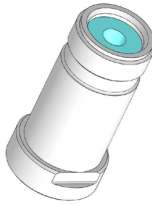
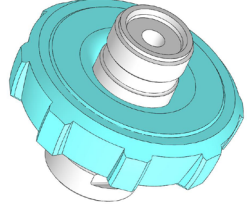
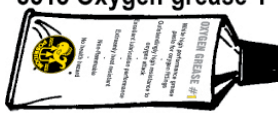
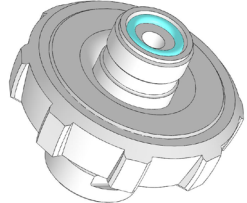
⚠ Parts marked with the (⌚) symbol are parts that must be replaced at every service. New parts should be stored in it's original packing until it is time for assembly.

	Parts	Tools/Instructions		Picture
1	4758 Zytel valve seat Xstream		(⌚)	
2a	0016-036 O-ring, viton (Oxygen/Duration)	Oxygen/Duration 8515 Oxygen grease 1 	(⌚)	
2b	0015-059 O-ring (Deep)	Deep/Dive 8516 Regulator grease 	(⌚)	
3	0015-012 O-ring	Use bushing 4563 to install o-ring		
4	4763 Pin bushing 1.stage Xstream	Make sure fully to the bottom		
5	4777 Lower pin guide Xstream	 3606 Combination tool 2  Open end wrench 6, 13, 14, 15, 16, 17, 23 mm 3 +/- 1 Nm		

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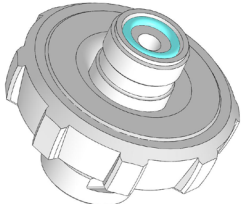
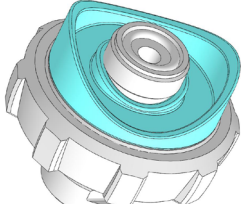

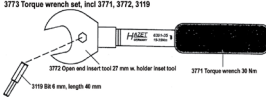
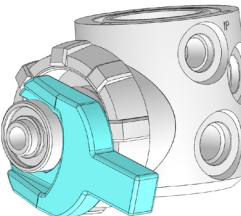
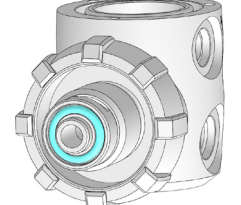
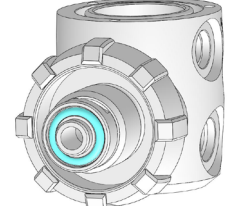

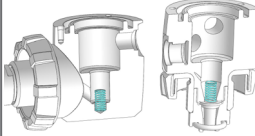
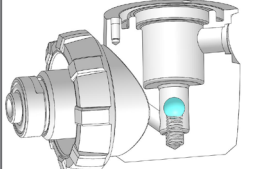
5. 1st Stages, Octopus and LP hoses

1st stage assembly:

	Parts	Tools/Instructions		Picture
6	4759 Actuating pin, Xstream	8507 Oxygen grease 2  Lubricate pin at top section only. Leaving lower end dry. Wipe off excessive grease under the hat.		
7	4798 Adjusting screw	1246 Allen key 5 mm 		
8a	<u>On blindscrew UNF 3/8"</u> 0013-164 O-ring EPDM Duration & Oxygen 3 pcs <u>On blindscrew UNF 7/16"</u> 0011-277 O-ring Viton Duration & Oxygen 2 pcs	Oxygen/Duration 8515 Oxygen grease 1 	↻	
8b	<u>On blindscrew UNF 3/8"</u> 0010-353 O-ring Deep 5 pcs <u>On blindscrew UNF 7/16"</u> 0012-132 O-ring Deep 2 pcs	Deep 8516 Regulator grease 	↻	
9	4552 Cup type filter long		↻	
10	4576-BK Wheel G5/8" black 4576-GN Wheel G5/8" green 0000-150 Wheel White (Oxygen EN144-3)			
11a	0011-277 O-ring Viton (Oxygen / Duration)	Duration 8515 Oxygen grease 1 	↻	

5. 1st Stages, Octopus and LP hoses

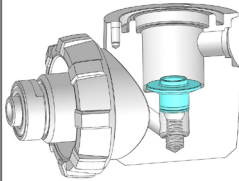
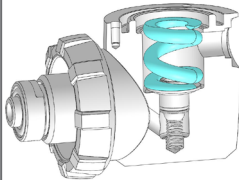

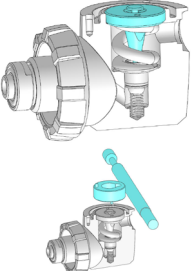

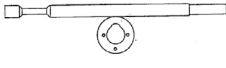
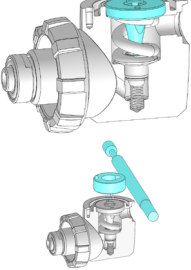
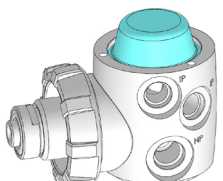

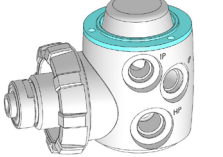
1st stage assembly:

	Parts	Tools/Instructions		Picture
11b	0012-132 O-ring (Deep)	Deep/Dive 8507 Oxygen grease 2 	⌚	
12	4576-BK Line protector, black 4576-GN Line protector, green 4576-WE Line protector, white			
13	4771 Conn. stem 1.stage 90 (Dive / Duration) 4878 Conn. stem 1.stage (Oxygen EN 144-3)	  Ensure line protector is correctly positioned, with one slot facing to the bottom of the housing Torque setting 30 Nm		
14a	0011-037 O-ring viton (Duration) 4807-59 O-ring viton (Oxygen EN 144-3)		⌚	
14b	0012-028 O-ring (Deep)		⌚	
15	4555 Spring for ball Xstream	 Wide end facing upwards, towards the ball.		
16	0000-149 Ruby Ball			

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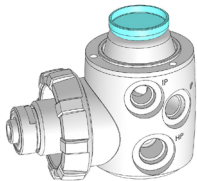
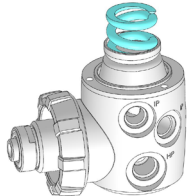
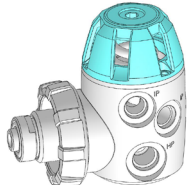

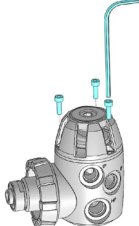

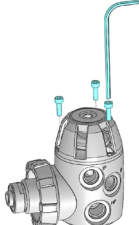
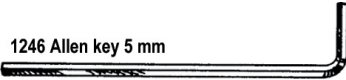
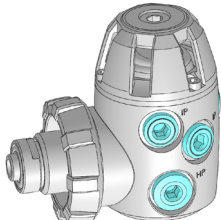
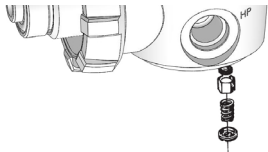

5. 1st Stages, Octopus and LP hoses

1st stage assembly:

	Parts	Tools/Instructions	Picture
17	4760 Valve seat holder Xstream 4758 Zytel valve seat Xstream		
18	4764 Valve seat spring Xstream		
19a	Pin guide assembly	Oxygen/Duration 8515 Oxygen grease 1  3606 Combination tool 2  3 +/- 1 Nm	
19b	Pin guide assembly	Deep 8516 Regulator grease  3606 Combination tool 2  3 +/- 1 Nm	
20	4564 Roll. diaphragm 1.stage Xstream		
21	4570-BK Barrier 1.stage black 4570-WE Barrier 1.stage white 4570-GN Barrier 1.stage green	 You should see the marking "This side up" on the barrier.	

5. 1st Stages, Octopus and LP hoses

1st stage assembly:

	Parts	Tools/Instructions	Picture
22	4565 Pressure plate 1.stage Xstream		
23	4763 Adj. spring 1.stage Xstream		
24	4567-CE Cover Xstream first stage, chrome		
25a	4568 Screw cover M3x10 Xstream 3 pcs	<p>Oxygen/Duration 8515 Oxygen grease 1</p>  4593 Allen key 2,5 mm 3 +/- 1 Nm	
25b	4568 Screw cover M3x10 Xstream 3 pcs	<p>Deep 8516 Regulator grease</p>  4593 Allen key 2,5 mm 3 +/- 1 Nm	
26	2680 Blindscrew UNF 7/16" 2 pcs 2679 Blindscrew UNF 3/8" 5 pcs	 1246 Allen key 5 mm	
27	<p><u>Over pressure valve assembly</u></p> 3726 Valve sealing 3725 Valve piston 1180 Pressure spring 3727 Locking screw	<p>1. Attach the new valve sealing to the valve piston and place the valve piston in the OP valve hole with the seal towards the housing.</p> <p>2. Place the pressure spring in the valve piston and tighten the locking screw with a 4 mm Allen key.</p>	 

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5. 1st Stages, Octopus and LP hoses



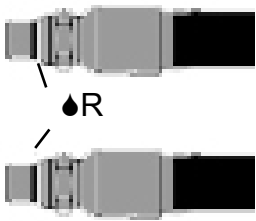


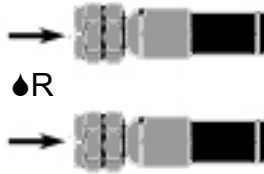


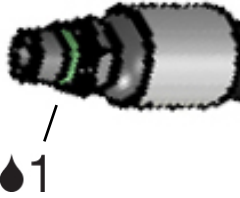


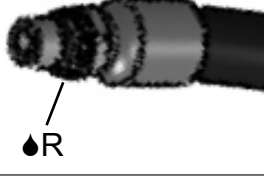
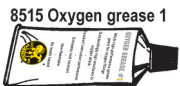



LP hose inspection:

All LP hoses and parts of LP hoses should be checked for damages.

If a hose shows signs of damage it should be replaced.

5. 1st Stages, Octopus and LP hoses

LP hose o-ring replacements:

	Parts	Tools/Instructions		Picture
1	0130-004 LP hose Polyurethan 9/16-18 90cm	Replace the o-rings. 		
	0130-002 LP hose Mk3 - 9/16-18 90cm (Octopus)			
	0010-353 O-ring			
2	0130-004 LP hose Polyurethan 9/16-18 90cm	Replace the o-rings. 		
	0130-002 LP hose Mk3 - 9/16-18 90cm (Octopus)			
	0010-009 O-ring			
3	0130-018 LP hose 16 cm O2 (White - EU version)	Replace the o-ring. 		
	0130-019 LP hose 16 cm O2 (Green - US version)			
	0011-276 O-ring			
4	0130-017 LP hose 16 cm DIL	Replace the o-ring. 		
	0010-353 O-ring			
5	0130-018 LP hose 16 cm O2 (White - EU version)	Replace the o-ring. 		
	0130-019 LP hose 16 cm O2 (Green - US version)			
	0011-006 O-ring			
6	0130-017 LP hose 16 cm DIL	Replace the o-ring. 		
	0010-009 O-ring			

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5. 1st Stages, Octopus and LP hoses

⚠ Parts marked with the (Ⓢ) symbol are parts that must be replaced at every service. New parts should be stored in its original packing until it is time for assembly.

1st stage settings and final inspection:

Property 1st stage	Setting SI units	Setting common units	Setting US units
P1	30 MPa	300 bar	4351 psi
P2	>750 kPa	> 7.5 bar	>109 psi
P3	2 MPa	20 bar	290 psi
P4@P1.	Min 800 kPa - Max 850 kPa	Min 8.0 bar - Max 8.5bar	Min 116 psi - Max123 psi
P4@P3.	Min 800 kPa - Max 850 kPa	Min 8.0 bar - Max 8.5bar	Min 116 psi - Max123 psi
P5	>750 kPa	> 7.5 bar	>109 psi
i	+/- 110 kPa	+/- 1.1 bar	+/-16 psi
R	max 100 kPa	max 1 bar	max 15 psi
Q	0.12 m ³ /h	2 L/min	0.07 ft ³ /min
Internal leaktightness		12 ml/h* * Corresponds to a pressure climb of 0,01 bar/min for a regulator with a 70 cm hose.	
Property 2nd stage	Setting SI units	Setting common units	Setting US units
CP (cracking pressure)	-274 Pa to - 392 Pa	-28 to -40 mm.w.c	-1.1 to -1.6 inch of water

Method for regulators cleaned for oxygen use

⚠ Unless you do have access to an oxygen cleaned test station, you must ensure you do not re-contaminate the regulator when doing the final adjustment and setting. Re-contamination can be caused by e.g. contaminated test gas, contaminated gauge fittings, contaminated regulator connection, contaminated test station pipings etc.

FIRST STAGE SETTING:

- 1) Slowly open cylinder valve
- 2) Check IP
- 3) Close valve
- 4) Purge
- 5) Adjust IP (1/2 turn = 1.5 bar)
- 6) Open valve
- 7) Check IP (loop to 3)
- 8) Close valve
- 9) Purge
- 10) Place the "Calibrated" sticker on the adjustment screw



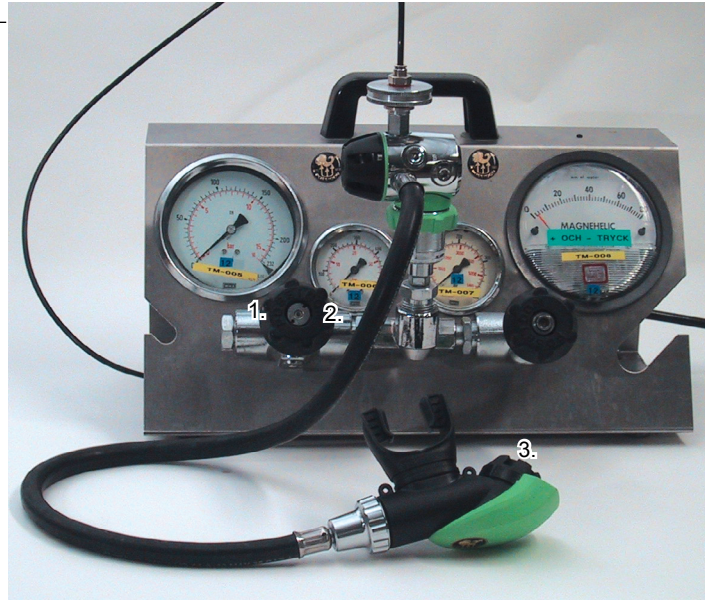
5. 1st Stages, Octopus and LP hoses

1st stage settings and final inspection:

Method for all other regulators

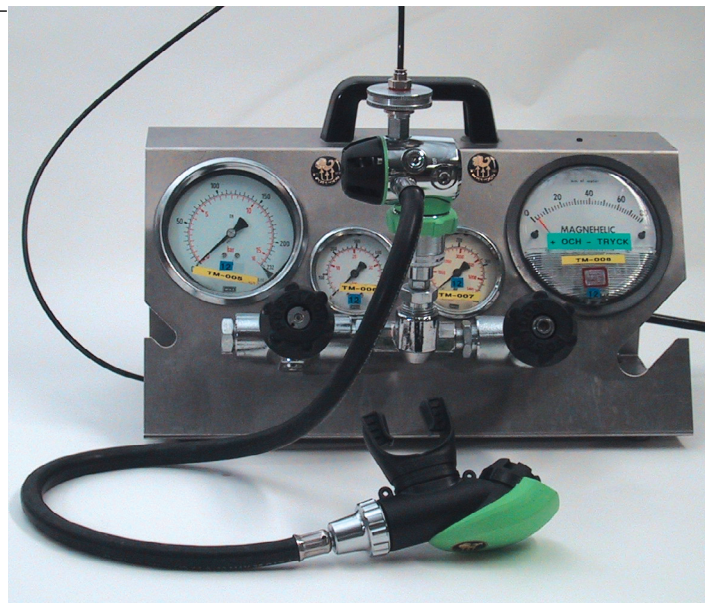
SYSTEM CHECK:

- 1) Open left valve 20 bar
- 2) Close left valve 20 bar
- 3) Purge



FIRST STAGE SETTING:

- 1) Open right valve HP (200-300bar)
- 2) Purge
- 3) Check IP (go to 9 if OK)
- 4) Close right valve
- 5) Purge
- 6) Adjust IP (1/2 turn = 1.5 bar)
- 7) Open right valve
- 8) Check IP (loop to 4)
- 9) Close right valve
- 10) Purge
- 11) Open left valve (20 bar)
- 12) Check IP
- 13) Close left valve
- 14) Purge
- 15) Place the "Calibrated" sticker on the adjustment screw



5. 1st Stages, Octopus and LP hoses

1st stage technical data:

Torque table:

Part subject to torque wrench use	Newton Meter Nm	Inch Pounds Inch-lbs	Foot Pounds Ft-lbs	Kilogram Meter Kgm
Blind screws	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1
First stage connection stem to body	30 +/- 2	265 +/- 18	22 +/- 2	3 +/- 0.2
Centre piece	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1
Lower centre piece	3 +/- 1	27 +/- 5	2.2 +/- 0.4	0.3 +/- 0.05
Cover screws 1 st stage	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1

Product data:

General:	
	Deep Air / Trimix
	Duration Air / Oxygen
	Oxygen Air / Oxygen
Maximum working pressure	300 bar (4351 psi)
Cold water performance	Exceeding EN 250 requirements for cold water use
Approvals	Type Approved acc. to EU Directive Personal Protective Equipment 89/686/EEC
Applicable Performance Standards	EN 738-1, clause 6.6, 6.6.2 NORSOK U-101 clause 5.2-5.5, 5.9 EN 250:2000
	Deep No
	Duration Yes
	Oxygen Yes
	Deep Nitrile, EPDM, Viton
	Duration Viton, EPDM, Nitrile
	Oxygen Viton, EPDM, Nitrile
Lubricants	Poseidon 1; BAM appr. 270 bar @ 100°C Poseidon R; silicone oil.
	Deep Black
	Duration Green
	Oxygen White
Warranty	24 months

5. 1st Stages, Octopus and LP hoses

1st stage technical data:

Product data: (cont.)

1st stage			
Flowrate (l/min)	>4000 l/min (>141 scfm)		
Nominal inter-stage pressure	8.5 bar (123 psi)		
Weight	Deep	1100 g	
	Duration		
	Oxygen		
Anti-Freeze protection	Built in T.D.A		
Technique	Rolling diaphragm		
Valve technique	Ball valve		
Seat material	Zytel		
Test pressure	450 bar (6526 psi)		
Ports	Deep	5 IP (UNF 3/8")	
		2 HP (UNF 7/16")	
	Duration Oxygen	5 IP (UNF 3/8") /	
		2 HP (UNF 7/16")	
	Deep	DIN 477, G5/8" – Yoke adapter available	
		DIN 477, G5/8" – Yoke adapter available	
Oxygen	EN 144-3/M26x2		
Material	Brass, plastics, stainless steel		
Hose			
Burst pressure	>100 bar (1450 psi)		
Pull strength	>1000 Newton (225 lbf)		
Material	Reinforced NBR/SR		
Safety inspection holes	Both ends		
Wear protecting crimps	Both ends		
Oxygen cleaned	Available		

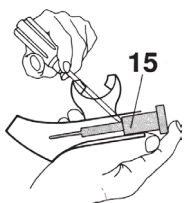

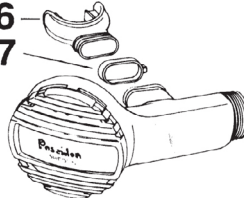

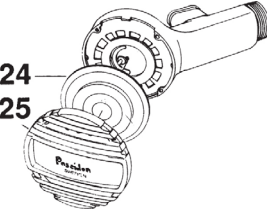

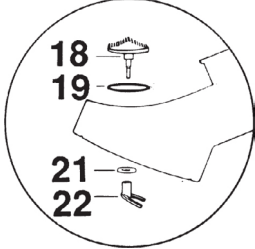
Conversion table:

Known	Unknown	Multiply by
Bar	psi	14.5
Psi	bar	0.07
mm.w.c	mbar	0.1
mbar	mm.w.c	10
litre	ft ³	0.0353
ft ³	litre	28.32
m	ft	3.28
ft	m	0.305
Nm	poundfoot	0.7375
Poundfoot	Nm	1.356

5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

Disassembly

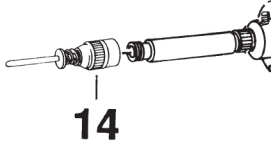

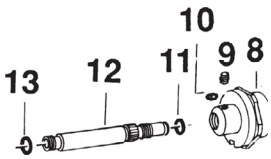
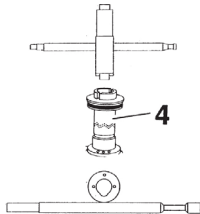

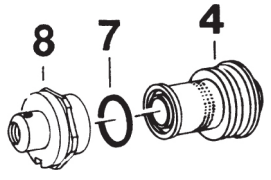

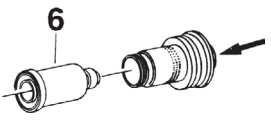

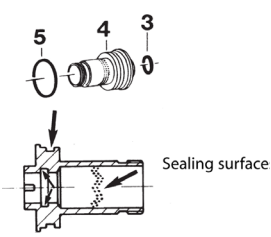
	Parts	Tools/Instructions		Picture
1	0130-002	Disconnect the low pressure hose from the second stage.		
2	3088	Remove the low pressure valve from the housing (15) with a screwdriver. Make sure the servo valve needle is not bent. Be sure to hold the low pressure valve carefully, to avoid dropping it (see figure).		
3	3202 1167	Cut off the locking strap (17) with cutting pliers. Remove the mouth piece (16).		
4	2851	Unscrew the 4 screws (26) with a 3.5 mm screwdriver.		
5	2578 2989	Remove the cover (25) and the diaphragm (24).		
6	2853	Remove the purge button (27).		
7	2711 0010-018 2794 2712	IMPORTANT The switch should not be removed if it is undamaged. Removal: 1. Pull out the diaphragm cam (22). 2. Cut off the switch (18) with a pair of cutting pliers close to the locking washer (21). Remove the switch. 3. Remove the o-ring (19).		

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5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

Disassembly

	Parts	Tools/Instructions		Picture
8	2786	Remove the servo valve (14).		
9	2875 0015-019 2839 0010-002 2787	Unscrew the stop screw (9) and remove the valve tube (12). Remove the o-rings (11) (13) with an o-ring remover. Make sure the sealing surfaces are not damaged. Remove the rubber plate (10).		
10	2857	Place the valve housing in the tool. Unscrew the valve housing (4) with a special spanner.		
11	0012-007	Remove the o-ring (7) with an o-ring remover. Make sure the sealing surfaces are not damaged.		
12	3440	Remove the valve insert.		
13	0010-355 0010-025	Remove the o-rings (5) (3) with an o-ring remover. Make sure the sealing surfaces are not damaged.		

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5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

Cleaning

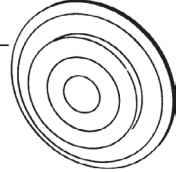



When servicing the regulator all parts in service kit # 3549 should be replaced.

CLEANING:

If corrosion or salt deposits occurs, place all metal parts – concentrated Hempodid* or 15% Hydrochloric acid for about 10 minutes. Then, rinse the parts thoroughly and blow dry with air. The synthetic parts in the second stage must not be treated with solvent. They shall be cleaned in freshwater only.

**Hempodid = Acid Liquid Detergent Containing phosphoric acid (5 - 10%) and bactericid for desinfectant cleaning.*

Before assembly, check the following

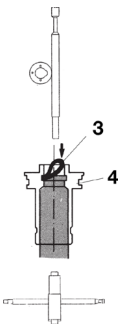
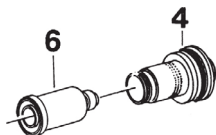

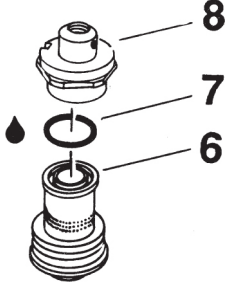
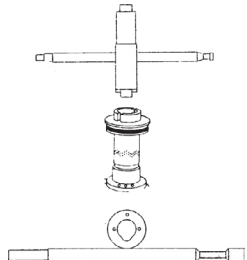

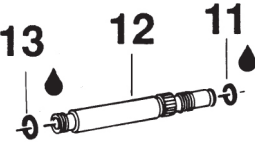
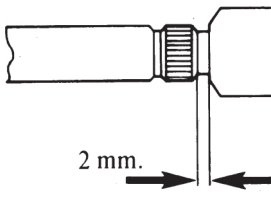
	Parts	Tools/Instructions	Picture
1	2578	Diaphragm (24). Check that the sealing surface of the diaphragm is even. Also check that there are no holes in the diaphragm and that the diaphragm washer is properly fixed in position.	24 
2	3202	The mouth piece (16). Make sure there are no cracks.	16 
3	2853	The purge button (27). Make sure there are no cracks. Check to make sure the spring is undamaged.	27 
4	2786	Servo valve (14). Check to make sure that the valve bar is not bent.	14 
5		The switch: Put the switch into - and + position. It should be moved rather slowly, control the position of the diaphragm and that it is properly tighten.	

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5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

Assembly

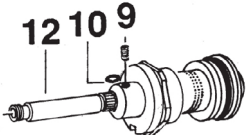
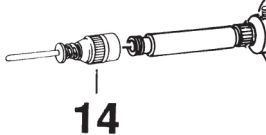

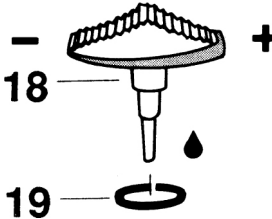
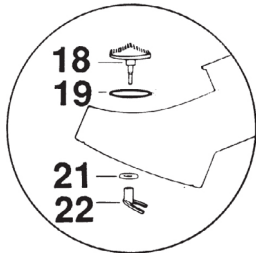
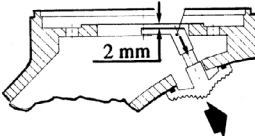
	Parts	Tools/Instructions		Picture
1	0010-355 2857	Mount the o-rings (5,3) on the valve housing (4). Use the tools. See picture.	(C)	
2	2857 3440	Install the valve insert (6) in the valve housing (4). Do not use any lubricant on the valve insert (4), use only soap and water.		
3	2857 0012-007 2974	Place the o-ring (7) in the groove of the valve insert (6). Lubricate the thread. Install the valve housing nut (8). 	(C)	
4	2857 2974	Place the valve housing in the handle. Tighten with a tool. See picture.		
5	0015-019 2839 0010-002	Install the o-rings (11,13) on the valve tube (12). Lubricate the threads and the o-rings. 	(C)	
6	2839	Screw in the valve tube (12) until about 2 mm space remains as illustrated.		

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5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

Assembly

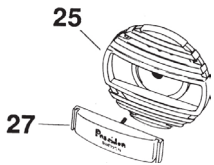
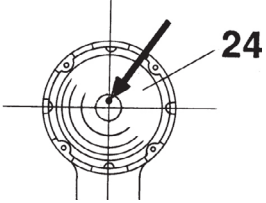

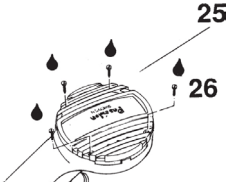
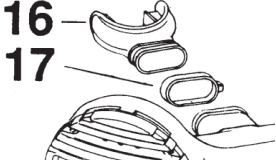
	Parts	Tools/Instructions		Picture
7	2857 2787	Install the rubber plate (10). Screw in the stop screw (9). Tighten the stop screw to a point where you can still turn the valve tube (12).	(C)	
8	2786	Screw the servo valve (14) on to valve tube (12). Tighten up. Be careful not to bend the valve needle.		
9	2711 0010-018	SWITCH (Only if the switch is damaged) Fit in o-ring (19) and lubricate it. Fit in the switch with the narrow part against the - minus sign on the second stage valve. See Picture. 8516 Regulator grease 		
10	2711 0010-018 2794 2712	Install the locking washer (21) on the switch (18). Press it on a drift. Tighten the locking washer so that there is sufficient resistance when setting the switch. Fix the diaphragm cam (22) upon the switch (18). Set switch at - (minus), press the diaphragm cam into correct position per the diagram.		
11		The distance from the top of the diaphragm cam to the housing should be 2 mm, concerns diaphragm of silicone rubber, see diagram. Carefully push diaphragm cam into the right position. Note the cam should be pushed slowly on to the switch so that the switch is not moved.		

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5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

Assembly

	Parts	Tools/Instructions		Picture
12	2989 2853	Fit the purge button in the cover (25) for the second stage. Make sure that the spring is undamaged.		
13	2578	Position the diaphragm (24) with the diaphragm washer facing down wards and the hole positioned as illustrated.		
14	2989 2851 x 4	Position the cover (25) for the second stage according to the adjacent illustration. Lubricate the screw and tighten (27) with a screwdriver. 8516 Regulator grease 		
15	3202 1167	Install the mouth piece (16) and the locking strap (17). Tighten up and cut off with plastic band pliers.		
16		Checking the second stage for leaks: Place the mouth piece against your lips and cover the low pressure hose connection with your thumb and inhale lightly. This will create a partial vacuum inside the second stage. If the pressure does not equalize in 5 second stage leaks. Then you need to check to make sure you have mounted all o-rings.		

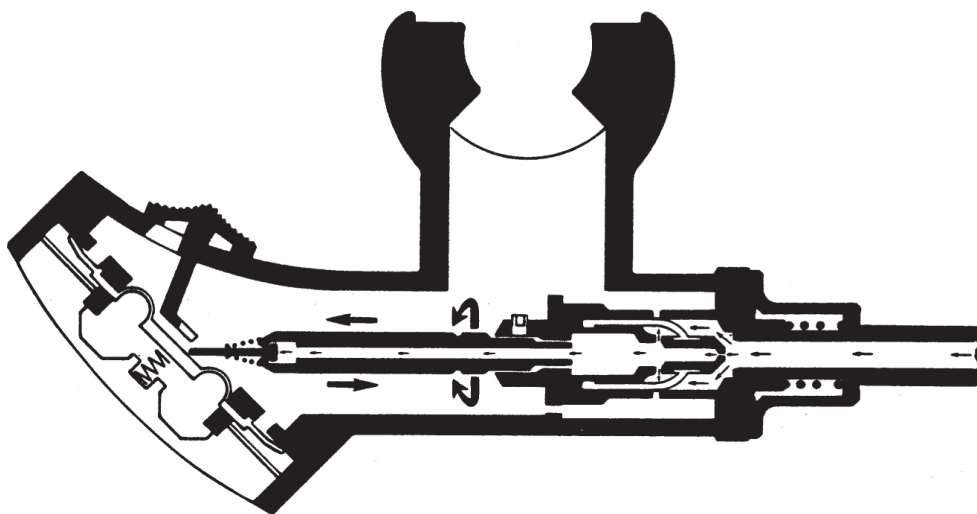
Revision: 2.8 Date: 17-04-12 Approved by: JN

5. 1st Stages, Octopus and LP hoses

0100-002 Jetstream Mk3 Octopus

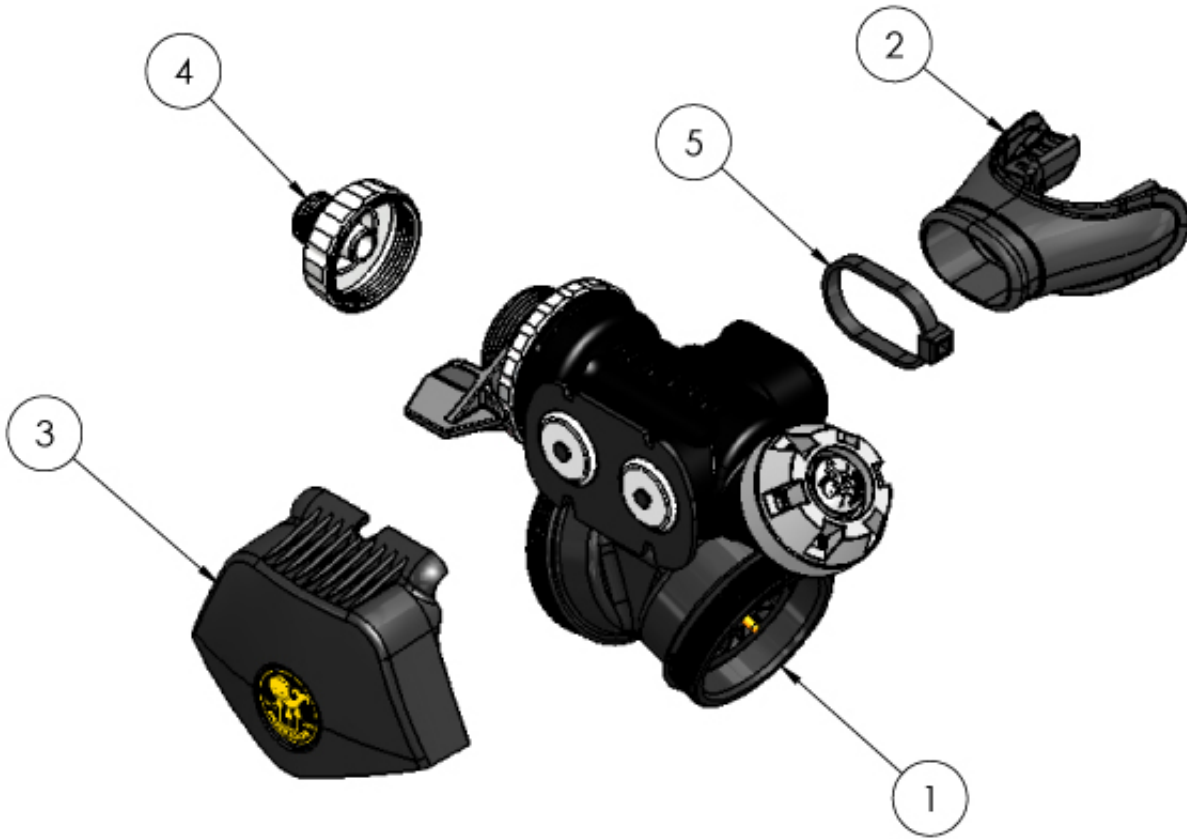
Adjustment of the inhalation resistance

Tools/Instructions	
1	<p>Connect the Xstream Depp DIL 1st stage to the test equipment.</p> <p>Connect the test manometer hose to one of the low pressure outlets..</p> <p>Connect the Jetstream Octopus to one of the low pressure outlets on the Xstream Deep DIL 1st stage.</p>
2	<p>Pressurize the 1st stage at maximum tank pressure.</p>
3	<p>Connect the oval connecting pipe on the inhalation resistance gauge to the mouth-piece on the Octopus.</p> <p>Test-breathe very carefully. Check the reading of the gauge needle, which should rise to 35-40 mm/vp and then move back. The turning point reading equals the inhalation resistance. If the reading is too low, screw the valve tube away from the diaphragm as shown in the picture below. If the reading is too high, screw the valve tube towards the diaphragm.</p> <p>Tighten up the stop screw.</p> <p>Repeat the inhalation test again to verify that the inhalation resistance remains the same after the stop screw has been tightned.</p>



6. Mouthpiece G1

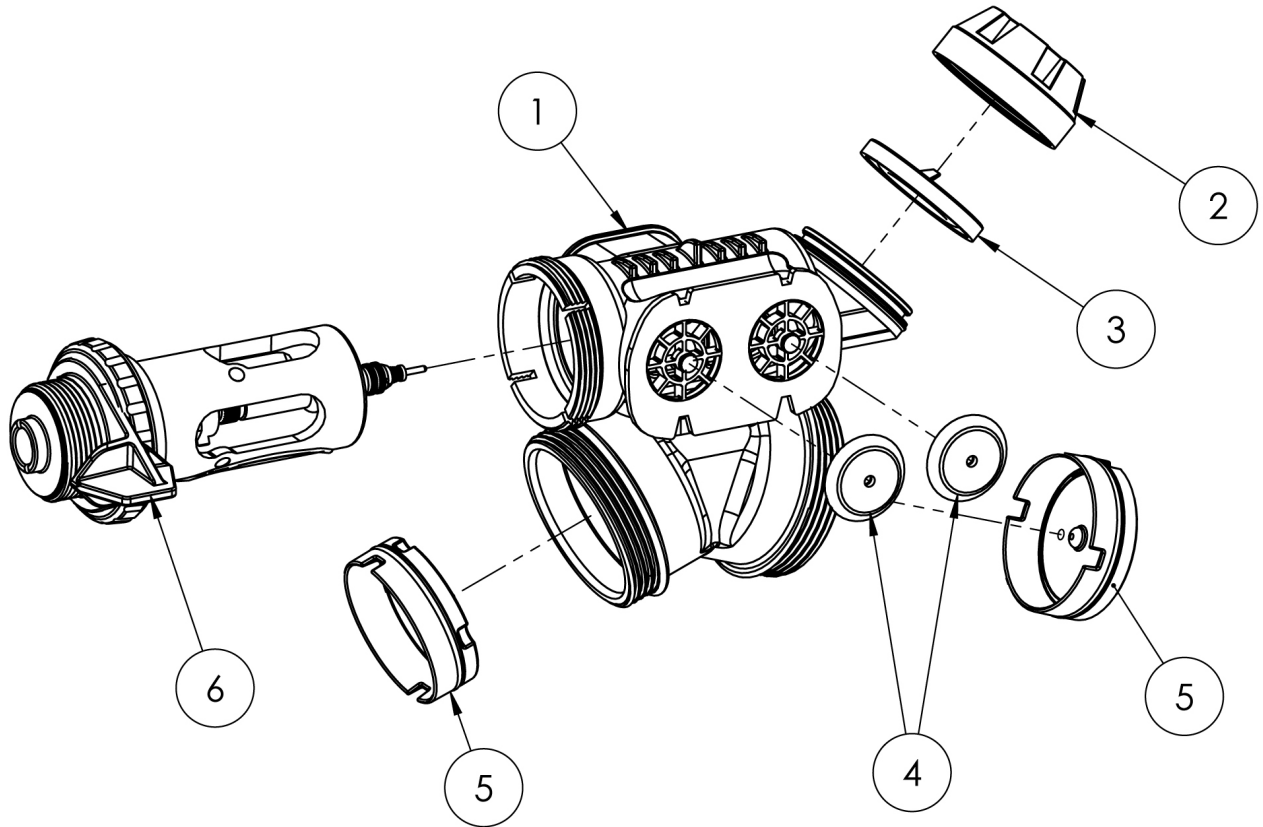
Mouthpiece: 6011-001



Item #	Article #	Description	Qty
1	6010-000	Mouthpiece house assembly	1
2	4532	Mouthpiece AIR	1
3	6010-005	OC outlet	1
4	0000-130	Hose adapter	1
5	1167	Cable tie	1

6. Mouthpiece G1

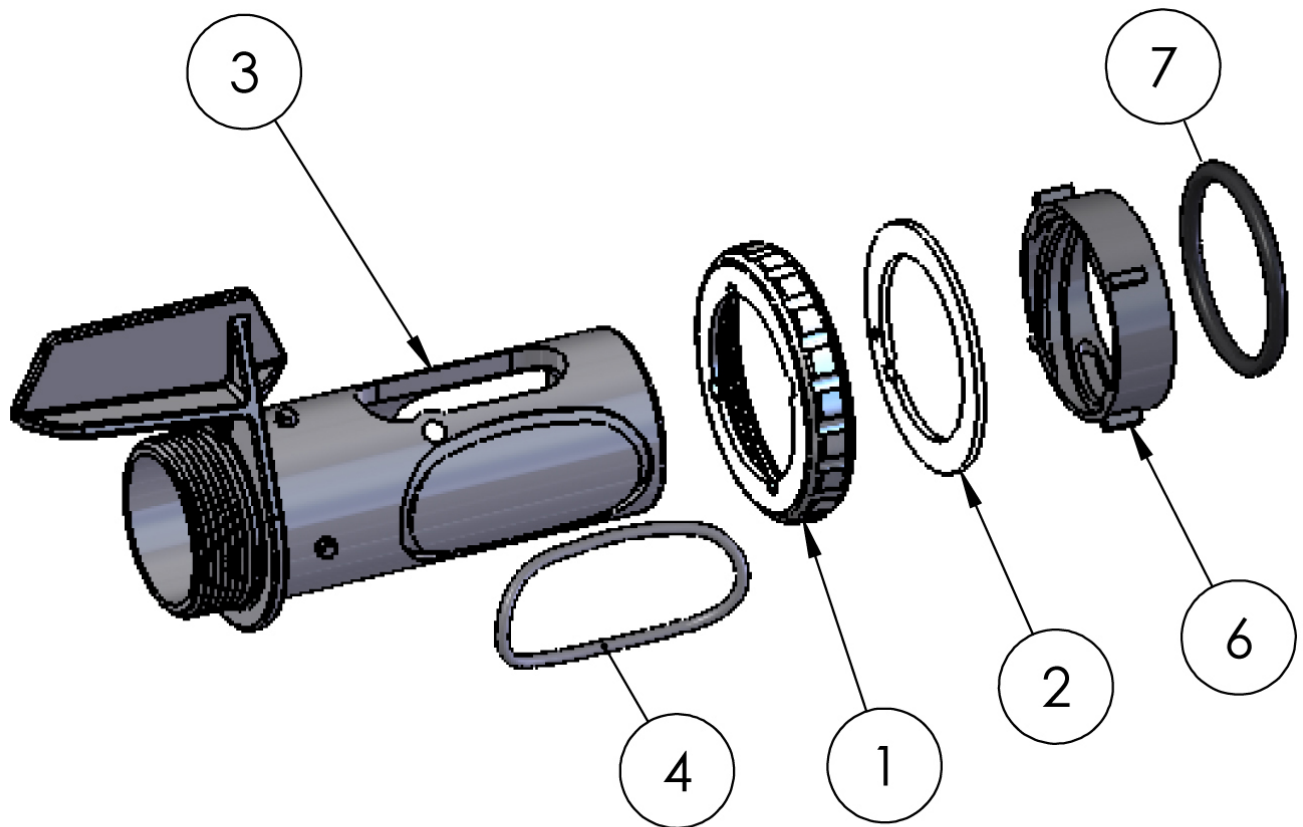
Mouthpiece: House assembly



Item #	Article #	Description	Qty
1	6010-001	Mouthpiece house	1
2	4536	Diaphragm cover	1
3	4533	Membrane with washer	1
4	0000-232	Membrane mouthpiece	2
5	6010-013	Membrane holder complete	2
6	6010-010	DV Switch	1

6. Mouthpiece G1

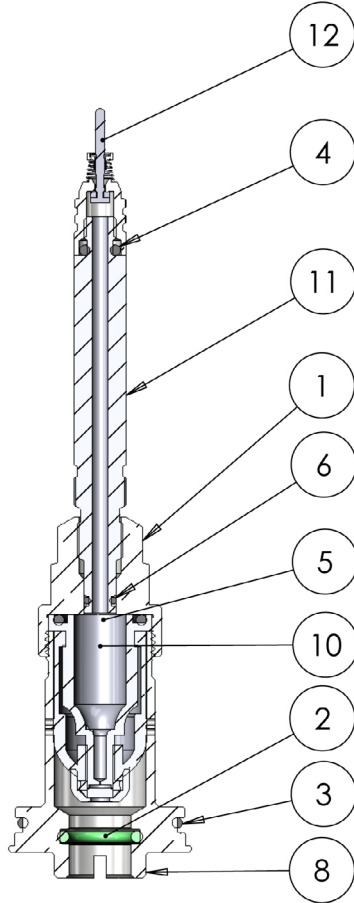
Mouthpiece: DV Switch (6010-010)



Item #	Article #	Description	Qty
1	6010-104	Lock nut	1
2	0000-602	Plastic washer	1
3	6010-012	Barrel magnet	1
4	0015-245	O-ring	1
6	6010-114	Helix block	1
7	0010-120	O-ring	1

6. Mouthpiece G1

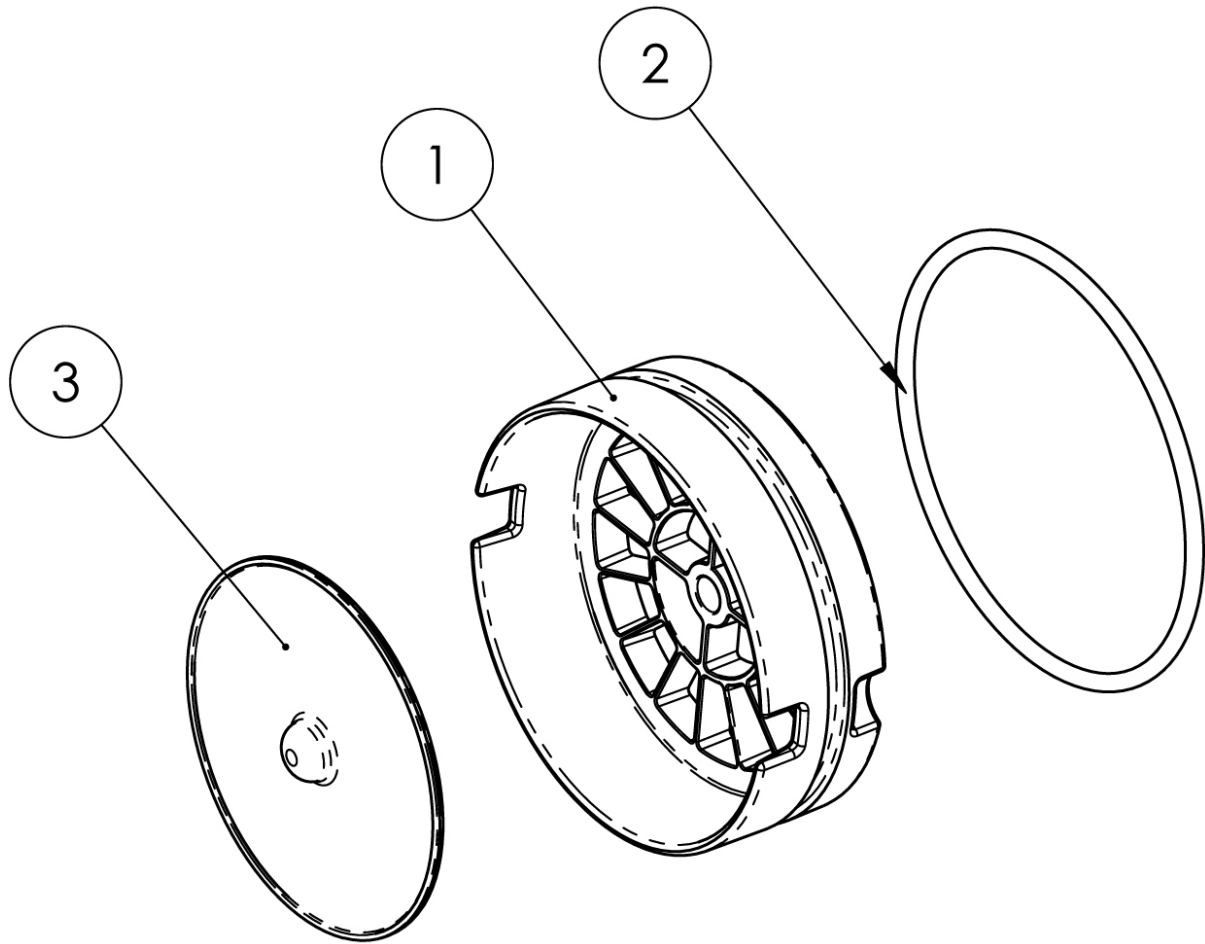
Mouthpiece: Low pressure valve MkVI (0005-000)



Item #	Article #	Description	Qty
1	0000-148	Valve house nut	1
2	0011-278	O-ring	1
3	0012-016	O-ring	1
4	0013-001	O-ring	1
5	0013-009	O-ring	1
6	0013-351	O-ring	1
7	2787-07	Rubber plate	1
8	2857	Low pressure valve house	1
9	2875	Stop screw	1
10	3440 07	Valve insert	1
11	2839	Valve tube	1
12	2786 07	Servo valve	1

6. Mouthpiece G1

Mouthpiece: Membrane holder complete (6010-013)

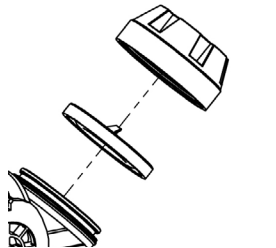
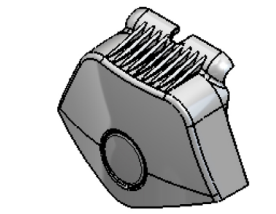
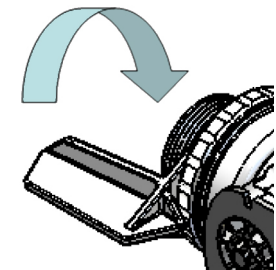
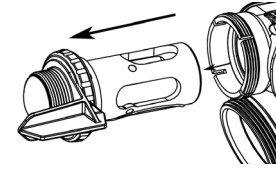
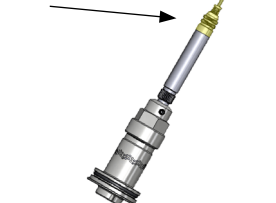




Item #	Article #	Description	Qty
1	0000-324	Membrane holder	1
2	0010-032	O-ring	1
3	0000-323	Membrane Check valve	1

6. Mouthpiece G1

Mouthpiece:

Disassembly



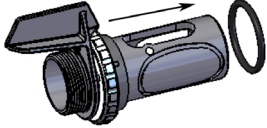
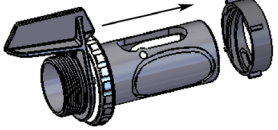
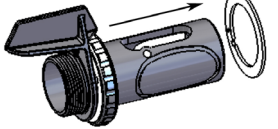
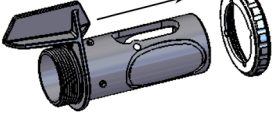
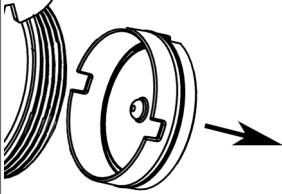
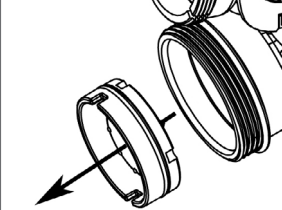
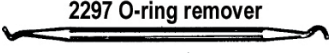

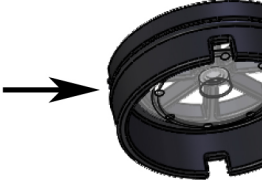
Parts	Tools/Instructions	Picture
1 Remove the LP hose from the hose adaptor.		
2 Remove the Diaphragm cover (4536) from the mouth piece housing. Remove the membrane with washer (4533) from the mouth piece housing.		
3 Remove the OC outlet (6010-005) from the mouth piece housing.	Do not use force when removing the OC outlet.	
4 Remove the DV Switch (6010-010) from the mouth piece housing by unscrewing the Lock nut (6010-104). When the lock nut is un-screwed, turn the DV switch upwards until the DV switch points towards the divers face.		
5 Then pull the DV switch out.	Be carefull NOT to damage the barrel magnet!	
6 Unscrew the servo valve from the valve tube.		
7 Remove the O-ring (0015-245)		

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6. Mouthpiece G1

Mouthpiece:

Disassembly

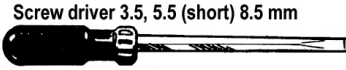
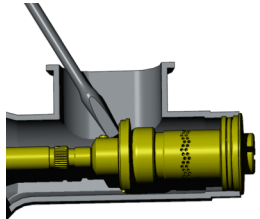
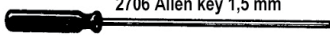
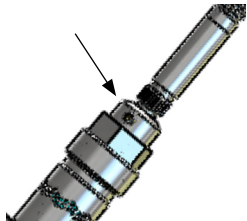
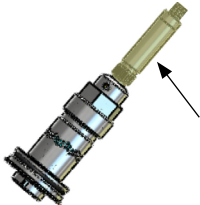
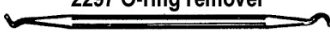

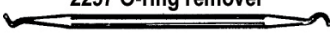

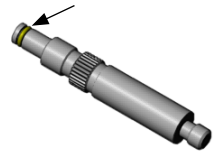
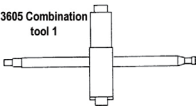
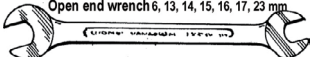
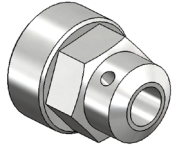
	Parts	Tools/Instructions		Picture
8	0010-120 O-ring	Remove the o-ring from the barrel. 		
9	6010-114 Helix block	Unscrew the helix block and then slide it off the barrel.		
10	6010-257 Plastic washer	Remove the plastic washer from the barrel.		
11	6010-104 Lock nut 6010-122 Barrel	Slide the lock nut off the barrel.		
12	Use a set of pliers to remove the Membrane holder (6010-013). Start with the exhale side. Grab with the pliers and pull gently.			
13	Push the inhale side out.			
14	Remove the o-ring (0100-032) from the two membrane holders			

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6. Mouthpiece G1

Mouthpiece:

Disassembly



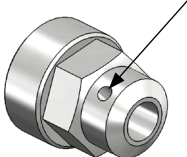


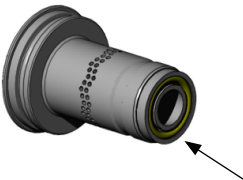
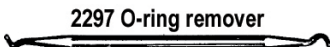

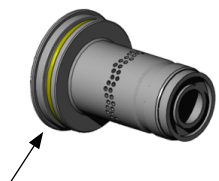
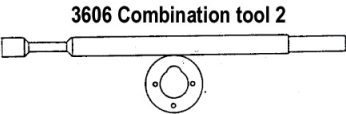
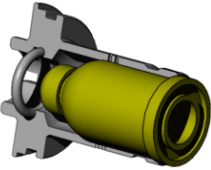
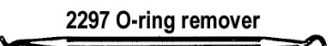

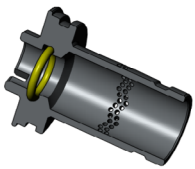
	Parts	Tools/Instructions		Picture
15	Remove the hose adaptor from the DV switch barrel			
16	Remove the Low pressure valve from the mouth piece housing.	Screw driver 3.5, 5.5 (short) 8.5 mm 		
17	Remove the stop screw (2875) that holds the valve tube locked in the valve house nut.	2706 Allen key 1,5 mm 		
18	Unscrew the valve tube (4902) from the valve house nut.			
19	Remove the 0013-001 O-ring from the valve tube.	2297 O-ring remover 		
20	Remove the 0013-351 O-ring from the valve tube.	2297 O-ring remover 		
21	Unscrew the valve house nut (0000-148) from the low pressure valve housing (2857).	3605 Combination tool 1  Open end wrench 6, 13, 14, 15, 16, 17, 23 mm 		

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6. Mouthpiece G1

Mouthpiece:

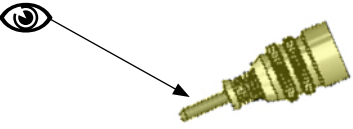
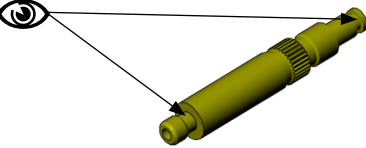
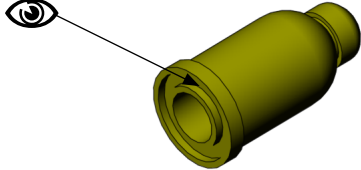
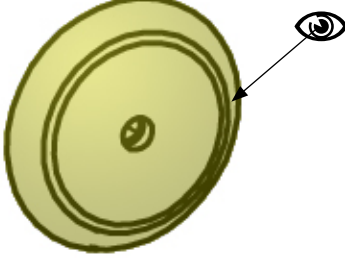
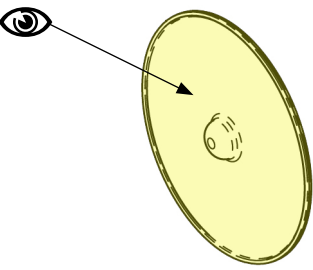
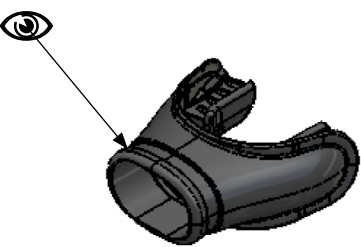
Disassembly

	Parts	Tools/Instructions		Picture
22	Remove the rubber plate (2787) that is located under the stop screw (2875).	 <p>2297 O-ring remover</p>		
23	Remove the O-ring (0013-009)	 <p>2297 O-ring remover</p>		
24	Remove the O-ring (0012-016)	 <p>2297 O-ring remover</p>		
25	Remove the valve insert (3440) from the low pressure valve housing by pushing it out.	 <p>3606 Combination tool 2</p>		
26	Remove the o-ring (0011-278) from the inside of the low pressure valve housing.	 <p>2297 O-ring remover</p>		

6. Mouthpiece G1

Mouthpiece:

Inspection

	Parts	Inspect	Picture
1	Servo valve (2786 07)	Make sure that the tip is not bent.	
2	Valve tube (4902)	Check O-ring sealing surfaces	
3	Valve insert (3440)	1. Ensure no circular cuts on bladder surface. 2. Check O-ring sealing surface.	
4	0000-232 membrane	Make sure the membrane isn't damaged. Replace if damaged.	
5	0000-323 Membrane Check valve	Make sure the check valves aren't damaged. Replace if damaged.	
6	4532 Mouthpiece AIR	Check for damage and holes. replace if damaged.	

6. Mouthpiece G1

Mouthpiece:

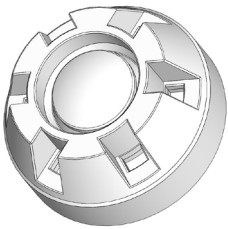
Cleaning

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempoicid* or 15% Hydrochloric acid for about 10 minutes or wash them in an ultra sonic washer.

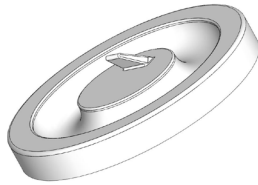
Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

*Hempoicid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning

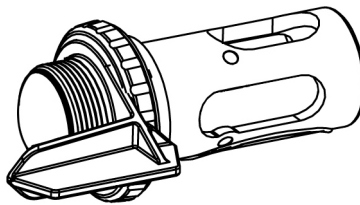
Bag the parts below in a plastic bag for later assembly. These parts shall not be ultra sonic cleaned but we recommend that you soak these parts in Gigasept and then rinsed in fresh water.



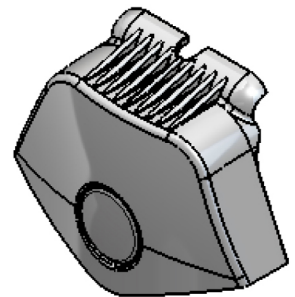
4536 - Diaphragm cover



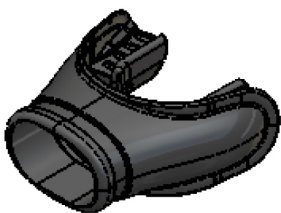
4533 - Membrane with washer



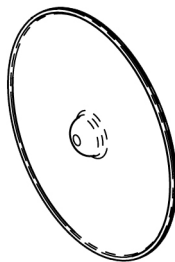
6010-122 - Barrel with 6010-010 DV Switch



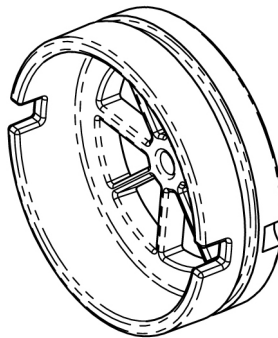
6010-005 - OC Outlet



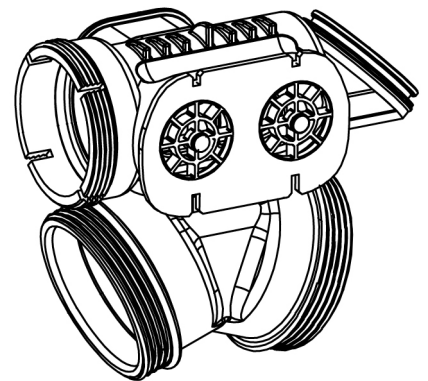
4532 - Mouthpiece



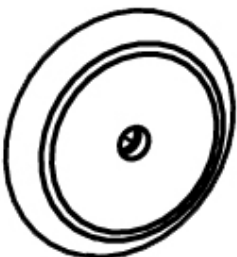
0000-323 - Membrane Check valve



6010-116 - membrane holder.



6010-001 - Mouthpiece housing



0000-232 - Membrane mouthpiece

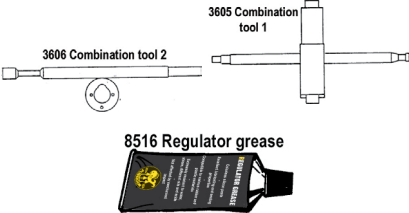
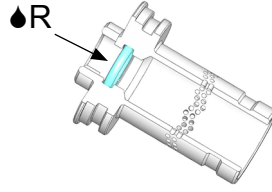
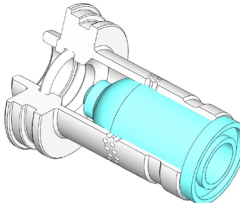

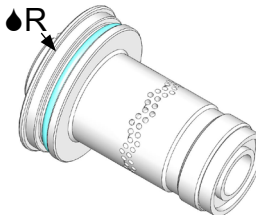

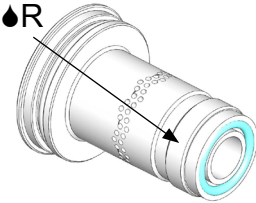
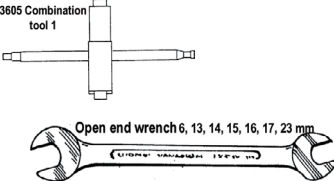
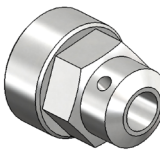

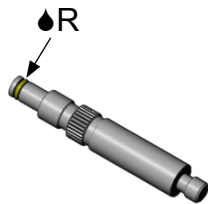

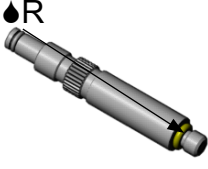


0000-257 - Washer

6. Mouthpiece G1

Mouthpiece:

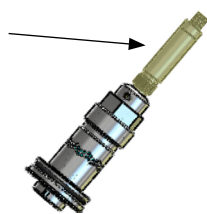
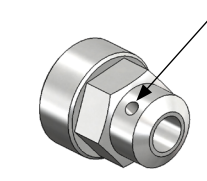
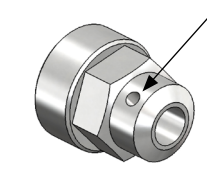
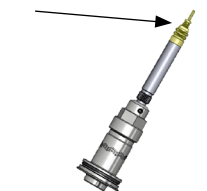
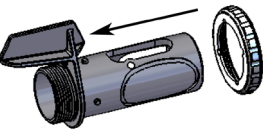
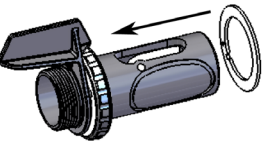
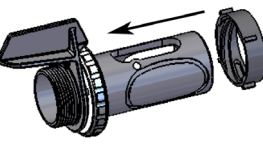
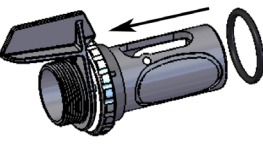
Assembly

	Parts	Tools/Instructions	Replace	Picture
1	0011-278 O-ring, viton	 <p>3606 Combination tool 2</p> <p>3605 Combination tool 1</p> <p>8516 Regulator grease</p>	↻	 <p>●R</p>
2	3440 Valve insert	<p>Do not use lubricant on the valve insert.</p> <p>Only use soap and water.</p>		
3	0012-016 O-ring	 <p>8516 Regulator grease</p>	↻	 <p>●R</p>
4	0013-009 O-ring	 <p>8516 Regulator grease</p>	↻	 <p>●R</p>
5	0000-148 Valve housing nut	 <p>3605 Combination tool 1</p> <p>Open end wrench 6, 13, 14, 15, 16, 17, 23 mm</p> <p>3 +/- 1 Nm</p>		
6	0013-351 O-ring	 <p>8516 Regulator grease</p>	↻	 <p>●R</p>
7	0013-001 O-ring	 <p>8516 Regulator grease</p>	↻	 <p>●R</p>

6. Mouthpiece G1

Mouthpiece:

Assembly


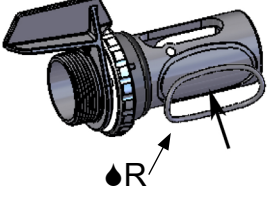
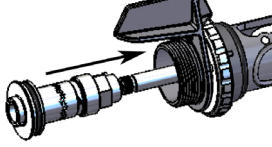
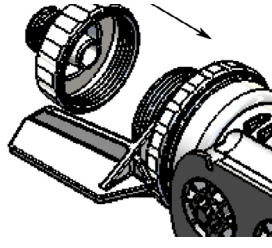
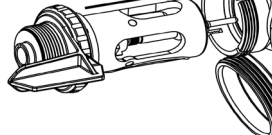
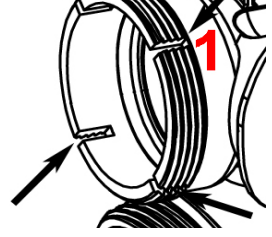
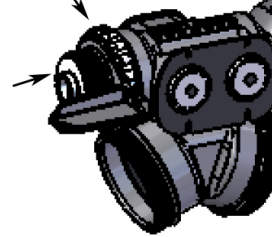
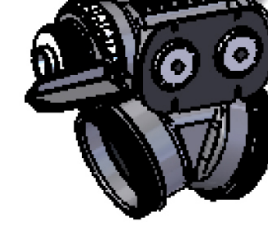
	Parts	Tools/Instructions	Replace	Picture
8	4902 Valve tube			
9	2787 Rubber plate	2297 O-ring remover	↻	
10	2875 Stop screw	2706 Allen key 1,5 mm		
11	4545 Servo valve			
12	6010-104 Lock nut 6010-122 Barrel	Thread the lock nut on to the barrel.		
13	6010-257 Plastic washer	Thread the plastic washer on to the barrel. Use the groove in the washer to slide over the knobs.	↻	
14	6010-114 Helix block	Thread the helix block on to the barrel. Then screw it on to the small knobs on the barrel.		
15	0010-120 O-ring	Thread the o-ring on to the barrel.	↻	

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6. Mouthpiece G1

Mouthpiece:

Assembly

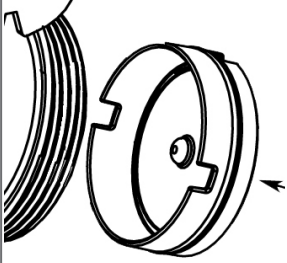
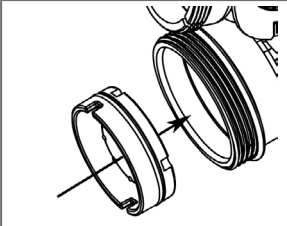
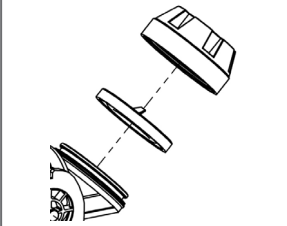
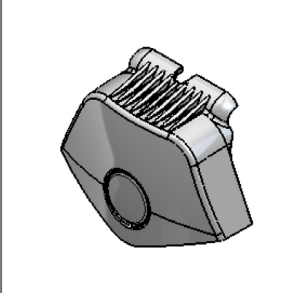
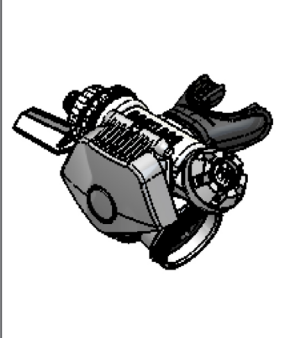
	Parts	Tools/Instructions	Replace	Picture
16	0015-245 O-ring	Place the o-ring in the groove. Apply a lot of lubricant! 	☐	
17	0005-000 LP valve 6010-010 DV Switch	Insert the LP valve in to the DV Switch. The locking screw on the LP valv should point in the oposite direction of the DV Switch lever.		
18	0000-130 Hose adapter	Attach the hose adpter to the DV switch assembly.		
19	Push the assebled DV Switch and LP valve in to the mouth piece housing.	The 0015-245 O-ring should be facing upwards and the DV Switch lever should be pointing towards the divers face.		
20	When the assebled DV Switch and LP valve is pushed half way in to the mouth piece housing, turn the DV switch lever forward, to OC position.	The guiding pin on the helix block, closest to the DV Switch lever should align with the groove marked No 1. When aligned, push the DV switch assembly in to position.		
21	Start attaching the DV switch assembly to the mouth piece housing by fastening the lock nut.	As you turn the lock nut, push the DV valve assembly in to the mouth piece housing.		
22		When the lock nut has grabbed on to the threads of the mouthpice housing, turn the DV switch to CC position and make sure the lock nut is tightned.		

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6. Mouthpiece G1

Mouthpiece:

Assembly

	Parts	Tools/Instructions	Replace	Picture
23	6010-116 membrane holder with membrane.	Start with the inhale membrane. Push the membraneholder in to the mouthpiece housing. The membrane should be on the inside of the membrane holder.		
24	6010-116 membrane holder with membrane.	Do the same with the exhale membrane. Note that the membrane should be on the outside of the membrane holder.		
25	4536 Diaphragm cover 4533 membrane with washer	Push the membrane in to the mouth piece housing. Then snap on the diaphragm cover.		
26	6010-005 OC cover	Snap the OC cover back on to the mouth piece housing.		
27	6011-001 Mouthpiece	Assembly of the mouthpiece is now complete.		

6. Mouthpiece G1

Mouthpiece:

Adjustment and final inspection

	Action	Tools/Instructions	Picture
1	Attach the assembled mouthpiece to a 1st stage that is connected to a test box.	Make sure the 1st stage is set to an intermediate pressure of 8,5 bar / 123,25 psi	
2	Set the mouth piece to Open Circuit (OC)	If you look in to the mouth piece hole, you should see the locking screw on the LP valve insert.	
3	Loosen the locking screw on the LP valve housing nut.	Loosen the stop screw just enough to allow the valve tube to move.	
4	Adjust the cracking pressure of the LP valve by turning the valve tube up or down.	By turning the valve tube upwards, you move the servo valve closer to the 4533 membrane, lowering the cracking pressure. Use the 2705 Adjustment tool.	
5	While still in OC mode.	Adjust the valve tubing to a position that you think will give the desired cracking pressure of 30 cm w.c. Tighten the stop screw on the LP valve housing nut	
6	Turn the DV switch over to Closed Circuit (CC) mode.	While in CC mode: Hold the mouthpiece-part of the cracking pressure gauge tight to the outlet of the mouthpiece. Block the inhalation membrane opening.	

6. Mouthpiece G1

Mouthpiece:

Adjustment and final inspection

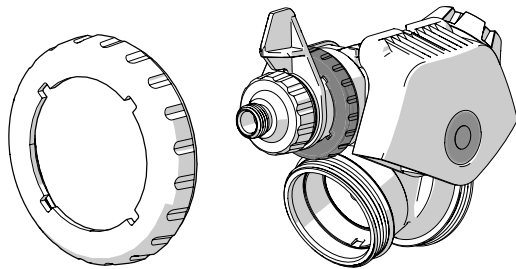
	Action	Tools/Instructions	Picture
7	Take a few rather slow and long inhalations from the mouthpiece part and simultaneously check the pressure gauge needle. The inhalation membrane must be blocked during this action.	It shall during inhalation reach a level of 30 cm.w.c, and at the end of the inhalation decrease again.	
8		If the reading is too high or too low, turn the DV Switch over to OC mode and loosen the locking screw on the valve housing nut. Adjust the valve tube and servo valve.	
9		Screw the valve tube and servo valve closer to the diaphragm to lower the w.c. To increase the w.c, screw them away from the diaphragm.	
10	Repeat Action #7, #8 and #9 untill the correct cracking pressure of 30 cm w.c has been set.	Once 30 cm w.c has been set, do a final test with the locking screw firmly tightened.	
11	Cracking pressure in OC mode.	The cracking pressure in OC mode is not set but it should be between 30 - 70 mm w.c.	
12	Disconnect the mouthpiece from the test box 1st stage.	Release the pressure between the 1st stage and moputhpiece and disconnect the LP hose from the 1st stage. Adjustment is completed.	

7. Mouthpiece G2

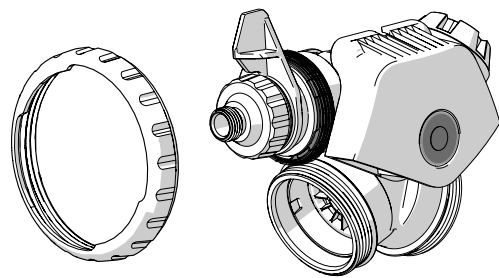
Mouthpiece: 0005-055

Identification

The G2 version of the MKVI mouthpiece is identified by the different Lock nut (part #0000-427) and Mouthpiece plastic washer (part #0000-293) compared to mouthpiece with article number 6011-001. Also, the serial number marking on the mouthpiece starts with "G2".



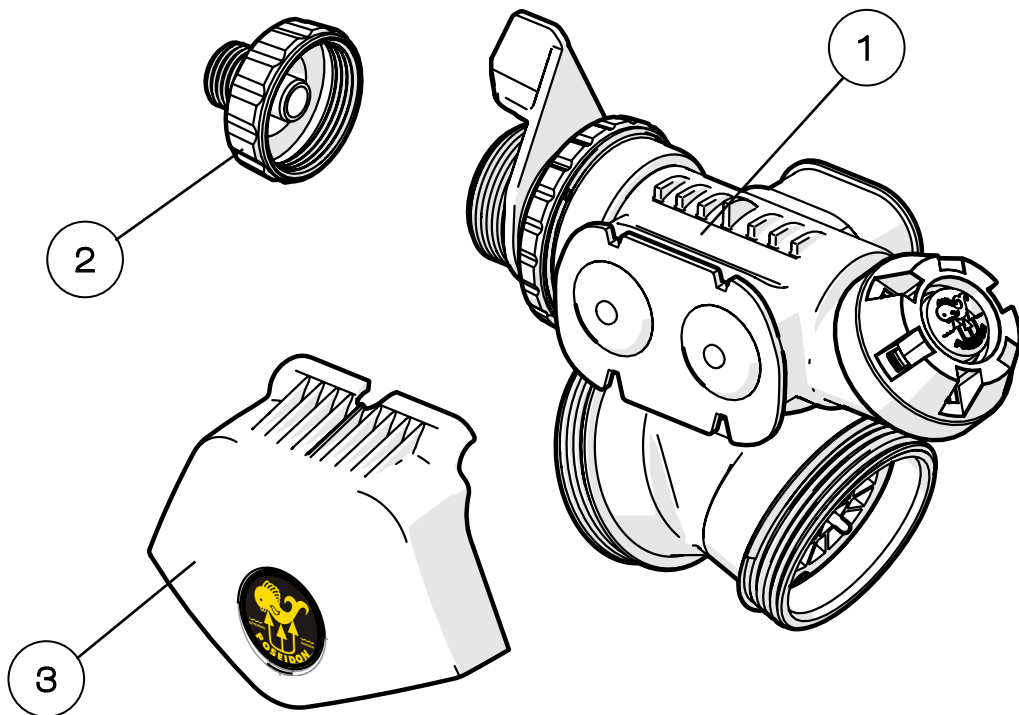
G1 Lock nut



G2 Lock nut

The mouthpiece G2 was delivered with MKVI units starting with serial number 1167 and later.

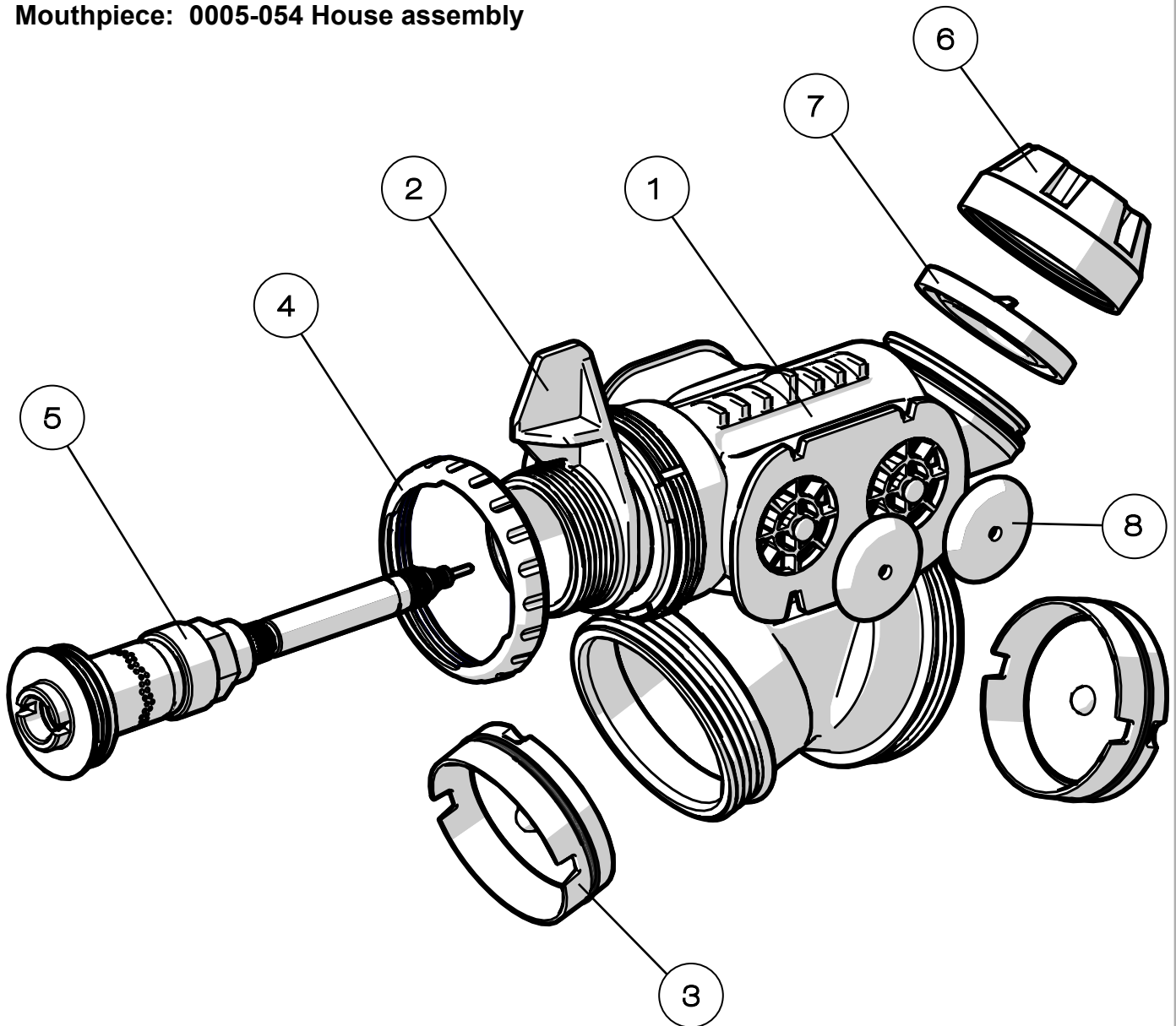
Before you start the process of disassembly of the mouthpiece, it's IMPORTANT that you establish what version of the mouthpiece it is that you are working on.



Item #	Article #	Description	Qty
1	0005-054	Mouthpiece house assembly G2	1
2	0000-130	Hose adapter	1
3	6010-005	OC outlet	1
4	4532	Mouthpiece AIR	1
5	1167	Cable tie	1

7. Mouthpiece G2

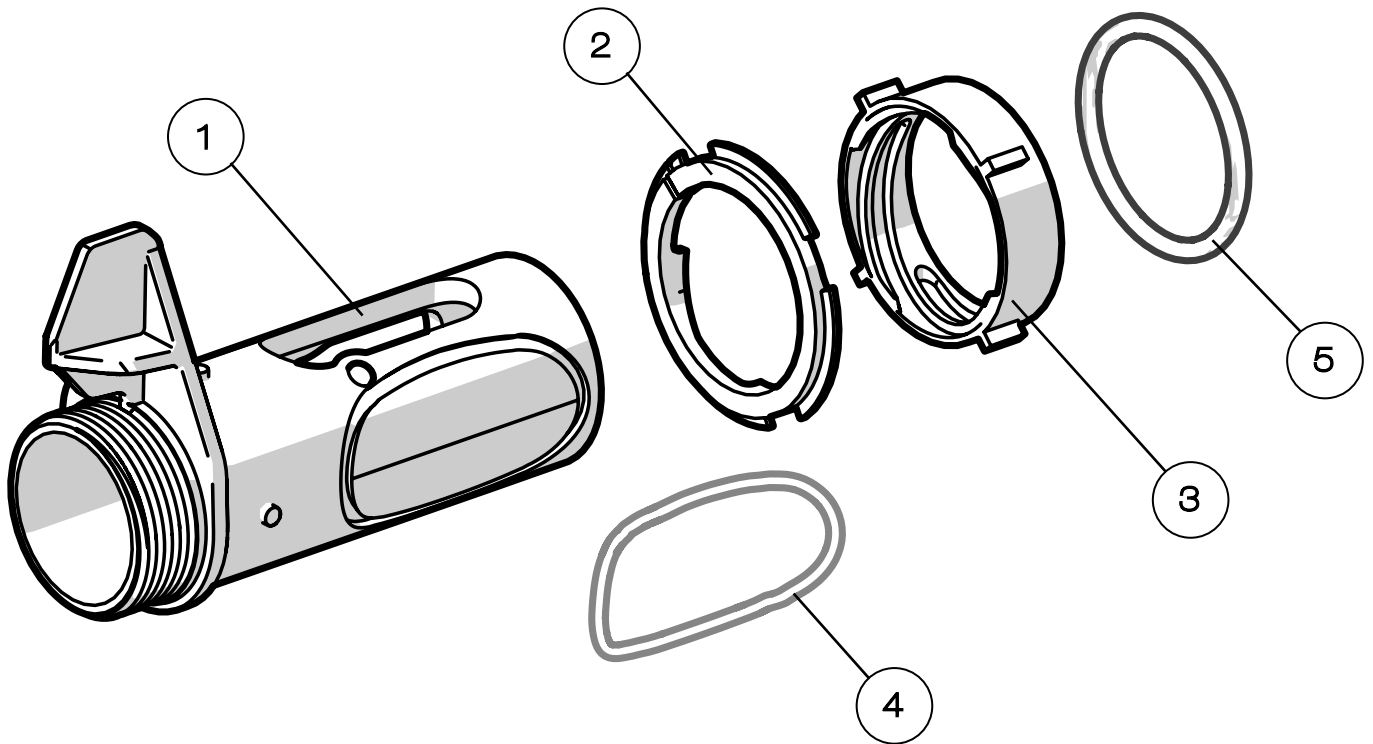
Mouthpiece: 0005-054 House assembly



Item #	Article #	Description	Qty
1	0000-429	Mouthpiece house	1
2	0000-471	DV Switch	1
3	6010-013	Membrane holder complete	2
4	0000-427	Mouthpiece Lock Nut M45	1
5	0005-000	LP Valve Mk6	1
6	4536	Membrane cover Xstream	1
7	4533	Membrane with washer	1
8	0000-232	Membrane mouthpiece	2

7. Mouthpiece G2

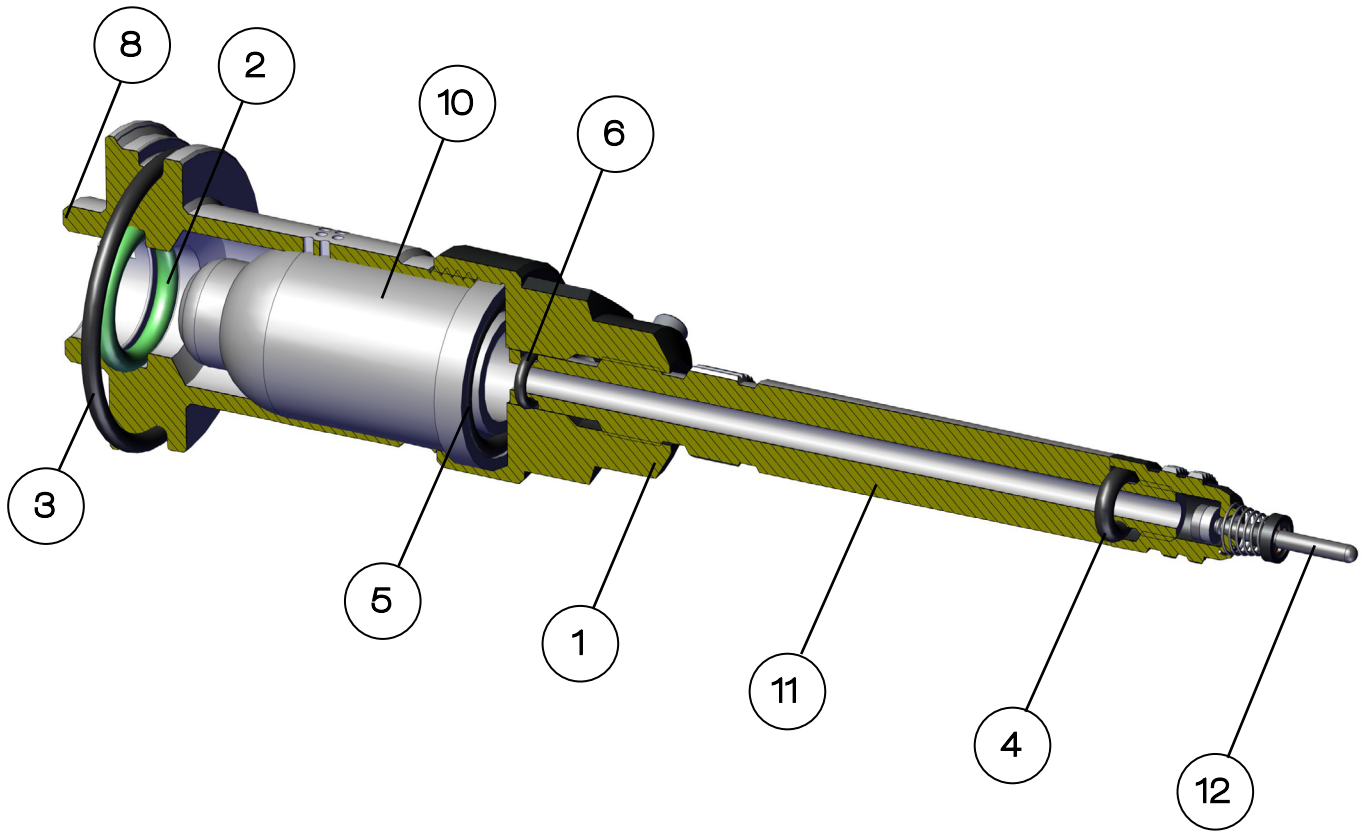
Mouthpiece: DV Switch (0000-471)



Item #	Article #	Description	Qty
1	6010-012	Barrel magnet	1
2	0000-293	Mouthpiece washer	1
3	6010-114	Helix Block	1
4	0015-245	O-ring	1
5	0010-120	O-ring	1

7. Mouthpiece G2

Mouthpiece: Low pressure valve MkVI (0005-000)

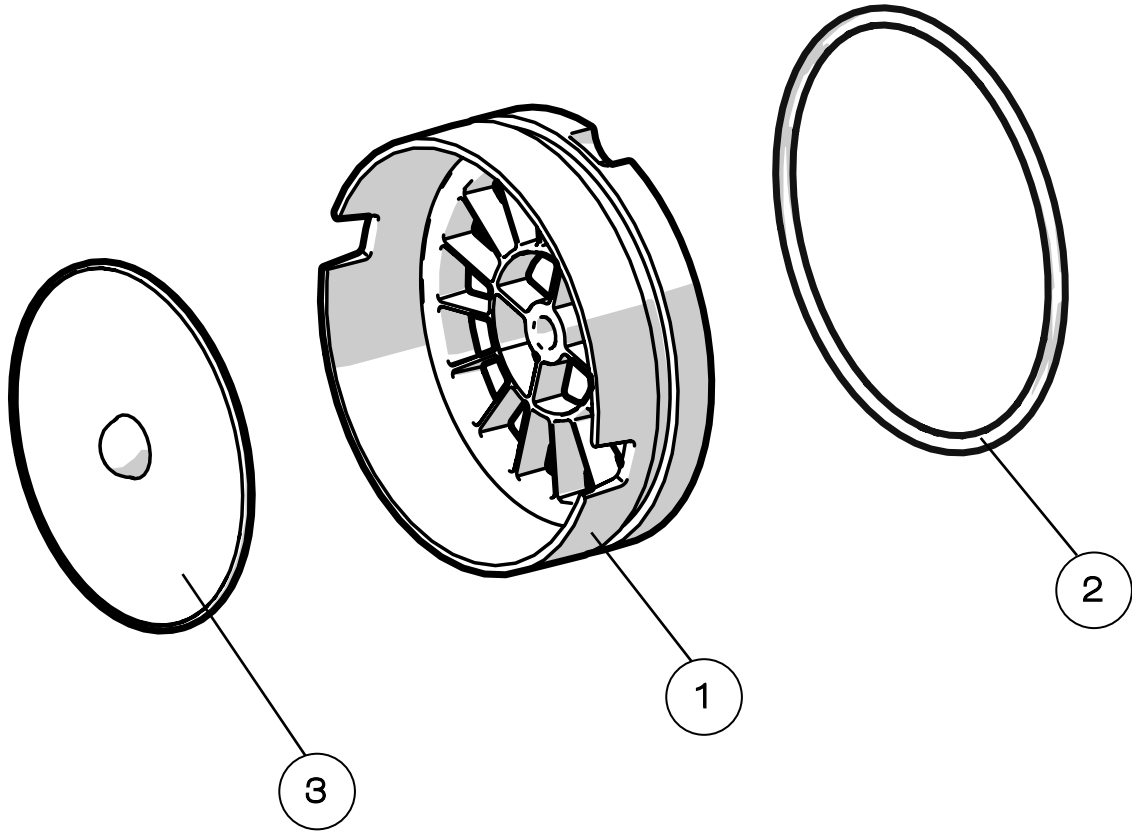


Item #	Article #	Description	Qty
1	0000-148	Valve house nut	1
2	0011-278	O-ring	1
3	0012-016	O-ring	1
4	0013-001	O-ring	1
5	0013-009	O-ring	1
6	0013-351	O-ring	1
7	2787	Rubber plate	1
8	2857	Low pressure valve house	1
9	2875	Stop screw	1
10	3440	Valve insert	1
11	2839	Valve tube	1
12	2786	Servo valve	1

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7. Mouthpiece G2

Mouthpiece: Membrane holder complete (6010-013)

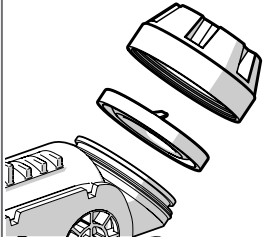
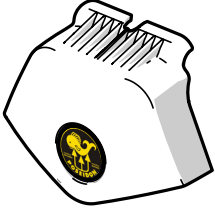
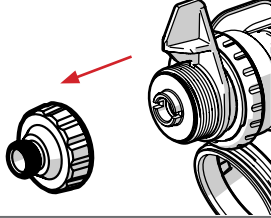
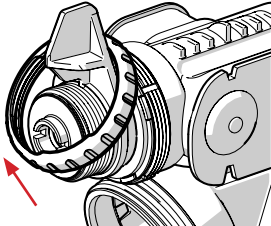
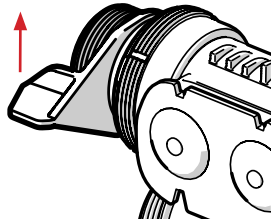
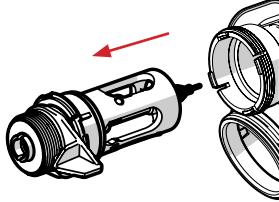


Item #	Article #	Description	Qty
1	0000-324	Membrane holder	1
2	0010-032	O-ring	1
3	0000-323	Membrane Check valve	1

7. Mouthpiece G2

Mouthpiece: 0005-055

Disassembly

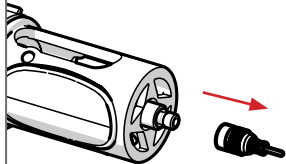

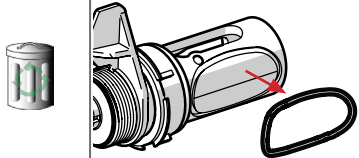

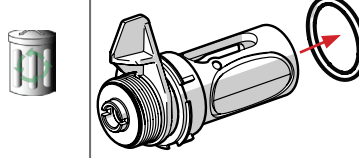
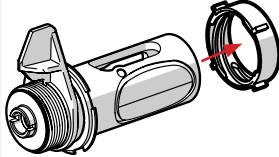
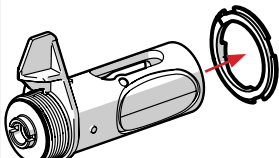
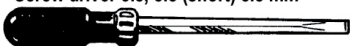
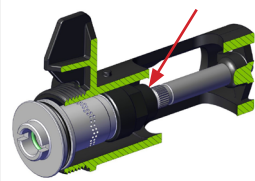
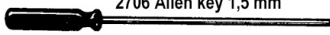
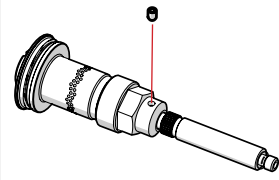
Parts	Tools/Instructions	Picture	
1	Remove the LP hose from the hose adaptor.		
2	Remove the Diaphragm cover (4536) from the mouth piece housing. Remove the membrane with washer (4533) from the mouth piece housing.		
3	Remove the OC outlet (6010-005) from the mouth piece housing.	Do not use force when removing the OC outlet.	
4	Remove the hose adaptor from mouth piece housing.		
5	Unscrew the locking ring (0000-427) and thread it out over the DV switch.		
6	Remove the DV Switch (0000-471) from the mouth piece housing by unscrewing the Lock nut (0000-427). When the lock nut is un-screwed, turn the DV switch upwards until the DV switch points towards the divers face.		
7	Then pull the DV switch out.	Be carefull NOT to damage o-ring 0015-245 on the barrel magnet!	

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7. Mouthpiece G2

Mouthpiece: 0005-055

Disassembly

	Parts	Tools/Instructions		Picture
8	Unscrew the servo valve from the valve tube.	This is IMPORTANT! If not removed, you risk damaging the servo valve.		
9	Remove the O-ring (0015-245)	 2297 O-ring remover		
10	0010-120 O-ring	Remove the o-ring from the barrel.  2297 O-ring remover		
11	6010-114 Helix block	Unscrew the helix block and then slide it off the barrel.		
12	0000-293 Plastic washer	Remove the plastic washer from the barrel.		
13	Remove the Low pressure valve from the DV switch barrel.	 Screw driver 3.5, 5.5 (short) 8.5 mm		
14	Remove the stop screw (2875) that holds the valve tube locked in the valve house nut.	 2706 Allen key 1,5 mm		

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7. Mouthpiece G2

Mouthpiece: 0005-055

Disassembly

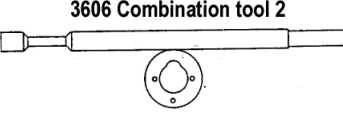
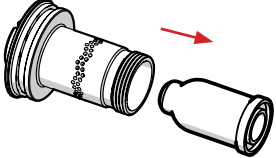


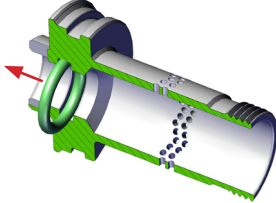
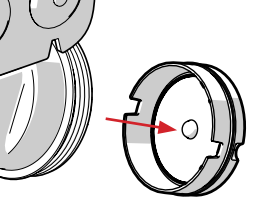
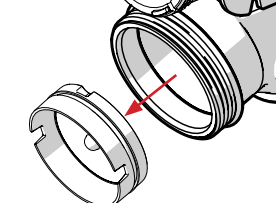


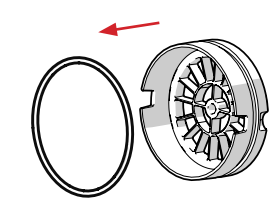
	Parts	Tools/Instructions		Picture
15	Unscrew the valve tube (2839) from the valve house nut.			
16	Remove the 0013-001 O-ring from the valve tube.	2297 O-ring remover		
17	Remove the 0013-351 O-ring from the valve tube.	2297 O-ring remover		
18	Unscrew the valve house nut (0000-148) from the low pressure valve housing (2857).	3685 Combination tool 1 Open end wrench 6, 13, 14, 15, 16, 17, 23 mm		
18	Remove the rubber plate (2787) that is located under the stop screw (2875).	2297 O-ring remover		
20	Remove the O-ring (0013-009)	2297 O-ring remover		
21	Remove the O-ring (0012-016)	2297 O-ring remover		

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7. Mouthpiece G2

Mouthpiece: 0005-055

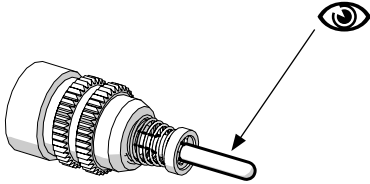
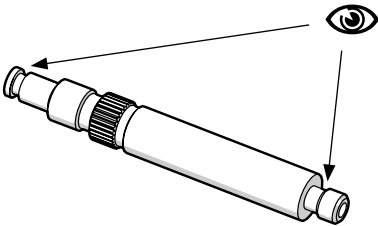
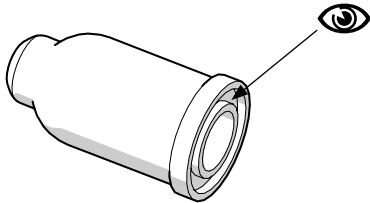
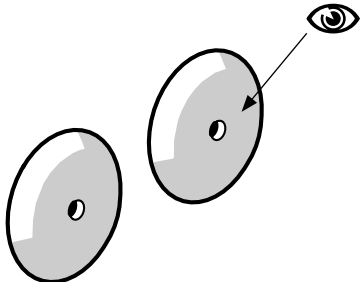
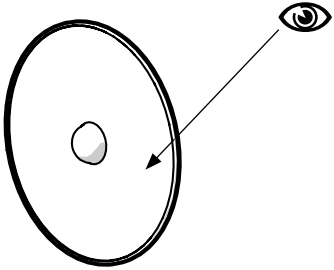
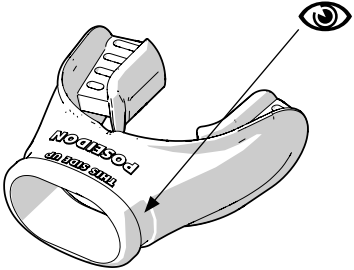
Disassembly

	Parts	Tools/Instructions		Picture
22	Remove the valve insert (3440) from the low pressure valve housing by pushing it out.	 <p>3606 Combination tool 2</p>		
23	Remove the o-ring (0011-278) from the inside of the low pressure valve housing.	 <p>2297 O-ring remover</p>		
24	Use a set of pliers to remove the Membrane holder (6010-013). Start with the exhale side. Grab with the pliers and pull gently.			
25	Push the inhale side out.			
26	Remove the o-ring (0010-032) from the two membrane holders	 <p>2297 O-ring remover</p>		

7. Mouthpiece G2

Mouthpiece: 0005-055

Inspection

	Parts	Inspect	Picture
1	Servo valve (2786)	Make sure that the tip is not bent.	 A technical drawing of a servo valve tip. An arrow points to the tip, which is also indicated by an eye icon in the top right corner.
2	Valve tube (2839)	Check O-ring sealing surfaces.	 A technical drawing of a valve tube. Two arrows point to the O-ring sealing surfaces, which are also indicated by eye icons in the top right corner.
3	Valve insert (3440)	1. Ensure no circular cuts on bladder surface. 2. Check O-ring sealing surface.	 A technical drawing of a valve insert. An arrow points to the bladder surface, which is also indicated by an eye icon in the top right corner.
4	0000-232 membrane	Make sure the membrane isn't damaged. Replace if damaged.	 A technical drawing showing two circular membranes. An arrow points to one of them, which is also indicated by an eye icon in the top right corner.
5	0000-323 Membrane Check valve	Make sure the check valves aren't damaged. Replace if damaged.	 A technical drawing of a membrane check valve. An arrow points to the valve, which is also indicated by an eye icon in the top right corner.
6	4532 Mouthpiece AIR	Check for damage and holes. replace if damaged.	 A technical drawing of a mouthpiece. An arrow points to the mouthpiece, which is also indicated by an eye icon in the top right corner.

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7. Mouthpiece G2

Mouthpiece: 0005-055

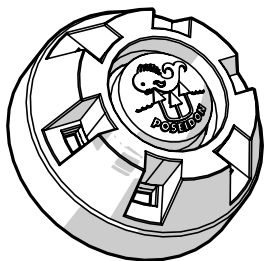
Cleaning

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempcid* or 15% Hydrochloric acid for about 10 minutes or wash them in an ultra sonic washer.

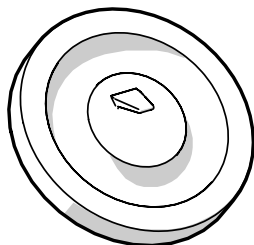
Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

*Hempcid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning

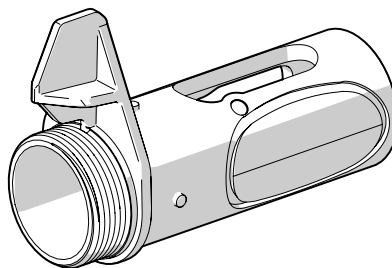
Bag the parts below in a plastic bag for later assembly. These parts shall not be ultra sonic cleaned but we recommend that you soak these parts in warm water and then rinsed in fresh water.



4536 - Diaphragm cover



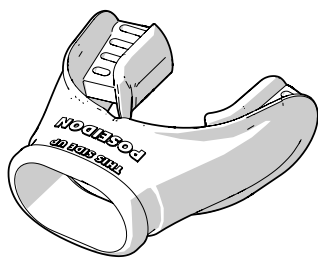
4533 - Membrane with washer



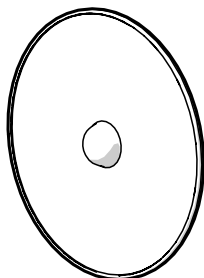
6010-012 Barrel magnet



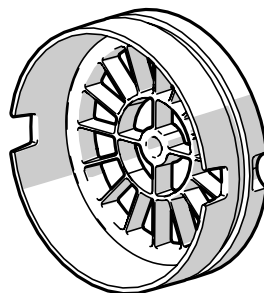
6010-005 - OC Outlet



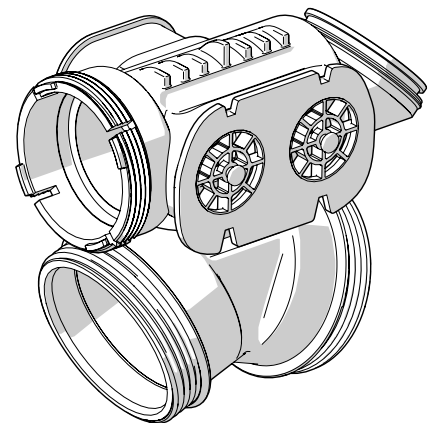
4532 - Mouthpiece



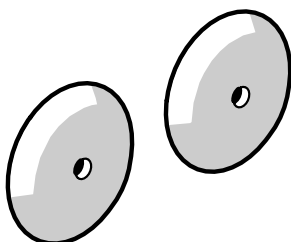
0000-323 - Membrane Check valve



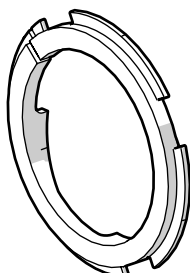
0000-324 - Membrane holder.



0000-429 - Mouthpiece housing



0000-232 - Membrane mouthpiece

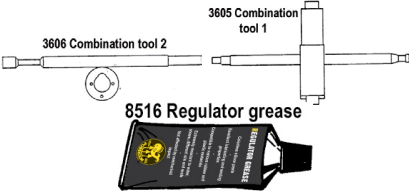
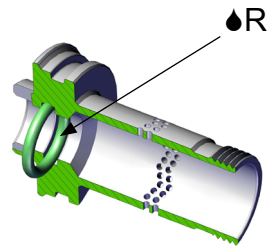
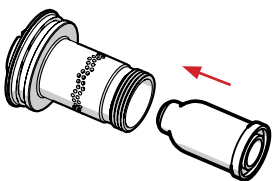

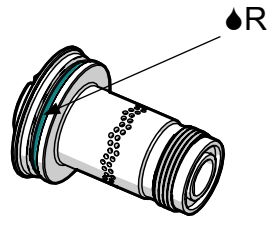

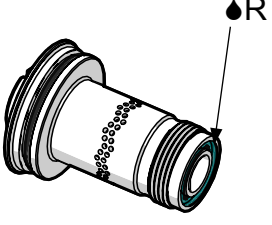
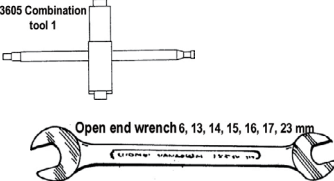
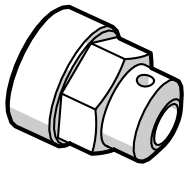

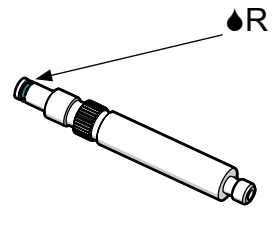

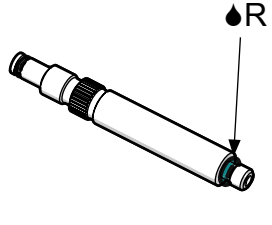


0000-293 - Mouthpiece washer

7. Mouthpiece G2

Mouthpiece: 0005-055

Assembly

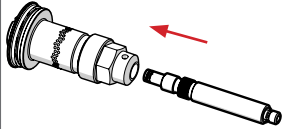


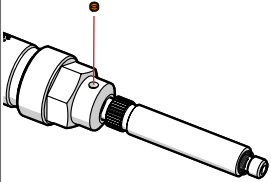
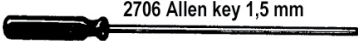
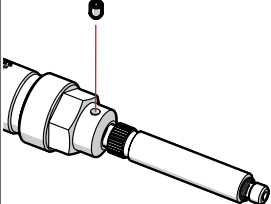
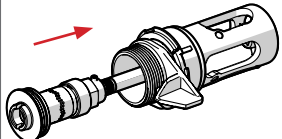
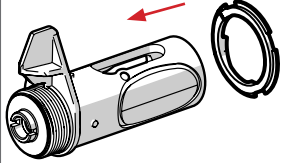

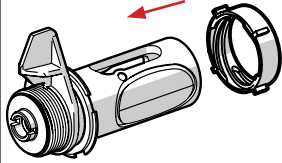
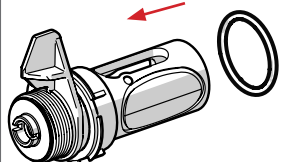
	Parts	Tools/Instructions	Replace	Picture
1	0011-278 O-ring, viton	 <p>3606 Combination tool 2 3605 Combination tool 1 8516 Regulator grease</p>	↻	
2	3440 Valve insert	<p>Do not use lubricant on the valve insert.</p> <p>Only use soap and water.</p>		
3	0012-016 O-ring	 <p>8516 Regulator grease</p>	↻	
4	0013-009 O-ring	 <p>8516 Regulator grease</p>	↻	
5	0000-148 Valve housing nut	 <p>3605 Combination tool 1 Open end wrench 6, 13, 14, 15, 16, 17, 23 mm</p> <p>3 +/- 1 Nm</p>		
6	0013-351 O-ring	 <p>8516 Regulator grease</p>	↻	
7	0013-001 O-ring	 <p>8516 Regulator grease</p>	↻	

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7. Mouthpiece G2

Mouthpiece: 0005-055

Assembly



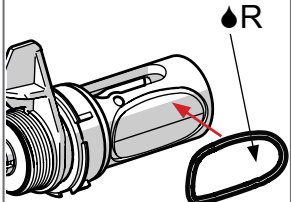
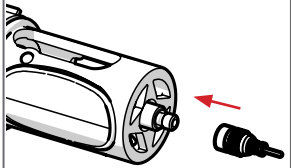
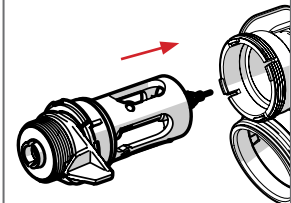
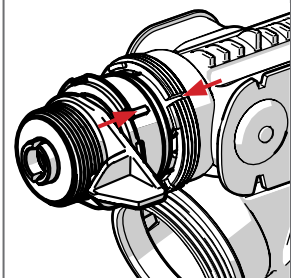
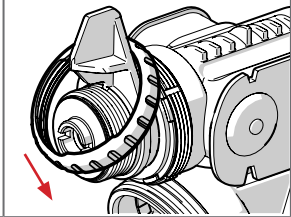
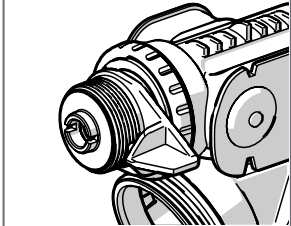
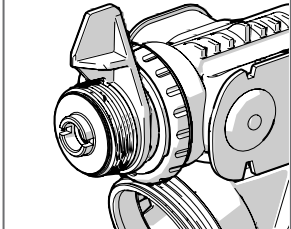
	Parts	Tools/Instructions	Replace	Picture
8	2839 Valve tube			
9	2787 Rubber plate	 2297 O-ring remover		
10	2875 Stop screw	 2706 Allen key 1,5 mm		
11	0005-000 LP valve 6010-012 DV Switch	Insert the LP valve in to the DV Switch. The locking screw on the LP valv should point in the oposite direction of the DV Switch lever.		
12	0000-293 Plastic washer	Thread the plastic washer on to the barrel. Use the cut in the washer to slide over the knobs.		
13	6010-114 Helix block	Thread the helix block on to the barrel. Then screw it on to the small knobs on the barrel.		
14	0010-120 O-ring	Thread the o-ring on to the barrel.		

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7. Mouthpiece G2

Mouthpiece: 0005-055

Assembly

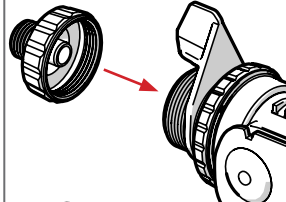
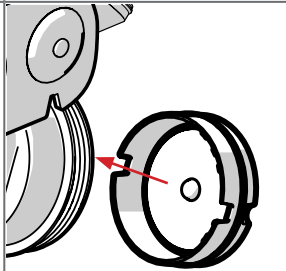
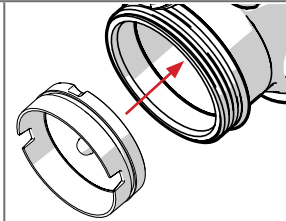
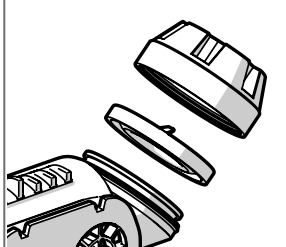

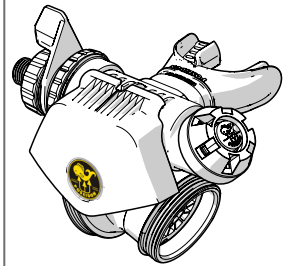
	Parts	Tools/Instructions	Replace	Picture
15	0015-245 O-ring	Place the o-ring in the groove. Apply a lot of lubricant! 		
16	4545 Servo valve			
17	Push the assebled DV Switch and LP valve in to the mouth piece housing.	The 0015-245 O-ring should be facing upwards and the DV Switch lever should be pointing towards the divers face.		
18	When the assebled DV Switch and LP valve is pushed half way in to the mouth piece housing, turn the DV switch lever forward, to OC position.	The guiding pin on the helix block, closest to the DV Switch lever should align with the groove marked No 1. When aligned, push the DV switch assembly in to position.		
19	0000-427 Locking nut	Thread the locking nut in to the DV switch barrol, over the DV switch.		
20	Start attaching the DV switch assembly to the mouth piece housing by fastening the lock nut.	As you turn the lock nut, push the DV valve assembly in to the mouth piece housing.		
21		When the lock nut has grabbed on to the threads of the mouthpiece housing, turn the DV switch to CC position and make sure the lock nut is tightned.		

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7. Mouthpiece G2

Mouthpiece: 0005-055

Assembly

	Parts	Tools/Instructions	Replace	Picture
22	0000-130 Hose adapter	Attach the hose adpter to the DV switch assembly.		
23	6010-116 membrane holder with membrane.	Start with the inhale membrane. Push the membraneholder in to the mouthpiece housing. The membrane should be on the inside of the membrane holder.		
24	6010-116 membrane holder with membrane.	Do the same with the exhale membrane. Note that the membrane should be on the outside of the membrane holder.		
25	4536 Diaphragm cover 4533 membrane with washer	Push the membrane in to the mouth piece housing. Then snap on the diaphragm cover.		
26	6010-005 OC cover	Snap the OC cover back on to the mouth piece housing.		
27	6011-001 Mouthpiece	Assembly of the mouthpiece is now complete.		

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7. Mouthpiece G2

Mouthpiece: 0005-055

Adjustment and final inspection

	Action	Tools/Instructions	Picture
1	Attach the assembled mouthpiece to a 1st stage that is connected to a test box.	Make sure the 1st stage is set to an intermediate pressure of 8,5 bar / 123,25 psi.	
2	Set the mouth piece to Open Circuit (OC)	If you look in to the mouth piece hole, you should see the locking screw on the LP valve insert.	
3	Loosen the locking screw on the LP valve housing nut.	Loosen the stop screw just enough to allow the valve tube to move.	
4	Adjust the cracking pressure of the LP valve by turning the valve tube up or down.	By turning the valve tube upwards, you move the servo valve closer to the 4533 membrane, lowering the cracking pressure. Use the 2705 Adjustment tool.	
5	While still in OC mode.	Adjust the valve tubing to a position that you think will give the desired cracking pressure of 30 cm w.c. Tighten the stop screw on the LP valve housing nut.	
6	Turn the DV switch over to Closed Circuit (CC) mode.	While in CC mode: Hold the mouthpiece-part of the cracking pressure gauge tight to the outlet of the mouthpiece. Block the inhalation membrane opening.	

7. Mouthpiece G2

Mouthpiece: 0005-055

Adjustment and final inspection

	Action	Tools/Instructions	Picture
7	<p>Take a few rather slow and long inhalations from the mouthpiece part and simultaneously check the pressure gauge needle.</p> <p>The inhalation membrane must be blocked during this action.</p>	<p>It shall during inhalation reach a level of 30 cm.w.c, and at the end of the inhalation decrease again.</p>	
8		<p>If the reading is too high or too low, turn the DV Switch over to OC mode and loosen the locking screw on the valve housing nut.</p> <p>Adjust the valve tube and servo valve.</p>	
9		<p>Screw the valve tube and servo valve closer to the diaphragm to lower the w.c.</p> <p>To increase the w.c, screw them away from the diaphragm.</p>	
10	<p>Repeat Action #7, #8 and #9 until the correct cracking pressure of 30 cm w.c has been set.</p>	<p>Once 30 cm w.c has been set, do a final test with the locking screw firmly tightened.</p>	
11	<p>Cracking pressure in OC mode.</p>	<p>The cracking pressure in OC mode is not set but it should be between 30 - 70 mm w.c.</p>	
12	<p>Disconnect the mouthpiece from the test box 1st stage.</p>	<p>Release the pressure between the 1st stage and moputhpiece and disconnect the LP hose from the 1st stage.</p> <p>Adjustment is completed.</p>	

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7. Mouthpiece G2

Mouthpiece: 0005-055

Upgrades from previous versions of the mouthpiece

To upgrade a G1 (6011-001) mouthpiece to a G2 (0005-055) configuration, the following parts must be replaced:

- Mouthpiece housing 6010-001 needs to be replaced with Mouthpiece housing 0000-429.
- Barrel Magnet 6010-012 (G1 version) must be replaced with Barrel Magnet 6010-012 (G2 version). *Note that though these parts have the same article number, they are different. If you are not sure which version you have, please contact Poseidon technical support at support@poseidon.com.*
- Plastic washer 0000-602 must be replaced with Plastic washer 0000-293

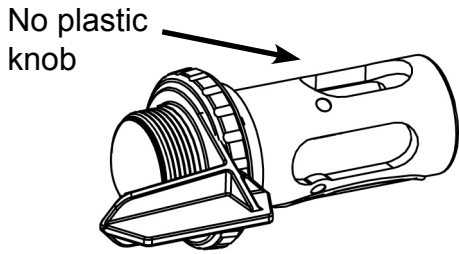
All the above mentioned parts must be replaced if/when upgrading a mouthpiece. This is NOT an upgrade that is free of charge and it is NOT an upgrade that is required.

8. Mouthpiece SE7EN

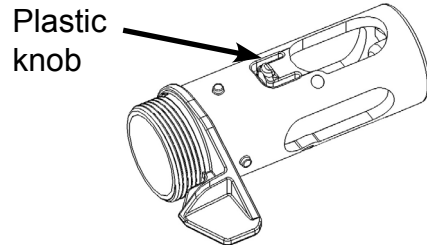
Mouthpiece: Article number 0005-055

Identification

The SE7EN version of the MKVI mouthpiece is identified by the different Barrel Magnet (part #0000-950) compared to the previous version of the Mouthpiece (G2). Also, the serial number marking on the mouthpiece starts with "G7".



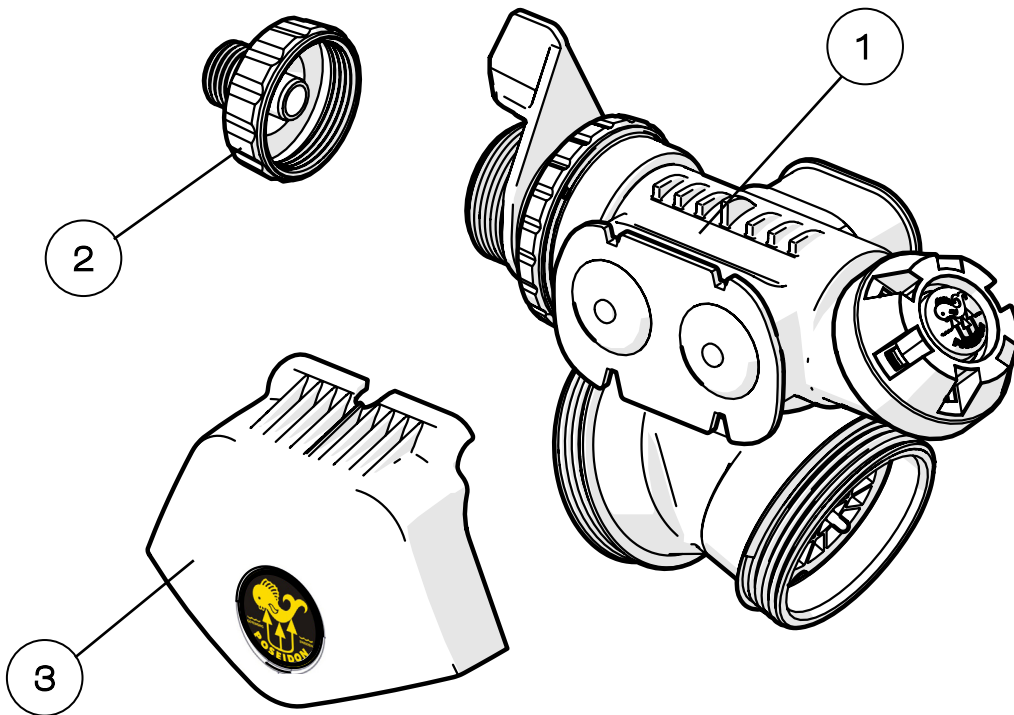
G2 Barrel Magnet (6010-012)



SE7EN barrel Magnet (0000-950)

The mouthpiece G7 is delivered with SE7EN units.

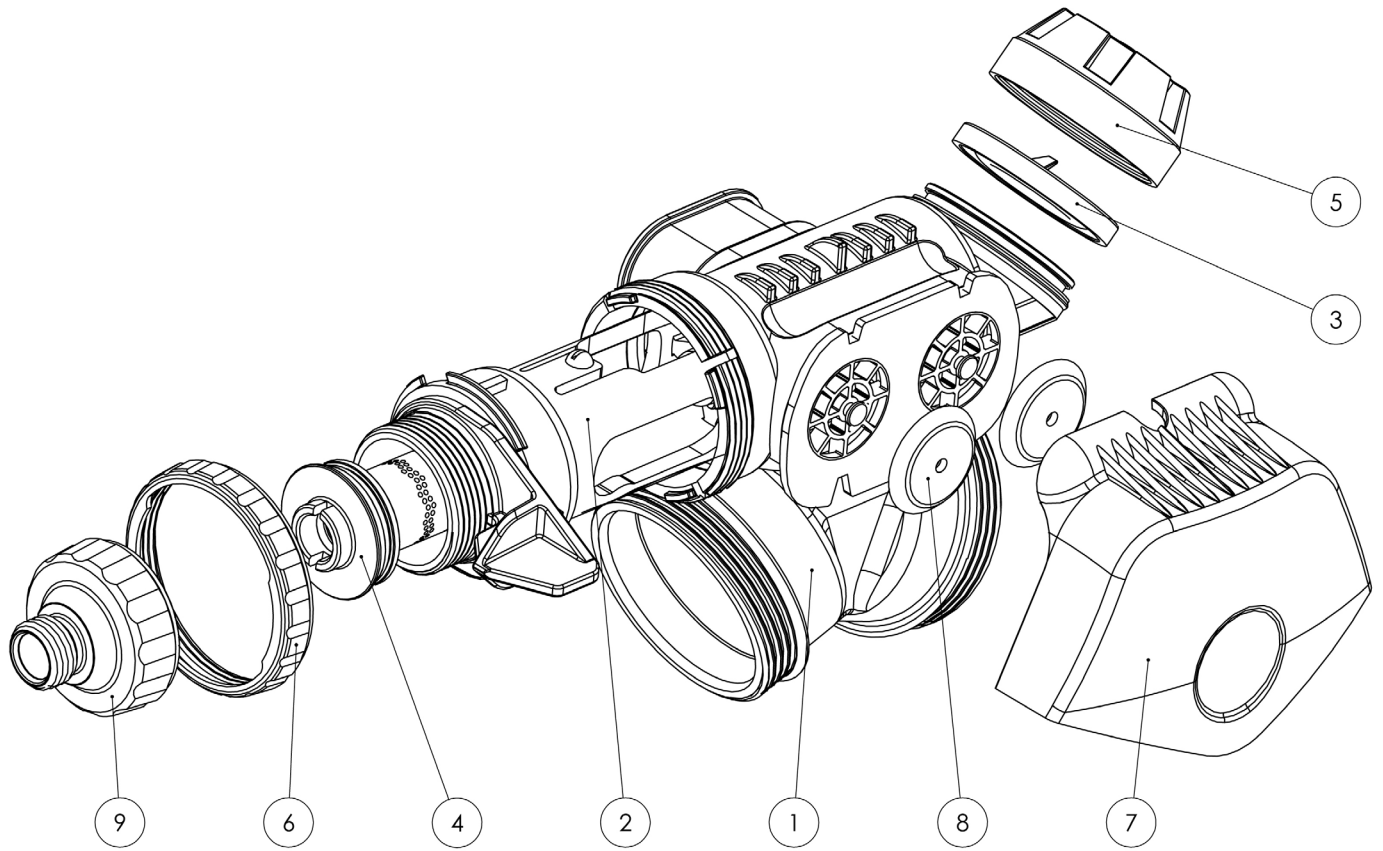
Before you start the process of disassembly of the mouthpiece, it's IMPORTANT that you establish what version of the mouthpiece it is that you are working on.



Item #	Article #	Description	Qty
1	0005-054	Mouthpiece house assembly G7	1
2	0000-130	Hose adapter	1
3	6010-005	OC outlet	1
4	4532	Mouthpiece AIR	1
5	1167	Cable tie	1

8. Mouthpiece SE7EN

Mouthpiece: Article number 0005-055

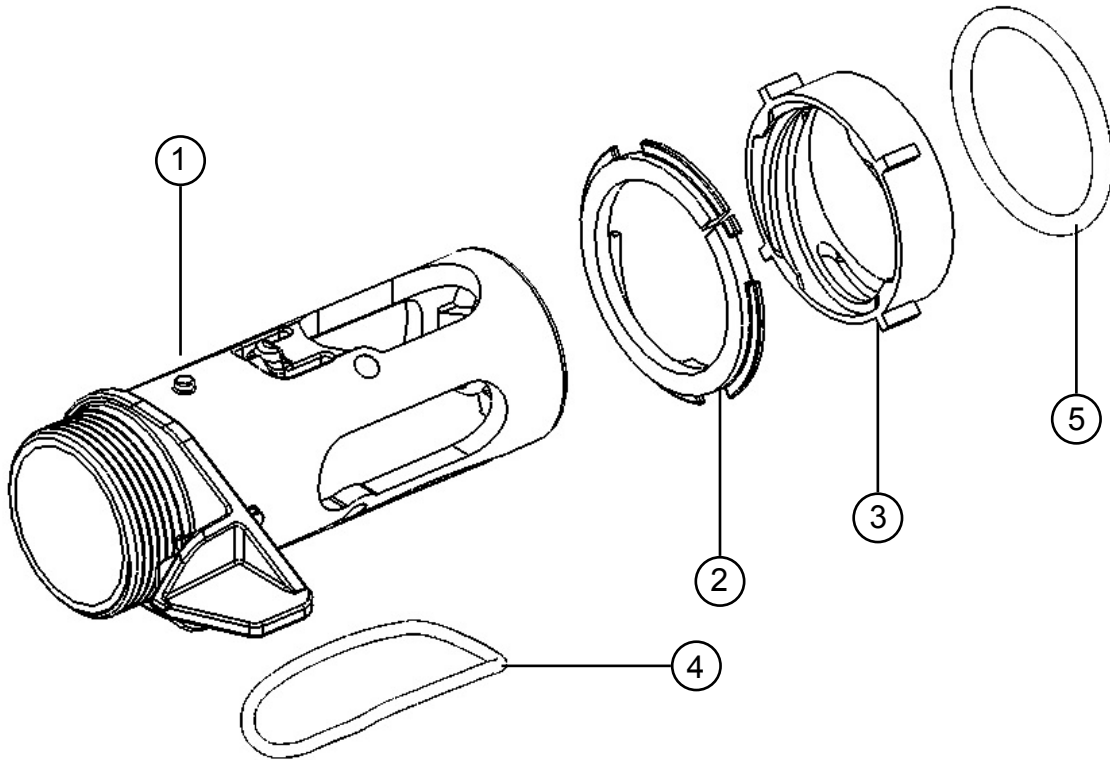


Item #	Article #	Description	Qty
1	0000-951	Mouthpiece House	1
2	0000-471	DV Switch	1
3	4533	Membrane with washer	1
4	0005-000	AM LP Valve Mk6	1
5	4536	Membrane cover Xstream	1
6	5800-100	Mouthpeice Lock Nut, Plastic	1
7	6010-118	OC Cover	1
8	0000-232	Membrane mouthpiece	2
9	0000-130	Hose Adapter	1

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8. Mouthpiece SE7EN

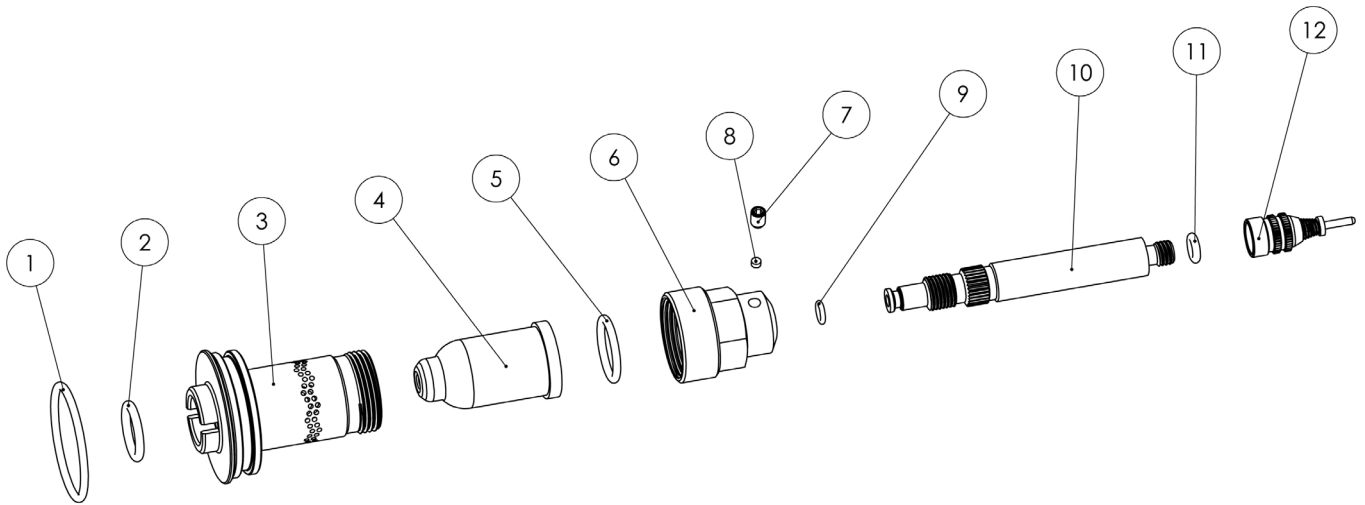
DV Switch: Article number 0000-471



Item #	Article #	Description	Qty
1	0000-950	Barrel Magnet	1
2	0000-293	Mouthpiece washer	1
3	6010-114	Helix block	1
4	0015-245	O-ring 29 x 2	1
5	0010-120	O-ring 31 x 3	1

8. Mouthpiece SE7EN

LP valve MkVI: Article number 0005-000

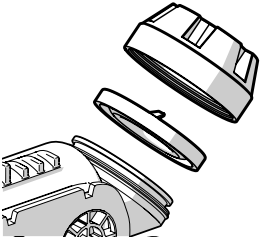

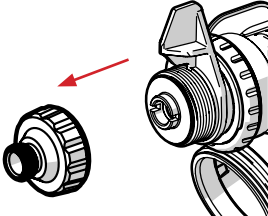
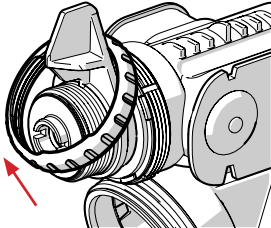
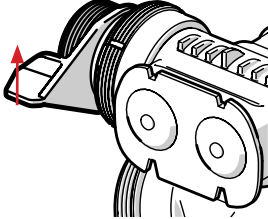
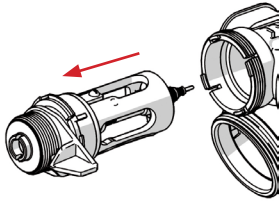


Item #	Article #	Description	Qty
1	0012-016	O-ring	1
2	0011-278	O-ring	1
3	2857	Low pressure Valve House	1
4	3440	Valve insert	1
5	0013-009	O-ring	1
6	0000-148	Valve House Nut	1
7	2857	Stop screw	1
8	2787	Rubber plate	1
9	0013-351	O-ring	1
10	2839	Valve Tube	1
11	0013-001	O-ring	1
12	2786	Servo valve	1

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8. Mouthpiece SE7EN

Disassembly

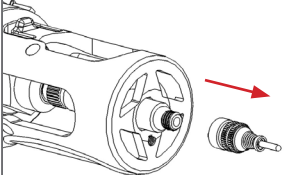
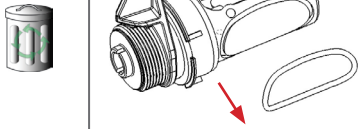
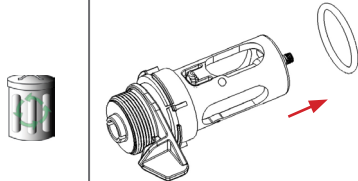
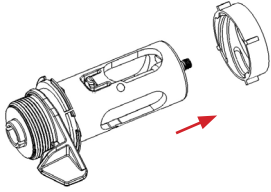
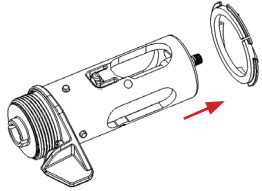
Parts	Tools/Instructions	Picture
1 Remove the LP hose from the hose adaptor.		
2 Remove the Diaphragm cover (4536) from the mouthpiece housing. Remove the membrane with washer (4533) from the mouthpiece housing.		
3 Remove the OC outlet (6010-005) from the mouthpiece housing.	Do not use force when removing the OC outlet.	
4 Remove the hose adaptor (0000-130) from the mouthpiece housing.		
5 Unscrew the locking Lock Nut ring (5800-100) and thread it out over the DV switch.		
6 Remove the DV Switch (0000-471) from the mouthpiece housing. When the lock nut is un-screwed, turn the DV switch upwards until the DV switch points towards the divers face.		
7 Then pull the DV switch out.	Be carefull NOT to damage o-ring 0015-245 on the barrel magnet!	

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8. Mouthpiece SE7EN

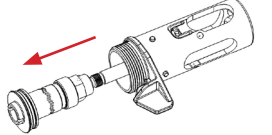
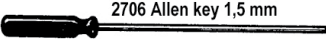
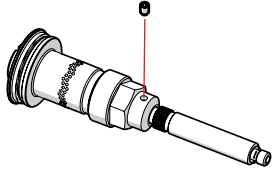
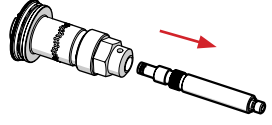


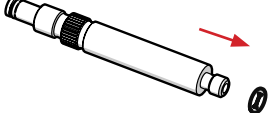


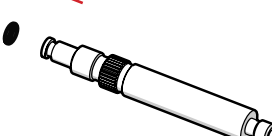
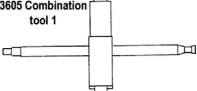
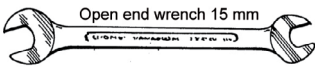
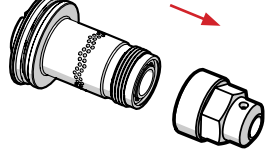
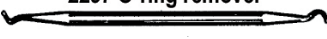

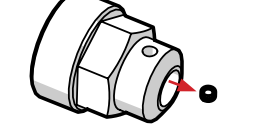
Mouthpiece:

Disassembly

Parts	Tools/Instructions	Picture
8	Unscrew the servo valve from the valve tube. This is IMPORTANT! If not removed, you risk damaging the servo valve.	
9	Remove the O-ring (0015-245)	
10	0010-120 O-ring	Remove the o-ring from the barrel. 
11	6010-114 Helix block Unscrew the helix block & 2297 O-ring remover barrel.	
12	0000-293 Plastic washer Remove the plastic washer from the barrel & 2297 O-ring remover	

8. Mouthpiece SE7EN



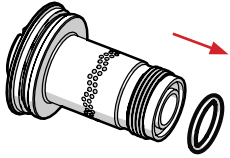


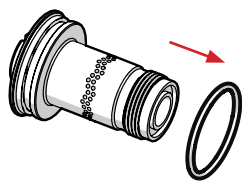
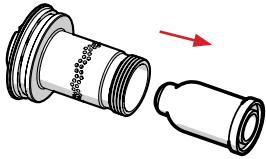


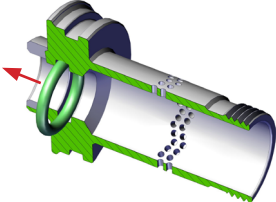
Disassembly

	Parts	Tools/Instructions		Picture
13	Remove the Low pressure valve from the DV switch barrel.			
14	Remove the stop screw (2857) that holds the valve tube locked in the valve house nut.			
15	Unscrew the valve tube (2839) from the valve house nut.			
16	Remove the 0013-001 O-ring from the valve tube.			
17	Remove the 0013-351 O-ring from the valve tube.			
18	Unscrew the valve house nut (0000-148) from the low pressure valve housing (2857).	 		
19	Remove the rubber plate (2787) that is located under the stop screw (2857).			

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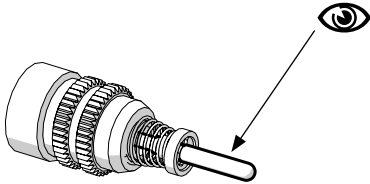
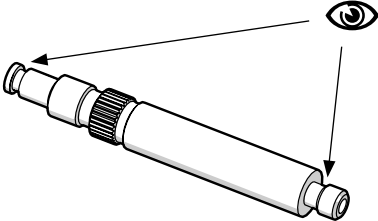
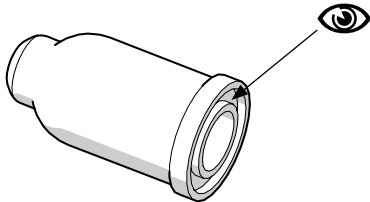
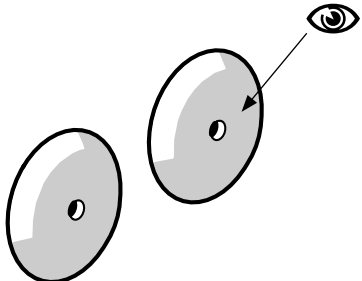
8. Mouthpiece SE7EN

Disassembly

	Parts	Tools/Instructions		Picture
22	Remove the O-ring (0013-009)	 <p>2297 O-ring remover</p>		
23	Remove the O-ring (0012-016)	 <p>2297 O-ring remover</p>		
24	Remove the valve insert (3440) from the low pressure valve housing by pushing it out.			
25	Remove the o-ring (0011-278) from the inside of the low pressure valve housing.	 <p>2297 O-ring remover</p>		

8. Mouthpiece SE7EN

Inspection

	Parts	Inspect	Picture
1	Servo valve (2786)	Make sure that the tip is not bent.	 A technical drawing of the servo valve tip. An arrow points from an eye icon to the tip of the valve, indicating the inspection point.
2	Valve tube (2839)	Check O-ring sealing surfaces.	 A technical drawing of the valve tube. Two arrows point from eye icons to the O-ring sealing surfaces on the tube, indicating the inspection points.
3	Valve insert (3440)	1. Ensure no circular cuts on bladder surface. 2. Check O-ring sealing surface.	 A technical drawing of the valve insert. An arrow points from an eye icon to the O-ring sealing surface, indicating the inspection point.
4	0000-232 membrane	Make sure the membrane isn't damaged. Replace if damaged.	 A technical drawing showing two circular membranes. An arrow points from an eye icon to one of the membranes, indicating the inspection point.

8. Mouthpiece SE7EN

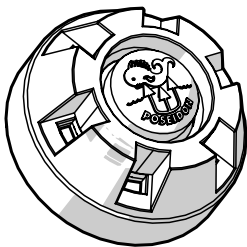
Cleaning

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempcid* or 15% Hydrochloric acid for about 10 minutes or wash them in an ultra sonic washer.

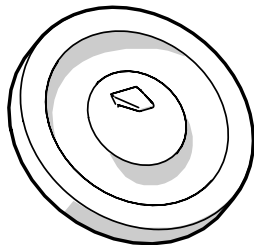
Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

*Hempcid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning

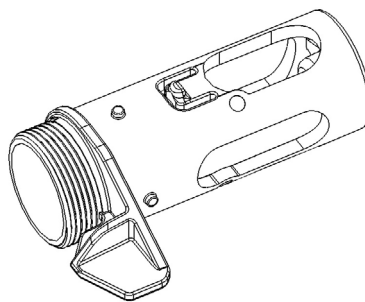
Bag the parts below in a plastic bag for later assembly. These parts shall not be ultra sonic cleaned but we recommend that you soak these parts in warm water and then rinsed in fresh water.



4536 - Diaphragm cover



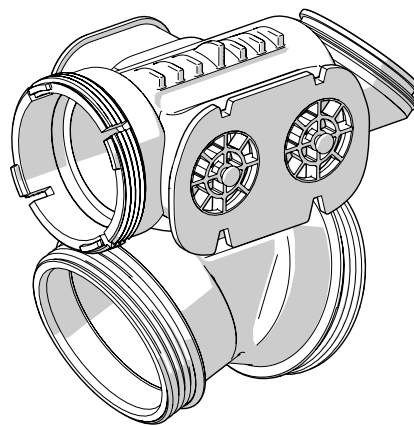
4533 - Membrane with washer



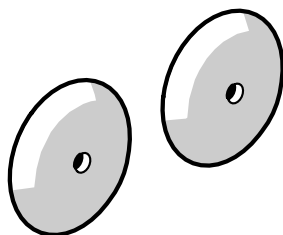
0000-950 Barrel Magnet



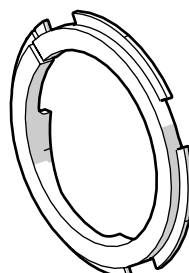
6010-005 - OC Outlet



0000-429 - Mouthpiece housing



0000-232 - Membrane mouthpiece



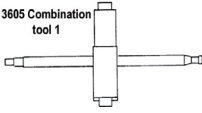

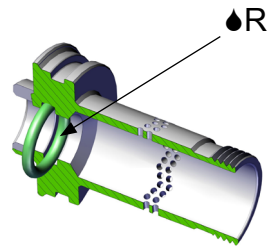
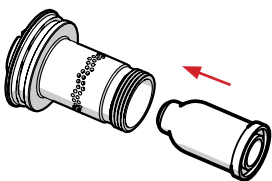

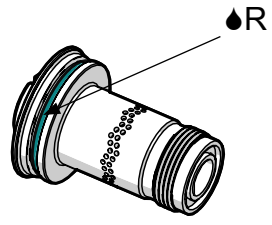

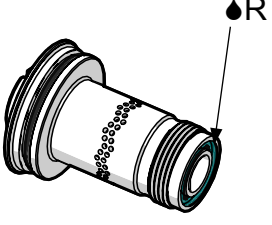
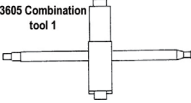
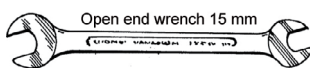
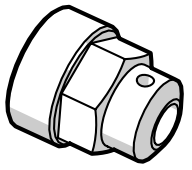

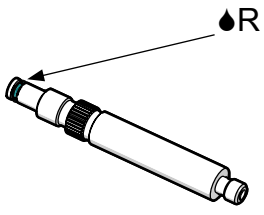

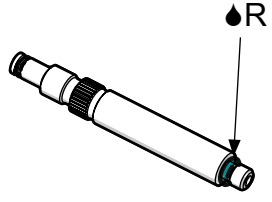
0000-293 - Mouthpiece washer



5800-100 - Mouthpiece lock nut, plastic

8. Mouthpiece SE7EN

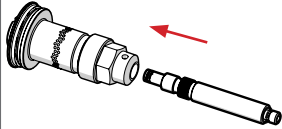


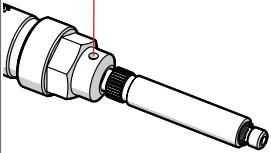
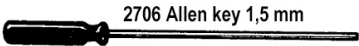
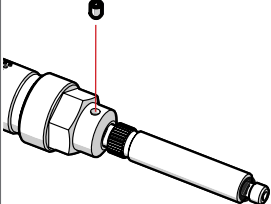
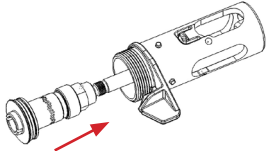
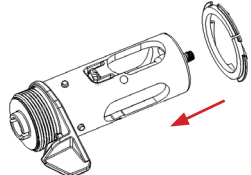
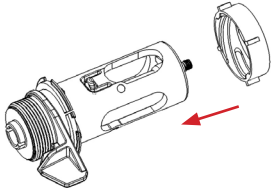
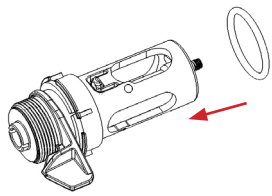
Assembly

	Parts	Tools/Instructions	Replace	Picture
1	0011-278 O-ring, viton	 3605 Combination tool 1  8516 Regulator grease	↻	
2	3440 Valve insert	Do not use lubricant on the valve insert. Only use soap and water.		
3	0012-016 O-ring	 8516 Regulator grease	↻	
4	0013-009 O-ring	 8516 Regulator grease	↻	
5	0000-148 Valve housing nut	 3605 Combination tool 1  Open end wrench 15 mm 3 +/- 1 Nm		
6	0013-351 O-ring	 8516 Regulator grease	↻	
7	0013-001 O-ring	 8516 Regulator grease	↻	

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8. Mouthpiece SE7EN

Assembly



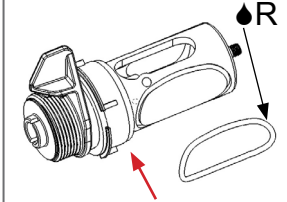
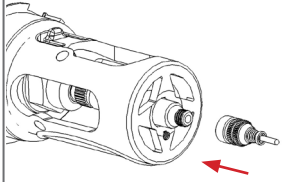
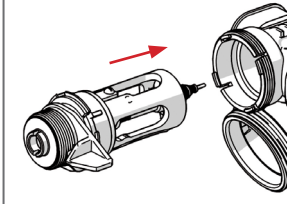
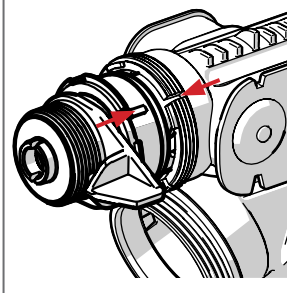
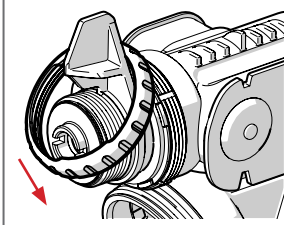
	Parts	Tools/Instructions	Replace	Picture
8	2839 Valve tube			
9	2787 Rubber plate	2297 O-ring remover 		
10	2875 Stop screw	2706 Allen key 1,5 mm 		
11	0005-000 LP valve 0000-471 DV Switch	Insert the LP valve in to the DV Switch. The locking screw on the LP valv should point in the oposite direction of the DV Switch lever.		
12	0000-293 Plastic washer	Thread the plastic washer on to the barrel. Use the cut in the washer to slide over the knobs.		
13	6010-114 Helix block	Thread the helix block on to the barrel. Then screw it on to the small knobs on the barrel.		
14	0010-120 O-ring	Thread the o-ring on to the barrel.		

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8. Mouthpiece SE7EN

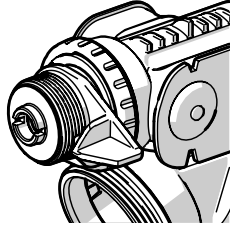
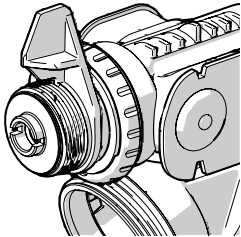
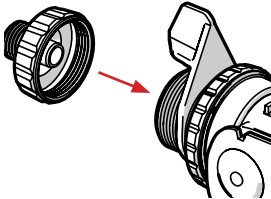
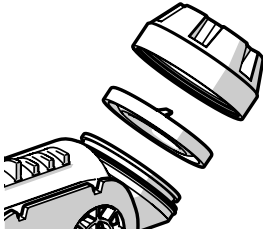

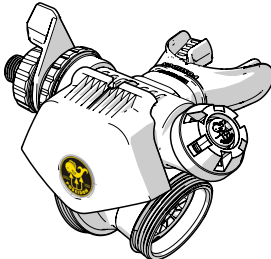
Mouthpiece:

Assembly

	Parts	Tools/Instructions	Replace	Picture
15	0015-245 O-ring	Place the o-ring in the groove. Apply a lot of lubricant! 		
17	2786 Servo valve			
18	Push the assebled DV Switch and LP valve in to the mouthpiece housing.	The 0015-245 O-ring should be facing upwards and the DV Switch lever should be pointing towards the divers face.		
19	When the assebled DV Switch and LP valve is pushed half way in to the mouthpiece housing, turn the DV switch lever forward, to OC position.	The guiding pin on the helix block, closest to the DV Switch lever should align with the groove marked No 1. When aligned, push the DV switch assembly in to position.		
20	5800-100 Locking nut Plastic	Thread the locking nut in to the DV switch barrel, over the DV switch.		

8. Mouthpiece SE7EN

Assembly

	Parts	Tools/Instructions	Replace	Picture
21	Start attaching the DV switch assembly to the mouthpiece housing by fastening the lock nut.	As you turn the lock nut, push the DV valve assembly in to the mouthpiece housing.		
22		When the lock nut has grabbed on to the threads of the mouthpiece housing, turn the DV switch to CC position and make sure the lock nut is tightened.		
23	0000-130 Hose adapter	Attach the hose adapter to the DV switch assembly.		
24	4536 Diaphragm cover 4533 membrane with washer	Push the membrane in to the mouthpiece housing. Then snap on the diaphragm cover.		
25	6010-005 OC cover	Snap the OC cover back on to the mouthpiece housing.		
26	0005-055 Mouthpiece G7	Assembly of the mouthpiece is now complete.		

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8. Mouthpiece SE7EN

Adjustment and final inspection

	Action	Tools/Instructions	Picture
1	Attach the assembled mouthpiece to a 1st stage that is connected to a test box.	Make sure the 1st stage is set to an intermediate pressure of 8,5 bar / 123,25 psi.	
2	Set the mouth piece to Open Circuit (OC)	If you look in to the mouth piece hole, you should see the locking screw on the LP valve insert.	
3	Loosen the locking screw on the LP valve housing nut.	Loosen the stop screw just enough to allow the valve tube to move.	
4	Adjust the cracking pressure of the LP valve by turning the valve tube up or down.	By turning the valve tube upwards, you move the servo valve closer to the 4533 membrane, lowering the cracking pressure. Use the 2705 Adjustment tool.	
5	While still in OC mode.	Adjust the valve tubing to a position that you think will give the desired cracking pressure of 30 cm w.c. Tighten the stop screw on the LP valve housing nut.	
6	Turn the DV switch over to Closed Circuit (CC) mode.	While in CC mode: Hold the mouthpiece-part of the cracking pressure gauge tight to the outlet of the mouthpiece. Block the inhalation membrane opening.	

8. Mouthpiece SE7EN

Adjustment and final inspection

	Action	Tools/Instructions	Picture
7	<p>Take a few rather slow and long inhalations from the mouthpiece part and simultaneously check the pressure gauge needle.</p> <p>The inhalation membrane must be blocked during this action.</p>	<p>It shall during inhalation reach a level of 30 cm.w.c, and at the end of the inhalation decrease again.</p>	
8		<p>If the reading is too high or too low, turn the DV Switch over to OC mode and loosen the locking screw on the valve housing nut.</p> <p>Adjust the valve tube and servo valve.</p>	
9		<p>Screw the valve tube and servo valve closer to the diaphragm to lower the w.c.</p> <p>To increase the w.c, screw them away from the diaphragm.</p>	
10	<p>Repeat Action #7, #8 and #9 until the correct cracking pressure of 30 cm w.c has been set.</p>	<p>Once 30 cm w.c has been set, do a final test with the locking screw firmly tightened.</p>	
11	<p>Cracking pressure in OC mode.</p>	<p>The cracking pressure in OC mode is not set but it should be between 30 - 70 mm w.c.</p>	
12	<p>Disconnect the mouthpiece from the test box 1st stage.</p>	<p>Release the pressure between the 1st stage and mouthpiece and disconnect the LP hose from the 1st stage.</p> <p>Adjustment is completed.</p>	

8. Mouthpiece SE7EN

Mouthpiece: 0005-055

Upgrades from previous versions of the mouthpiece

To upgrade a G1 (6011-001) mouthpiece to a SE7EN (0005-055) configuration, the following parts must be replaced:

- Mouthpiece housing 6010-001 needs to be replaced with Mouthpiece housing 0000-951.
- DV Switch 6010-010 (G1 version) must be replaced with DV Switch 0000-471 (SE7EN version).
- Lock nut 6010-104 (G1 version) must be replaced with Lock Nut 0000-427 (SE7EN version)

All these components are included in article number 6011-053 Mouthpiece Upgrade Kit G7.

To upgrade a G2 (0005-055) mouthpiece to a SE7EN (0005-055) configuration, the following parts must be replaced:

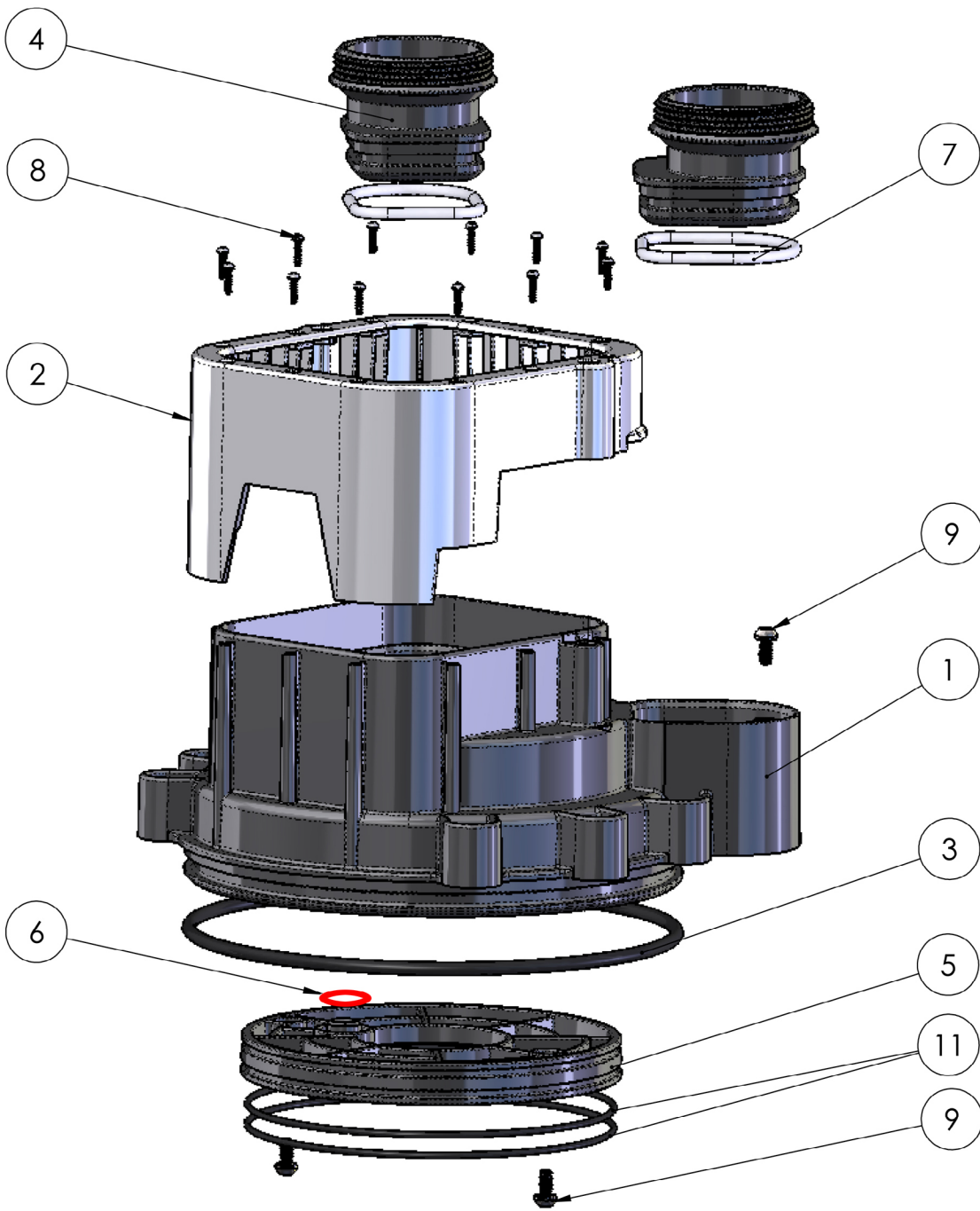
- Mouthpiece housing 0000-951.
- Mouthpiece locknut 5800-100.
- Barrel Magnet 0000-950.
- Plastic washer 0000-293
- helix block 5,5 6010-114
- O-ring 0015-245

All these components are included in article number 6011-053 Mouthpiece Upgrade Kit G7.

All the above mentioned parts must be replaced if/when upgrading a mouthpiece. These are NOT upgrades that are free of charge and they are NOT upgrades that are required.

9. Scrubber Canister Housing

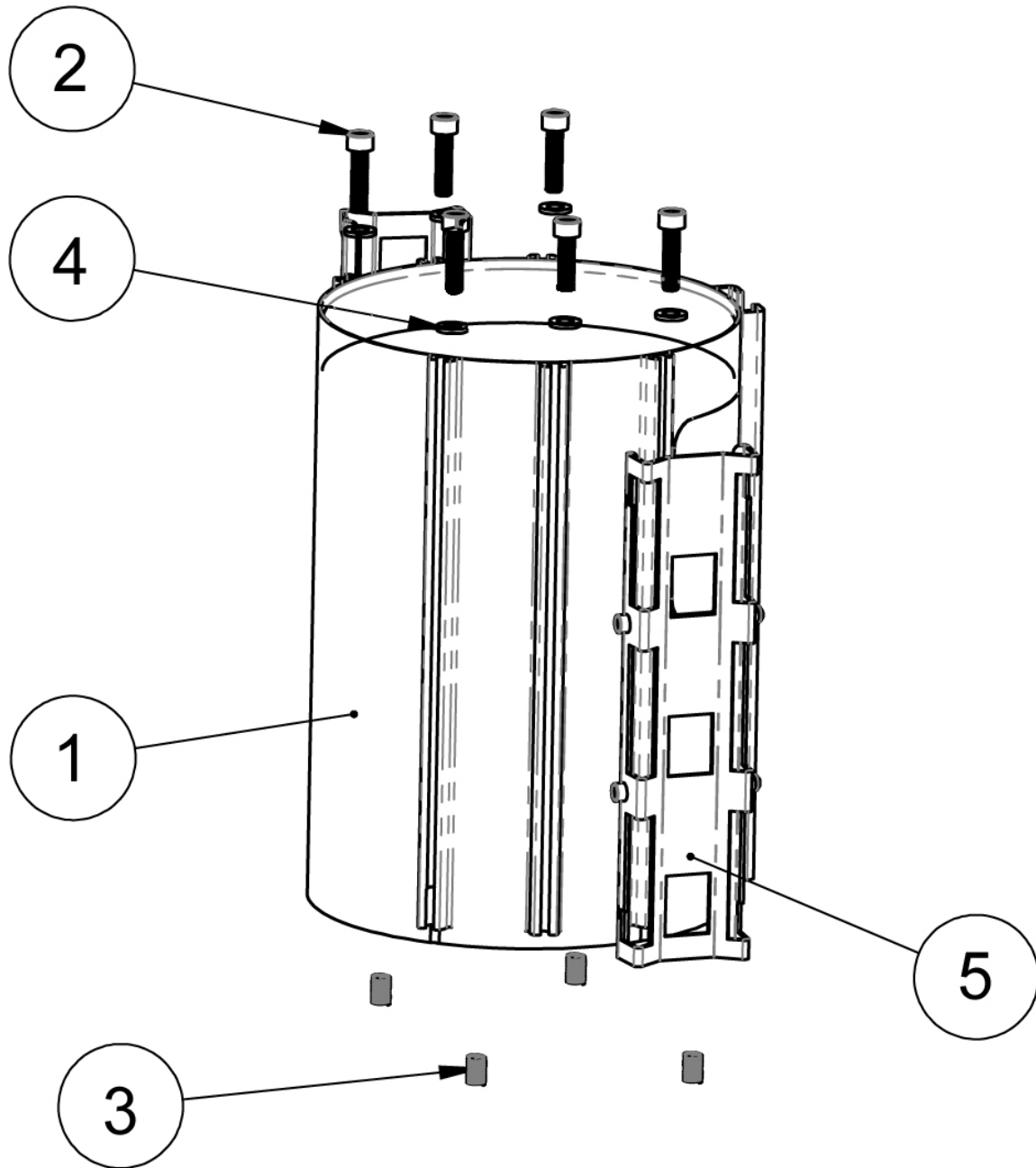
6010-006 Round pack top



Item	Part No	Description	Nmbr
1	6010-139	Top half	1
2	6010-265	Top support	1
3	0015-533	O-ring	1
4	6010-192	CL_Interface	2
5	6010-191	Diverter	1
6	0014-013	O-ring	1
7	0013-265	O-ring	2
8	6010-129	Screw Delta PT20x8 WN5452	12
9	0310-108	Screw Delta PT 40x8	4
11	0010-402	O-ring	2

9. Scrubber Canister Housing

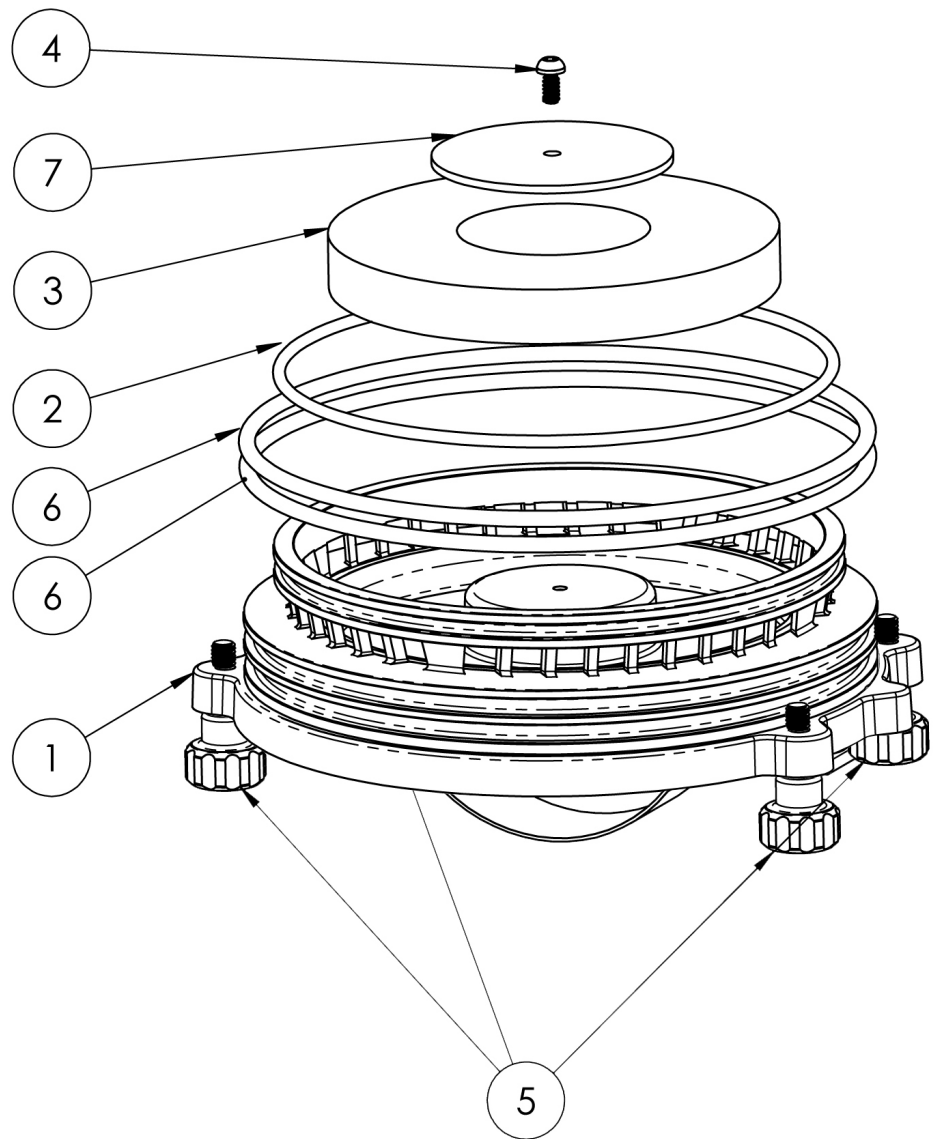
6011-003 Round Pack Housing incl. helicoil



Item	Part No	Description	Nmbr
1	0000-361	Round Pack Housing incl. helicoil	1
2	0001-149	Screw MC6S M6 x 25H, RF	6
3	6010-246	Heli coil plus	4
4	0001-139	Washer 6,4x12x1,6mm RF	6
5	0000-467	Cylinder Bracket Complete	2

9. Scrubber Canister Housing

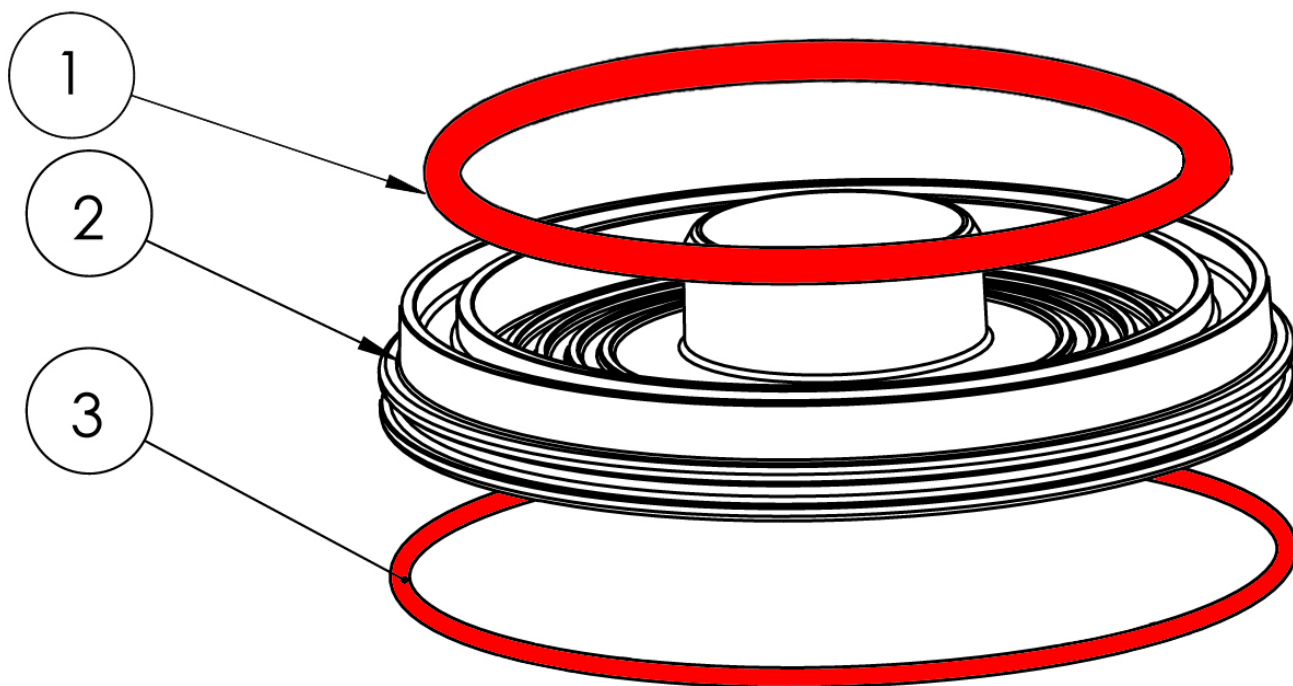
6011-011 Molprod Bottom



Item	Part No	Description	Nmbr
1	6010-214	Can bottom	1
2	0014-293	O-ring	1
3	6010-236	Sponge	1
4	0310-108	Screw Delta PT 40x8	1
5	6010-176	Screw foot	4
6	0015-533	O-ring	2
7	6010-264	Sponge washer	1

9. Scrubber Canister Housing

6011-012 Molprod Top

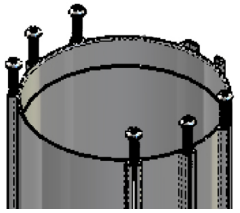
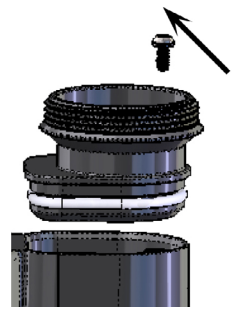
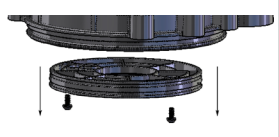
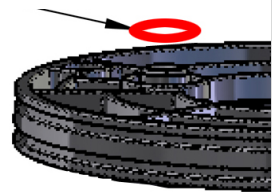


Item	Part No	Description	Nmbr
1	0014-292	O-ring	1
2	6010-215	Can top	1
3	0014-293	O-ring	1

9. Scrubber Canister Housing

6010-006 Round pack

Disassembly

	Parts	Tools/Instructions	Picture
1	6010-006 Round pack 6010-138 Round pack housing	Unscrew the 6 screws that attaches the Round pack to the Round pack housing.	
2	0310-108 Screw x 2 6010-192 CL interface 0013-265 O-ring	Unscrew both 0310-108 screws. Push the CL interface up and inwards. Remove o-ring 0013-265	
3	0310-108 Screw x 2 6010-191 Diverter 0015-533 O-ring 0010-402 O-ring x 2	Unscrew both 0310-108 screws. Pull the Diverter out. Remove o-ring 0015-533 Remove o-ring 0010-402	
4	6010-191 Diverter 0014-013 O-ring	Remove O-ring 0014-013 from the Diverter	

9. Scrubber Canister Housing

6010-006 Round pack

Cleaning

After all o-rings have been removed, we recommend that all plastic round pack parts are placed in a container with a mix of warm water and dish washing detergent and that the parts are left there to soak for 15 - 20 minutes. This will be enough to dissolve most dirt and grease from the parts.


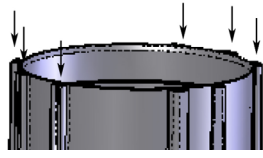


All screws should be placed in a 10% acid solution for aprox. 10 minutes or washed in an ultra sonic cleaner.

After the soak, let the parts air dry until they are completely dry.

9. Scrubber Canister Housing

6010-006 Round pack




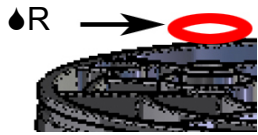



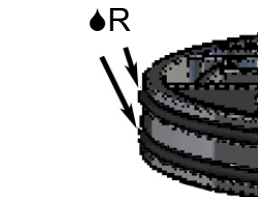



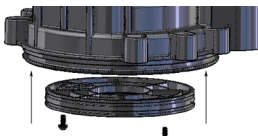



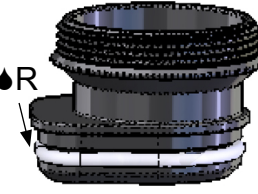
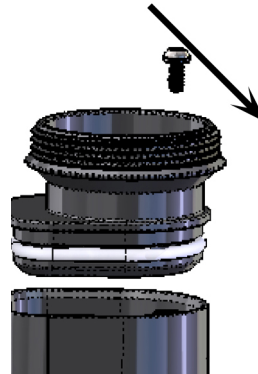
Inspection

	Parts	Tools/Instructions	Picture
1	6010-138 Round pack housing - Threads	 Check the six threads, used to attach the round pack to the housing, for damage.	
2	6010-265 Top support 6010-192 CL Interface x 2 6010-139 Top half 6010-191 Diverter	 Check all parts and threads for damages.	
3	6010-129 Screw x 12 0310-108 Screw x 4	 Check all threads for damage	

9. Scrubber Canister Housing

6010-006 Round pack

Assembly

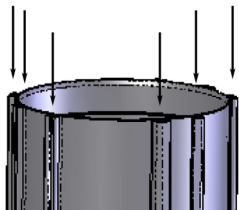
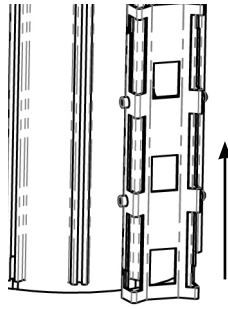
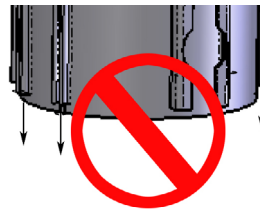
	Parts	Tools/Instructions		Picture
1	0014-013 O-ring 6010-191 Diverter	<p>2297 O-ring remover</p>  <p>Mount o-ring</p> <p>8516 Regulator grease</p> 		
2	0010-402 O-ring x 2 6010-191 Diverter	<p>2297 O-ring remover</p>  <p>Mount o-rings</p> <p>8516 Regulator grease</p> 		
3	0015-533 O-ring 6010-191 Diverter 0310-108 Screws PT 40 x 2 6010-138 Top half	<p>2297 O-ring remover</p>  <p>Place the 0015-533 o-ring between the Diverter and top half. Mount the Diverter on to the top half with two screws.</p> <p>Max Torque: 1,23 Nm</p> <p>8516 Regulator grease</p> 		
4	0013-265 O-ring 6010-192 CL Interface	<p>2297 O-ring remover</p>  <p>Place the o-ring on the groove on the CL interface.</p> <p>8516 Regulator grease</p> 		
5	6010-192 CL Interface 6010-139 Top half 0310-108 Screw PT 40 x 2	<p>Place the CL interface in designated place on the Top Half. Attach the CL interface with the screw.</p> <p>Max Torque: 1,23 Nm</p>		

9. Scrubber Canister Housing

6010-138 Round Pack housing

Disassembly

We recommend you only do this step if there is something wrong with the tank brackets or if there is damage to the grooves where the tank brackets are attached.

	Parts	Tools/Instructions	Picture
1	0001-149 Screw x 6 0001-139 Washer x 6	Make sure all six (6) screws and washers are removed.	
2	0000-467 Tank brackets	Remove the tank brackets by pulling them upwards, along the housing until they come loose	
3	6010-246 Heli coils x 4	Do <u>not</u> remove the heli coils from the housing.	

9. Scrubber Canister Housing

6010-138 Round pack housing

Cleaning

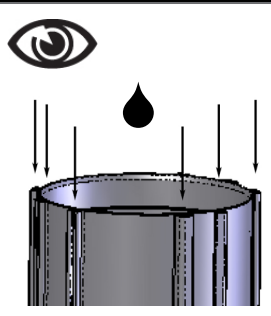
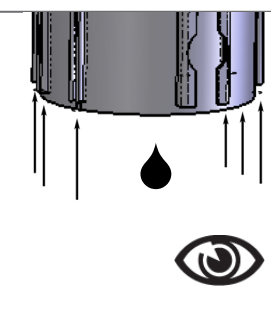

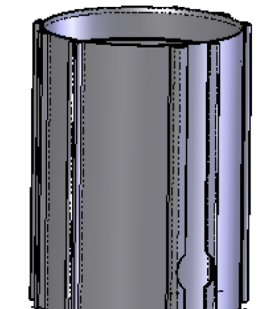
We recommend that the round pack housing is placed in a container with a mix of warm water and dish washing detergent and that the part is left there to soak for 15 - 20 minutes. This will be enough to dissolve most dirt and grease from the part.

After the soak, let the part air dry until it is completely dry.

9. Scrubber Canister Housing

6010-138 Round pack housing

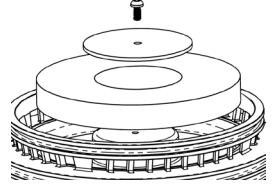

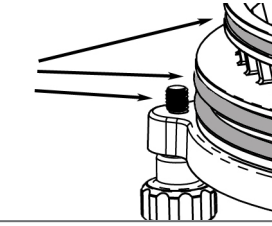
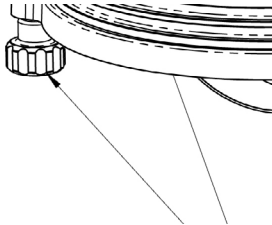
Inspection

	Parts	Tools/Instructions	Picture
1	6010-138 Round pack housing	Inspect threads for signs of damage. Lubricate the threads. Apply some loctite 8023 anti corrosion paste on the heli coils.	
2	6010-138 Round pack housing	Inspect heli coil inserts for signs of damage. Lubricate the threads. Apply some loctite 8023 anti corrosion paste on the heli coils.	
3	6010-138 Round pack housing	 Inspect the whole housing for signs of damage and/or corrosion.	

9. Scrubber Canister Housing

6011-011 Molprod bottom

Disassembly

	Parts	Tools/Instructions		Picture
1	6010-236 Sponge	Remove the sponge.		
2	0014-293 O-ring 0015-533 O-ring x 2	Remove the o-rings		
3	6010-176 Screw, foot 6010-214 Can bottom	Do <u>not</u> remove the screws from the can bottom		

9. Scrubber Canister Housing

6011-011 Molprod bottom

Cleaning


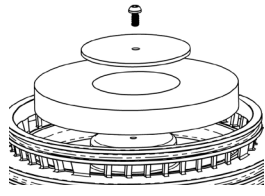

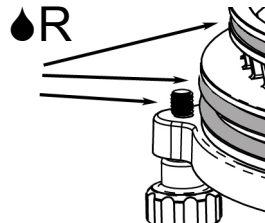
We recommend that all parts of the Molprod bottom are placed in a container with a mix of warm water and dish washing detergent and that the parts are left there to soak for 15 - 20 minutes. This will be enough to dissolve most dirt and grease from the parts.

After the soak, let the parts air dry until they are completely dry.

9. Scrubber Canister Housing

6011-011 Molprod bottom




Assembly

	Parts	Tools/Instructions		Picture
1	6010-236 Sponge	Place the new sponge in the centre of the Can bottom.		
2	0014-293 O-ring 0015-533 O-ring x 2	Mount the o-rings on the Can bottom.		

9. Scrubber Canister Housing

6011-012 Molprod top

Disassembly

	Parts	Tools/Instructions		Picture
1	0014-292 O-ring 0014-293 O-ring	 Remove the o-rings		

9. Scrubber Canister Housing

6011-011 Molprod Top

Cleaning



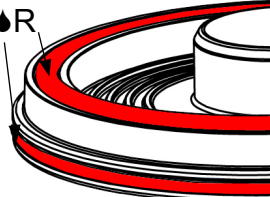
We recommend that the Molprod top is placed in a container with a mix of warm water and dish washing detergent and that the part is left there to soak for 15 - 20 minutes. This will be enough to dissolve most dirt and grease from the part.

After the soak, let the part air dry until it is completely dry.

9. Scrubber Canister Housing

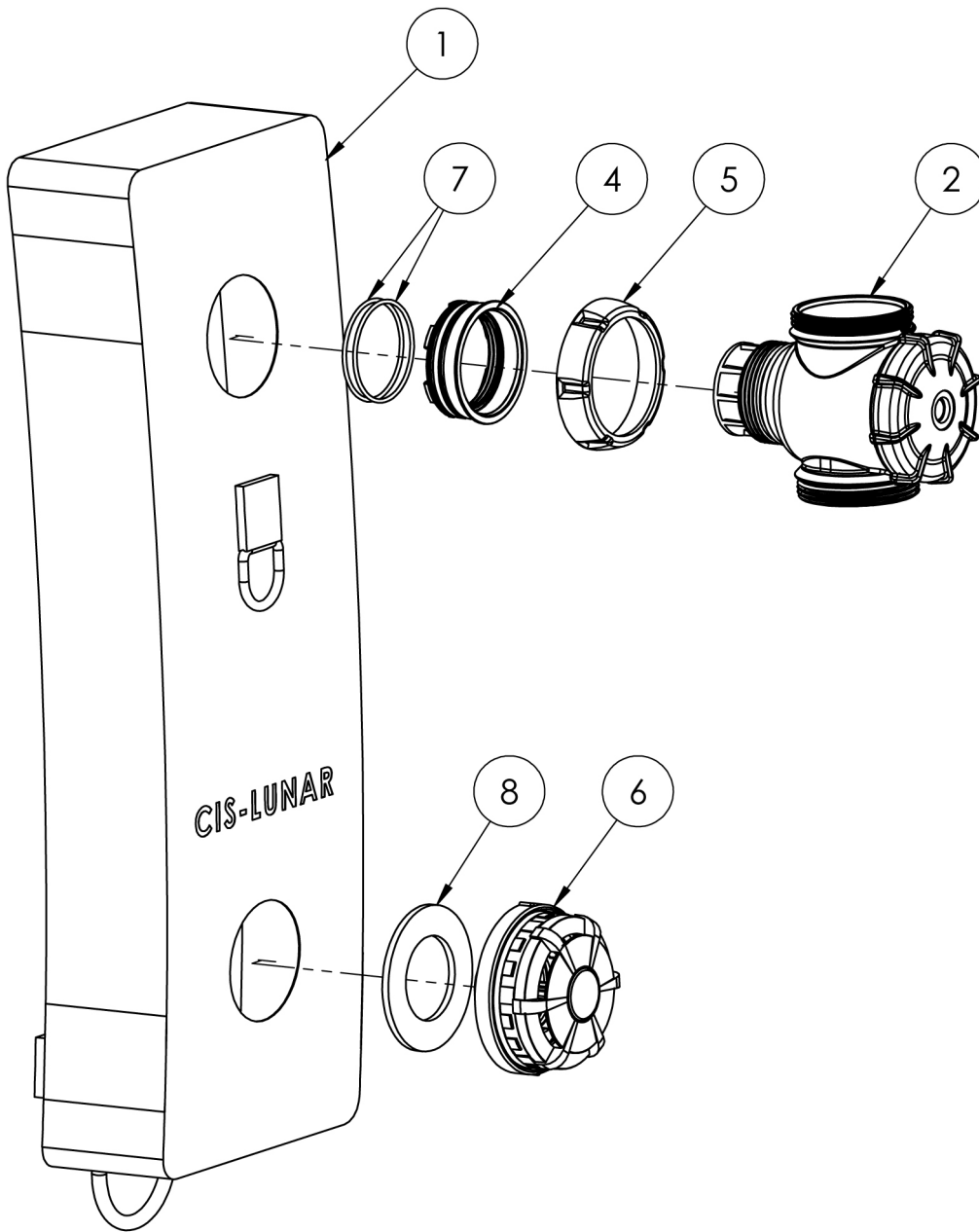
6011-012 Molprod top

Assembly

	Parts	Tools/Instructions		Picture
1	0014-292 O-ring 0014-293 O-ring	 <p>2297 O-ring remover</p> <p>Mount the o-rings on the Molprod top.</p>		

10. Breathing loop

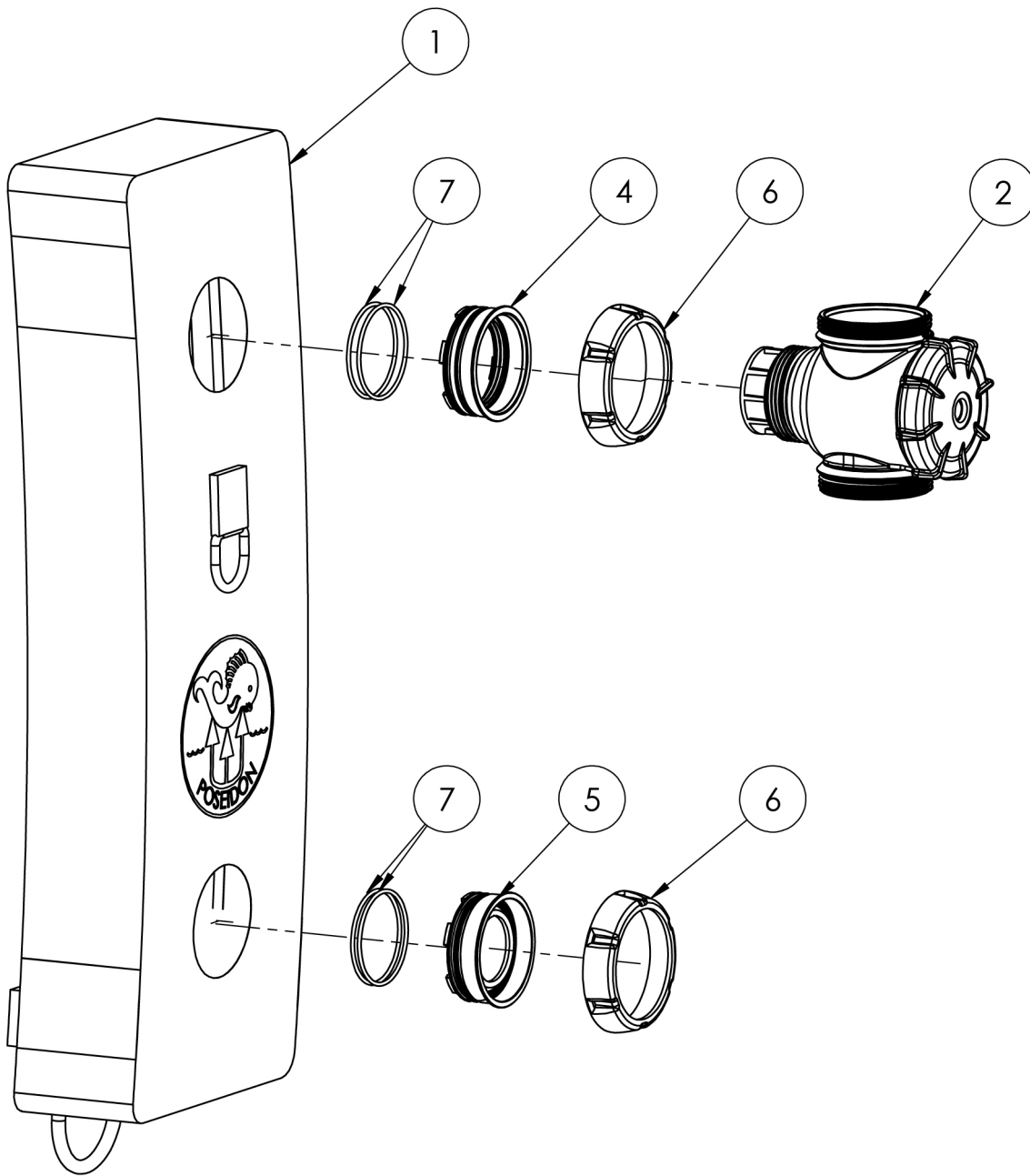
Breathing loop components: 6010-020 Right counter lung



Item	Part No	Description	Nmbr
1	6010-008	Lung shell right	1
2	6010-011	T-Section (not included in 6010-020)	1
3	6010-018	Innerbladder right	1
4	6010-133	T-Lunginsert	1
5	6010-277	Ring nut valve insert	1
6	0000-180	Automatic outlet valve	1
7	0013-187	O-ring	2
8	0000-182	Valve patch Flexisuit	1

10. Breathing loop

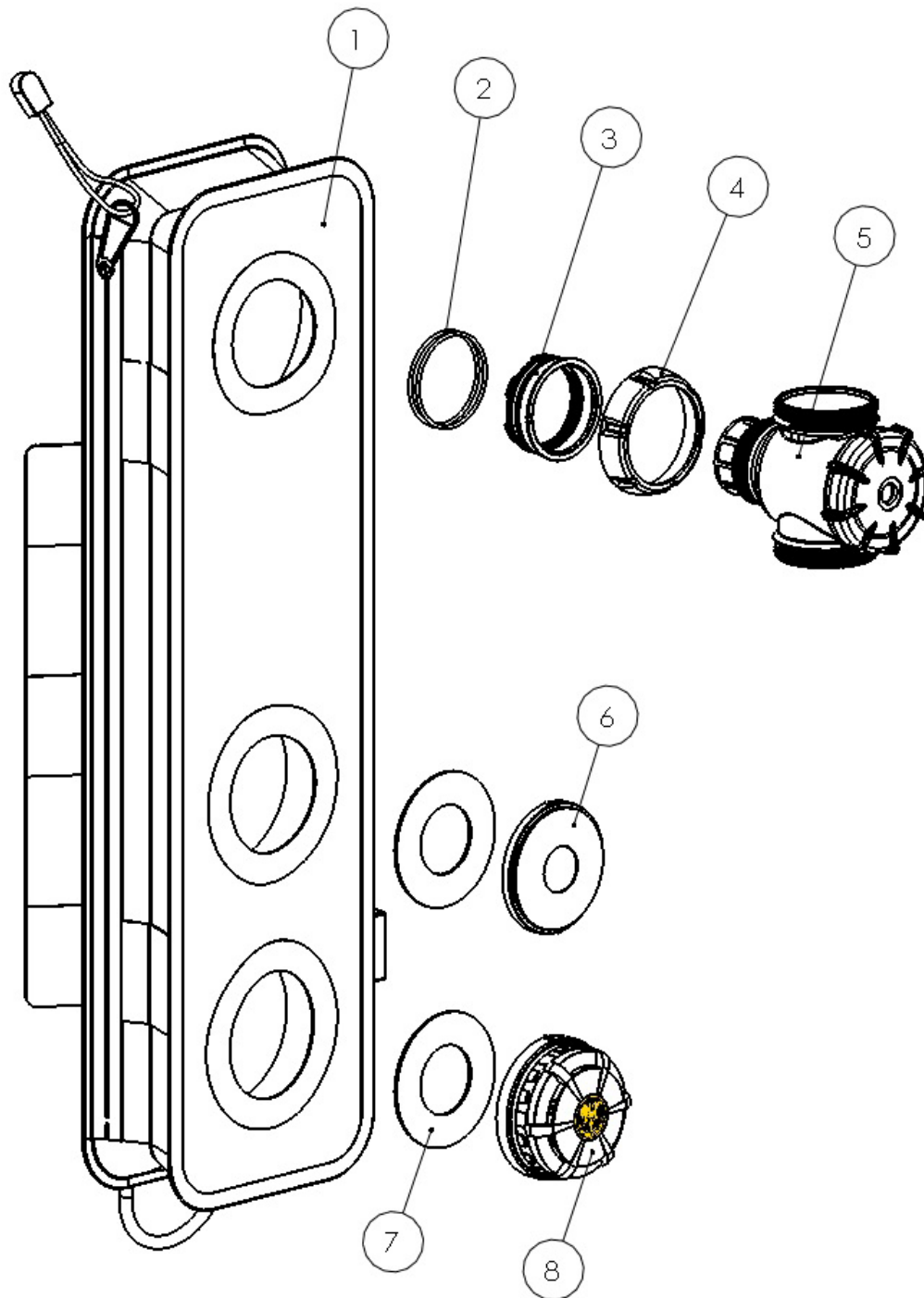
Breathing loop components: 6010-021 Left counter lung



Item	Part No	Description	Nmbr
1	6010-009	Lung shell left	1
2	6010-011	T-Section (not included in 6010-021)	1
3	6010-019	Innerbladder left	1
4	6010-133	T-Lunginsert	1
5	6010-273	Blind insert	1
6	6010-277	Ring nut valve insert	2
7	0013-187	O-ring	4

10. Breathing loop

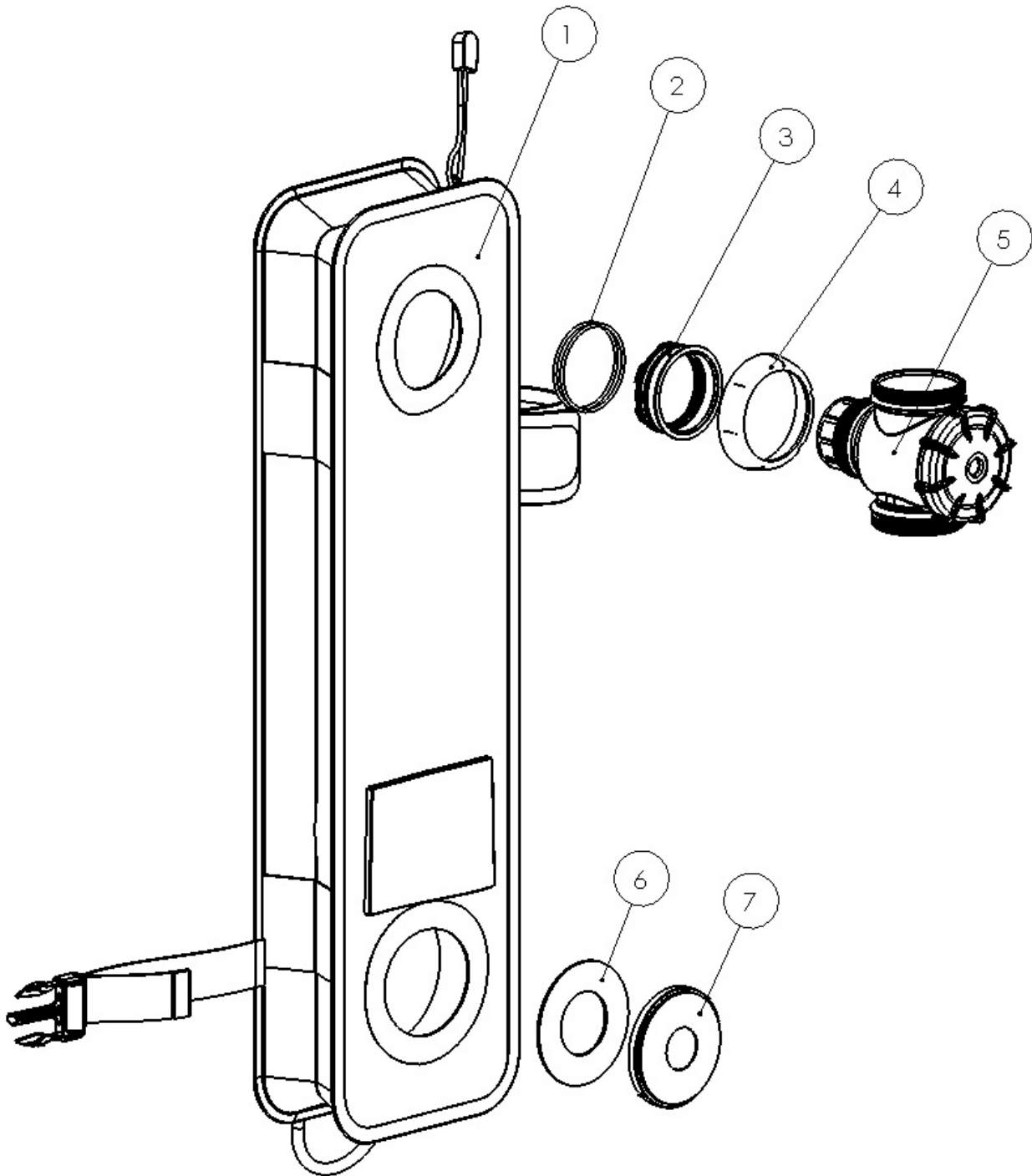
Breathing loop components: 0005-075 Right counter lung, Large



Item	Part No	Description	Nmbr
1	0005-146	Counterlung right shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	0005-201	Blind cover tech lung	1
7	3639	Valve sealing	2
8	0000-259	Automatic outlet valve	1
9	0000-551	Inner bladder 1+2 ports large	1

10. Breathing loop

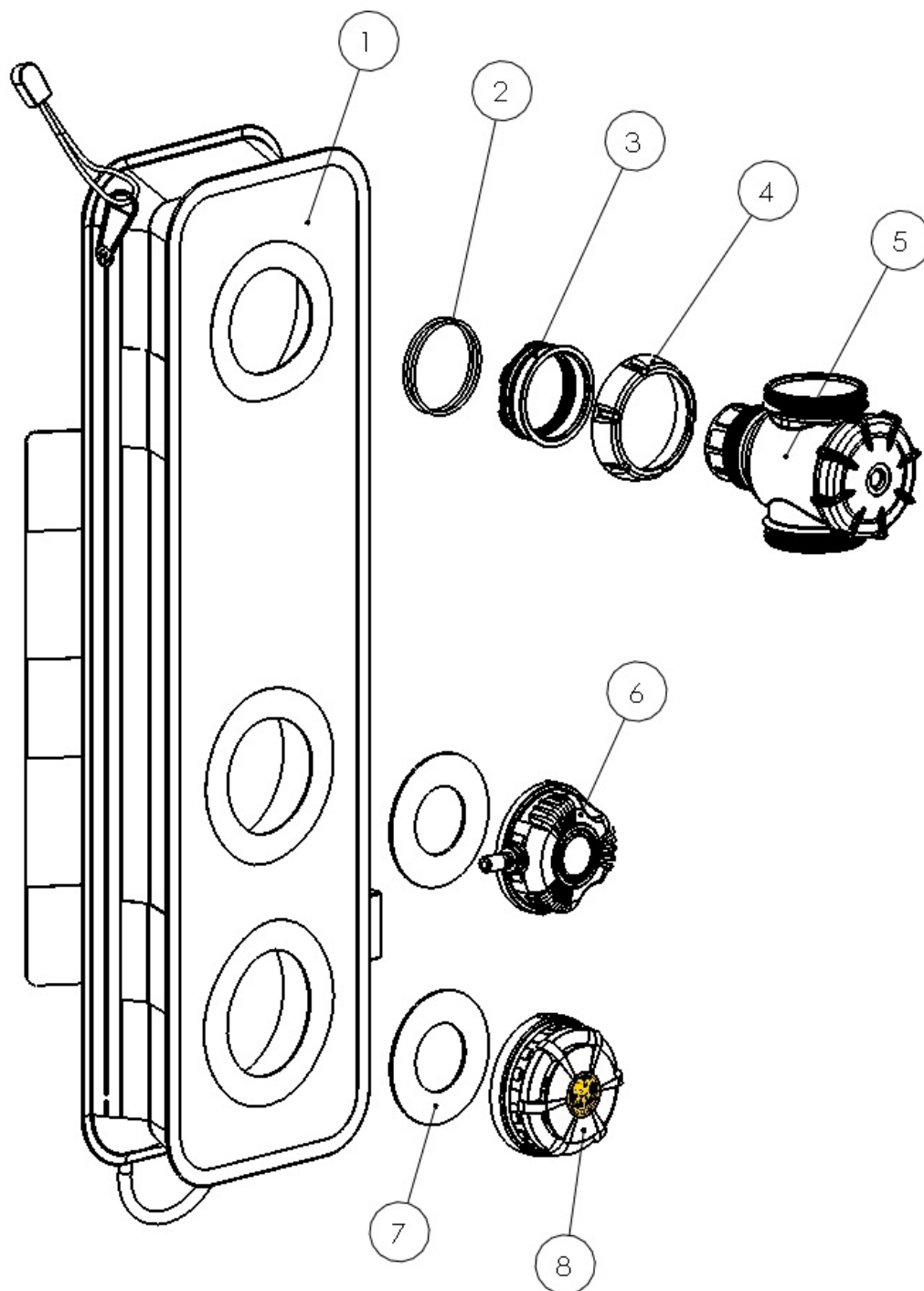
Breathing loop components: 0005-076 Left counter lung, Large



Item	Part No	Description	Nmbr
1	0005-147	Counterlung left shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	3639	Valve sealing	1
7	0005-201	Blind cover tech lung	1
8	0000-554	Inner bladder 1+1 ports large	1

10. Breathing loop

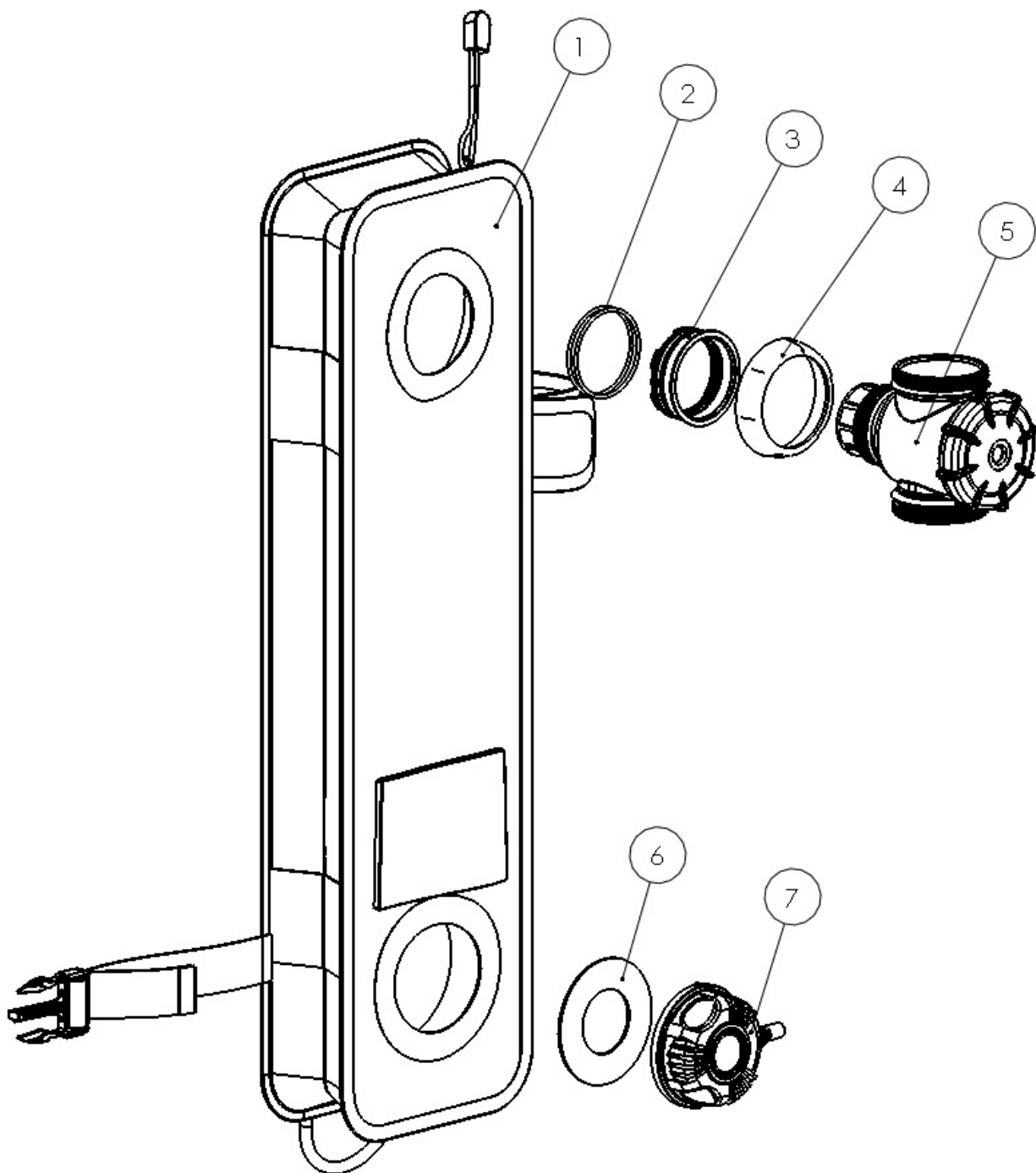
Breathing loop components: 0005-075 Right counter lung, Large, manual injection



Item	Part No	Description	Nmbr
1	0005-146	Counterlung right shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	0005-206	Manuel Injection O2	1
7	3639	Valve sealing	2
8	0000-259	Automatic outlet valve	1
9	0000-551	Inner bladder 1+2 ports large	1

10. Breathing loop

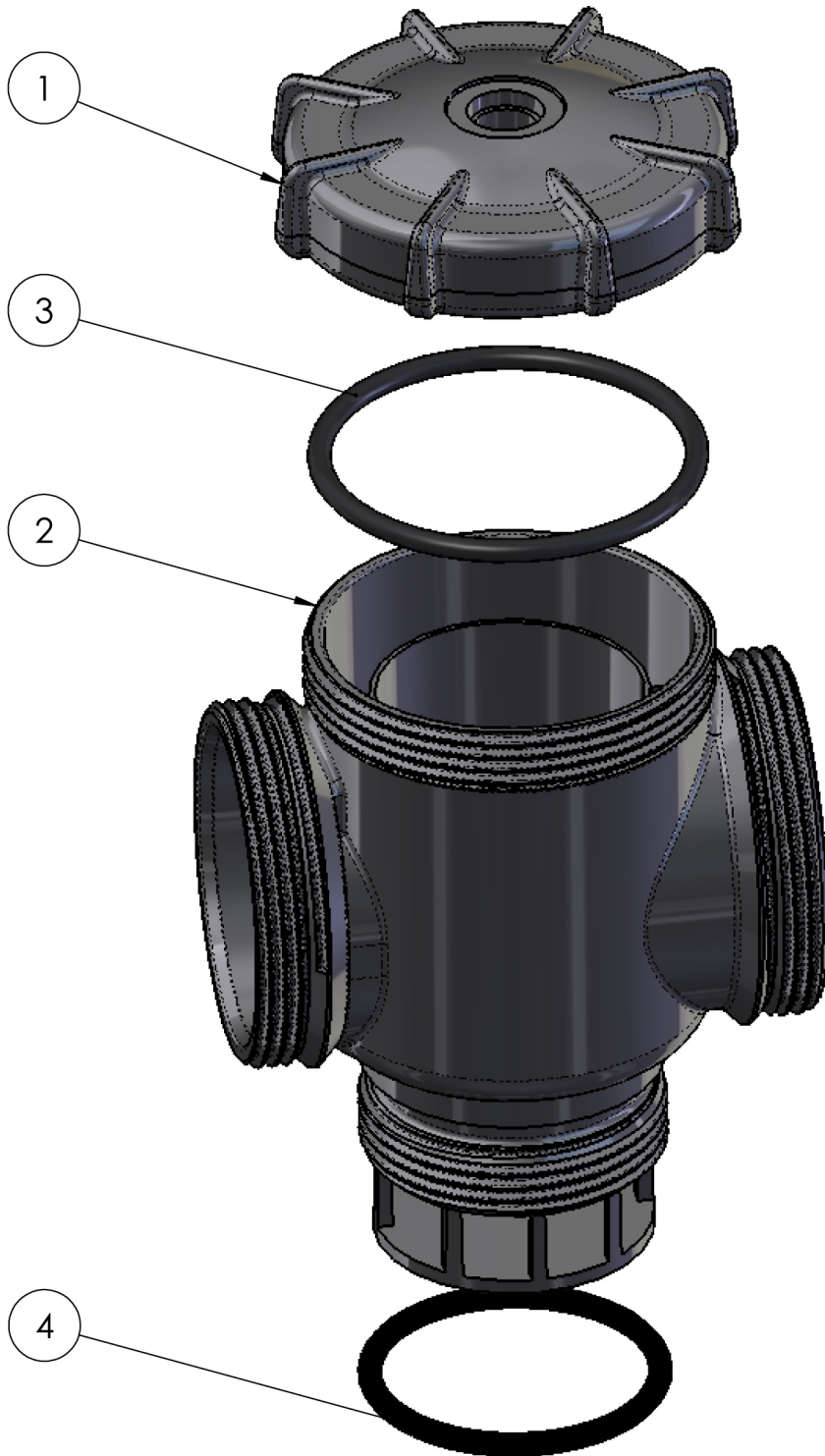
Breathing loop components: 0005-076 Left counter lung, Large, manual injection



Item	Part No	Description	Nmbr
1	0005-147	Counterlung left shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	3639	Valve sealing	1
7	0005-205	Manuel Injection Dil	1
8	0000-554	Inner bladder 1+1 ports large	1

10. Breathing loop

Breathing loop components: 6010-011 T-section

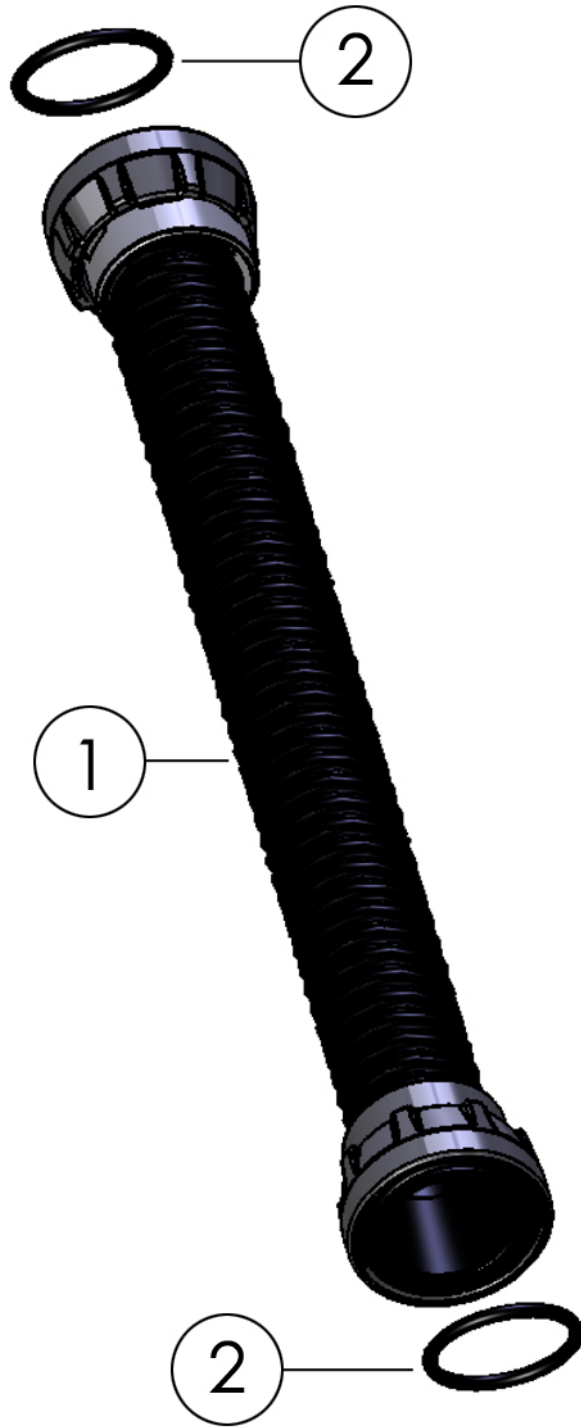


Item	Part No	Description	Nmbr
1	6010-131	T-top	1
2	6010-130	T-Bone	1
3	0010-140	O-ring	1
4	0013-261	O-ring	1

10. Breathing loop

Breathing loop components: 0132-003 CC hose (x 4)

Item	Part No	Description	Nmbr
1	0132-003	CC hose	1
2	0013-261	O-ring	2



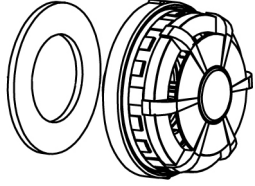
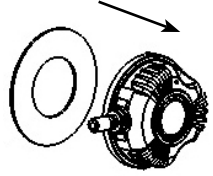
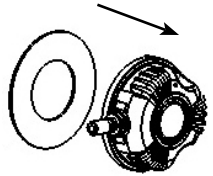


NOTE: The CC hoses connections can not be disassembled.

10. Breathing loop

Breathing loop components: Counter lungs

Disassembly

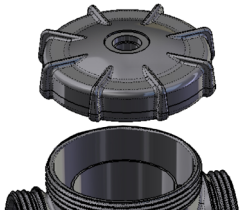
	Parts	Tools/Instructions	Picture
1	6010-277 Ring nut valve insert	Unscrew the Ring nut valve insert from the inner bladder threads	
2	6010-133 T-lung insert 6010-273 Blind insert	Pull out the T-lung inserts and Blind insert from the inner bladder threads.	
3	0000-180 Automatic outlet valve	Un-screw the automatic outlet valve from the right side (exhale) counter lung.	
	0005-205 Manual injection DIL (60m tech lungs only)	Un-screw the Manual Injection DIL valve from the left side (exhale) counter lung.	
	0005-206 manual injection O2 (60m tech lungs only)	Un-screw the Manual Injection O2 valve from the right side (exhale) counter lung.	
4	6010-008 Lung shell right 6010-009 Lung shell left 0005-146 Counter shell L, Right 0005-147 Counter shell L, Left 6010-018 Inner bladder right 6010-019 Inner bladder left 0000-551 Inner bladder L, Right 0000-554 Inner bladder L, Left	Open the zipper on the lung shell and take out the inner bladders.	

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10. Breathing loop

Breathing loop components: T-section

Disassembly

	Parts	Tools/Instructions	Picture
1	6010-131 T-top	Unscrew the T-top from the T-section	

10. Breathing loop

Breathing loop components:

Cleaning

All o-rings that are attached to any parts of the breathing loop should be removed, using the o-ring remover.



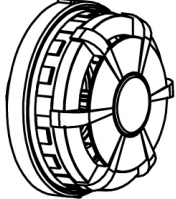
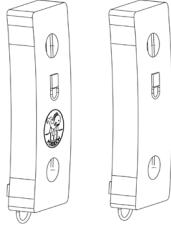
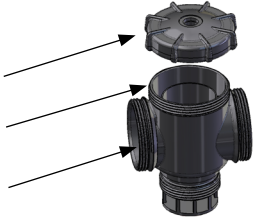
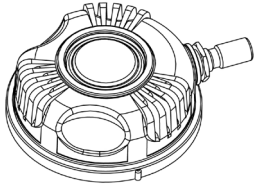
It is recommended that when servicing the Discovery MkVI rebreather, all breathing loop components should be disinfected.

- We recommend that you use a disinfection liquid by the name of Gigasept.
- Follow all the safety instructions on the bottle/box.
- Mix a 5% Gigasept solution (5% Gigasept, 95% water) in a suitable container.
- Lower the CC hoses, T-connections and all other plastic parts in the solution.
- Lower the inner bladders in the solution and let them fill up with the liquid.
- Let all parts soak in the solution for 40 minutes.
- When the parts are done soaking, wash them in clean water.

10. Breathing loop

Breathing loop components: CC hoses, counter lungs and T-sections

Inspection




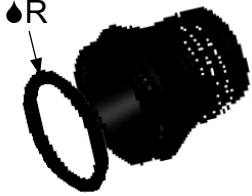
	Parts	Tools/Instructions	Picture
1	6010-277 Ring nut valve insert	Make sure the part is intact and without damage.	
2	6010-273 Blind insert	Make sure the part is intact and without damage.	
3	0000-180 Automatic outlet valve	Make sure the valve isn't damaged and that it can turn without any problems.	
4	6010-008 Lung shell right 6010-009 Lung shell left 6010-018 Inner bladder right 6010-019 Inner bladder left	Check the lung shells for damage and/or holes. Check inner bladders for holes or damage, and make sure the connection threads are intact.	
5	6010-130 T-bone 6010-131 T-top	Check the housing, top and the threads for damage.	
6	6010-270 CC hose	Make sure the CC hoses aren't damaged and that there are no holes in them.	
7	0005-205 Manuel Injection Dil 0005-206 Manuel Injection O2	Check for damages.	

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10. Breathing loop

Breathing loop components: CC hoses




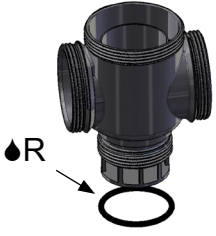
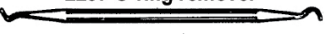


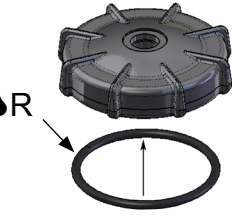

Assembly

	Parts	Tools/Instructions		Picture
1	6010-270 CC hose 0013-261 O-ring	<p>2297 O-ring remover</p>  <p>Replace the O-rings</p> <p>8516 Regulator grease</p> 		

10. Breathing loop

Breathing loop components: T-sections








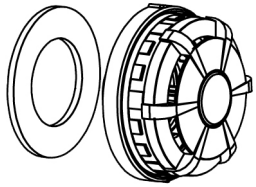
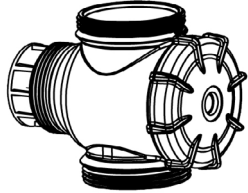
Assembly

	Parts	Tools/Instructions		Picture
1	6010-130 T-bone 0013-261 O-ring	 2297 O-ring remover Replace o-ring  8516 Regulator grease		
2	6010-131 T-top 0010-140 O-ring	 2297 O-ring remover Replace o-ring  8516 Regulator grease		
3	6010-131 T-top 6010-130 T-bone	Assemble the T-top and the T-bone. Be careful with the threads.		
4	6010-011 T-section	Repeat step 1 - 3 on the second T-section.		

10. Breathing loop

Breathing loop components: Counter lungs

Assembly

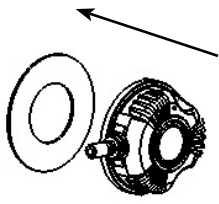
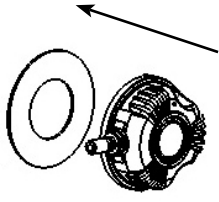
	Parts	Tools/Instructions		Picture
1	6010-008 Lung shell right 6010-009 Lung shell left 0005-146 Counter shell L, Right 0005-147 Counter shell L, Left 6010-018 Inner bladder right 6010-019 Inner bladder left 0000-551 Inner bladder L, Right 0000-554 Inner bladder L, Left	Insert the inner bladder in to the outer bladder. Align the inner bladder male threads with the top end hole of the outer bladder.		
2	6010-133 T-lung insert x 2 0013-187 O-rings x 6 0610-273 Blind insert x 1	 <p>2297 O-ring remover</p> <p>Replace the o-rings</p>  <p>8516 Regulator grease</p>		<p>♣R</p> 
3	6010-133 T-lung insert x 2	Mount the T-lung insert with o-rings attached in the top thread on each lung.		
4	0610-273 Blind insert x 1	Mount the blind insert with o-rings attached in the bottom thread on the left side lung		
5	6010-277 Ring nut valve insert x 3	Mount the Ring nut valve inserts on each male thread on both lungs.		
6	0000-182 Valve patch 0000-180 Autom. outlet valve	Mount the Autom. outlet valve and valve patch on the lower female thread of the right side lung. Make sure the fabric of the outer lung is properly aligned to avoid leaks.		
7	6010-011 T-section x 2	Mount the T-sections, one on each counter lung. Make sure the water trap is mounted correctly!		

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10. Breathing loop

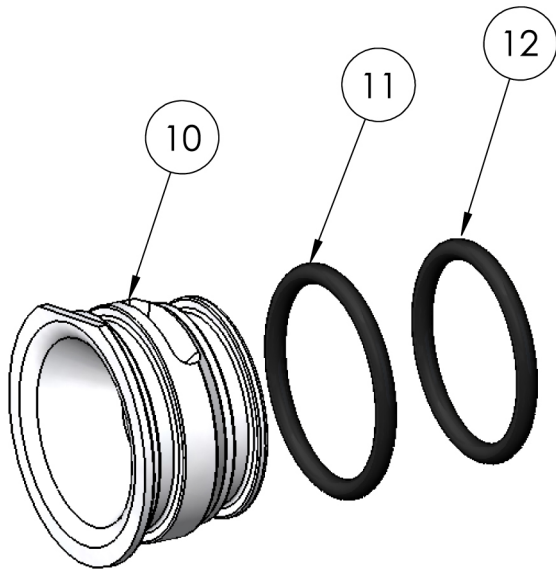
Breathing loop components: Counter lungs

Assembly

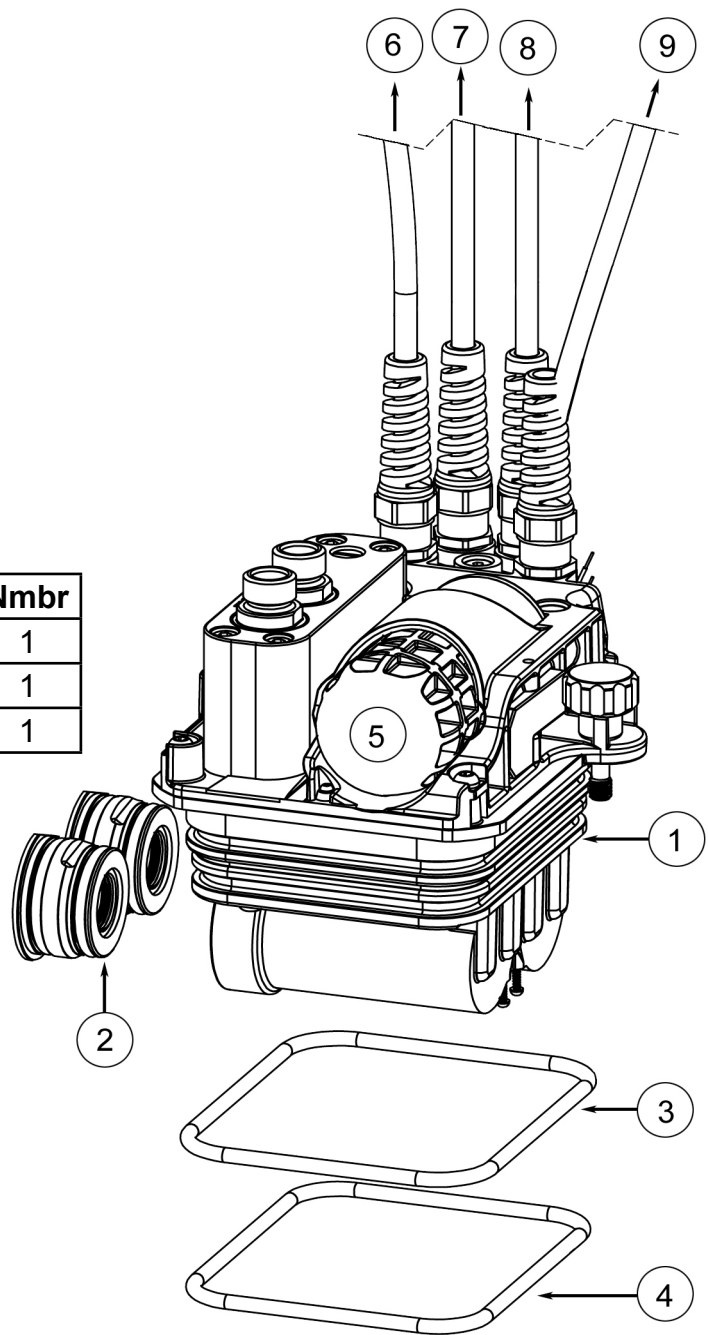
	Parts	Tools/Instructions	Picture
8	0005-205 Manuel Injection Dil (60m tech lungs only)	<p>Mount the manual injection DIL valves to the counter lungs.</p> <p>The DIL valve goes on the INHALATION lung</p>	
9	0005-206 Manuel Injection O2 (60m tech lungs only)	<p>Mount the manual injection O2 valves to the counter lungs.</p> <p>The O2 valve goes on the EXHALATION lung</p>	

11. Electronics module and battery MkVI

6010-039 O2 sensor base Cpl. & 6010-047 Electronics module



Item	Part No	Description	Nmbr
10	6010-205	O2 sensor base	1
11	0013-215	O-ring	1
12	0013-214	O-ring	1



Item	Part No	Description	Nmbr
1	6010-036	Electronics module	1
2	6010-039	2 sensor base compl.	2
3	0015-467	O-ring	1
4	0015-461	O-ring	1
5		Battery pack	1
6		To the Display	1
7		To the HP sensor w. banjo Dil	1
8		To the HP sensor w. banjo O2	1
9		To the HUD	1

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11. Electronics module and battery MkVI

6011-005 Battery pack and 6011-015 Battery charger

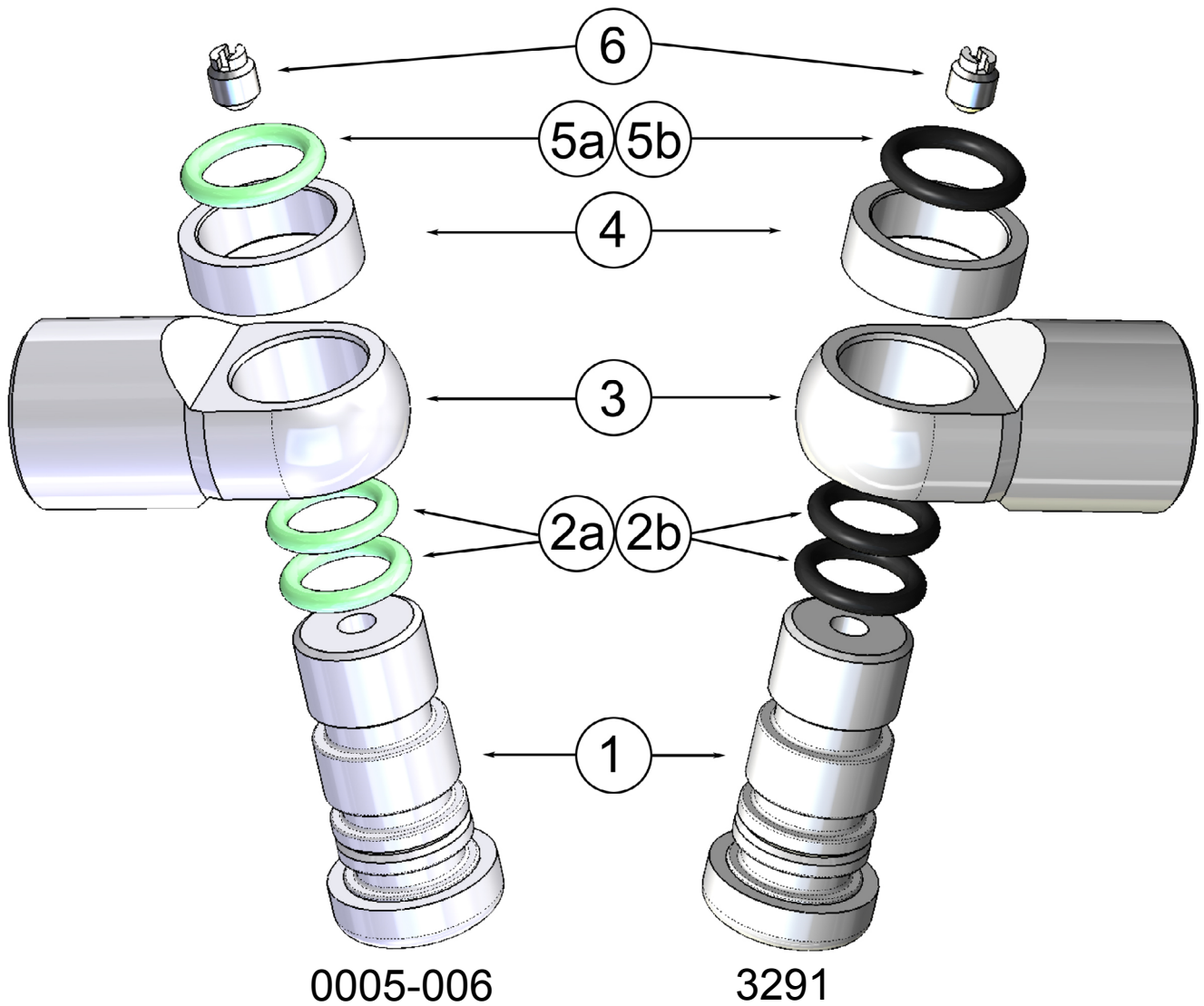
Part No	Description
6011-005	Battery Module 40m Recreation - GREEN
6011-027	Battery Module 40m DECO - YELLOW
6011-028	Battery Module 48m TRIMIX - BLUE
6011-029	Battery Module 60m TRIMIX - WHITE
6011-036	Battery Module DEEP - BLACK



Item	Part No	Description	Nmbr
1		Depends on depth rating of battery	1
2	6011-015	Battery charger	1
	6010-290	Power adapter 12V	1
	6010-291	Power adapter 4-plug KIT	1
3	0013-038	O-ring	1

11. Electronics module and battery MkVI

0005-006 Banjo 90 HP O2 and 3291 Banjo 90 HP



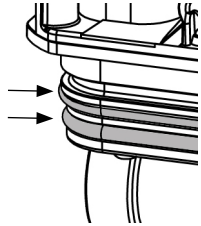
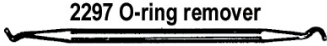

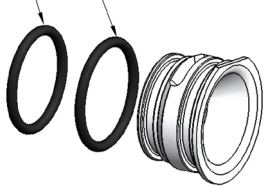


Item	Part No	Description	Nmbr
1	3292	Banjo screw	1
2a	0011-276	O-ring Viton (2782 59)	2
2b	0010-353	O-ring	2
3	3293	Banjo house	1
4	3294	Spacer	1
5a	0011-277	O-ring Viton (2918 59)	1
5b	0010-354	O-ring (2918)	1
6	1095	Strangle screw	1

11. Electronics module and battery MkVI

6010-047 Electronics module

Disassembly

	Parts	Tools/Instructions		Picture
1	6011-005 Battery pack	The battery pack should have been removed from the electronics unit before the service began.		
2	0015-461 O-ring 0015-467 O-ring	 Remove the o-rings		
3	0013-214 O-ring 0013-215 O-ring	 Remove the o-rings		

11. Electronics module and battery MkVI

6010-047 Electronics module

Cleaning

Do NOT submerge/soak the whole electronics module in any liquid!
 Doing that might cause damage to the electronics.

Use a damp cloth to clean the electronics module up, if needed.

The only two parts of the electronics module that may be submerged/soaked in liquid is the display unit and the HUD.

11. Electronics module and battery MkVI

6010-047 Electronics module

Inspection






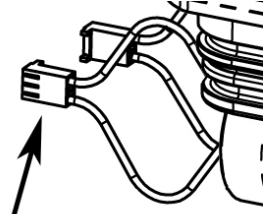
	Parts	Tools/Instructions		Picture
1	6010-047 Electronics module	Check the Electronics module for damage		

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11. Electronics module and battery MkVI

6010-047 Electronics module



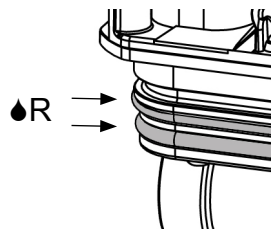
Inspection

	Parts	Tools/Instructions		Picture
2	6010-047 Electronics module	Check the hoses/wires to the HP sensors, the HP sensors, HUD and primary display for holes and/or damage.		
3	6010-047 Electronics module	Check the Primary display and HUD for damages.		
4	6010-047 Electronics module	If any part of the electronics module is damaged, the whole module needs to be sent to the local Distributor. Do NOT attempt to repair the module!	 	
5	6010-047 Electronics module	Check: - Cables to the O2 sensors. - O2 sensor connections. - Battery connections.		




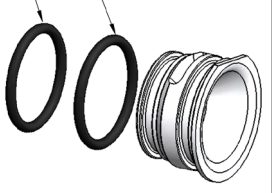
11. Electronics module and battery MkVI

6010-047 Electronics module

Assembly

	Parts	Tools/Instructions		Picture
1	0015-461 O-ring 0015-467 O-ring	2297 O-ring remover Mount the o-rings 8516 Regulator grease 		

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2	0013-214 O-ring 0015-215 O-ring	<p style="text-align: center;">2297 O-ring remover</p>  <p style="text-align: center;">Mount the o-rings 8516 Regulator grease</p> 		
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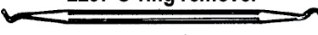

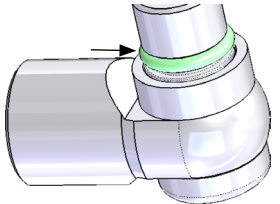
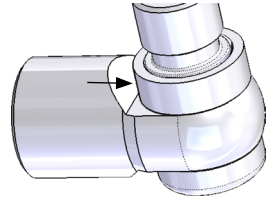
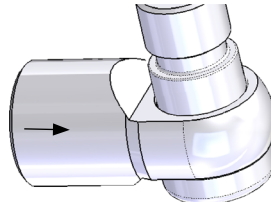


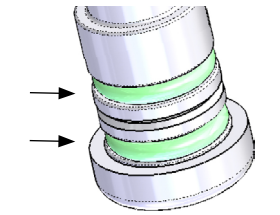
11. Electronics module and battery MkVI

0005-006 Banjo 90 HP O2

Disassembly

⚠ Do not disassemble the O2 Banjo connection in the clean room environment. All parts shall be taken to the clean room environment after inspection and after the pre-cleaning process if such is needed. Otherwise you risk to contaminate the clean room environment. New parts should be stored in it's original packing until it is time for assembly.

⚠ To remove o-rings, **ONLY** use o-ring remover tool 2297. Make sure not to damage o-ring and sealing surfaces!!

Parts	Tools/Instructions	Picture
1	0011-277 O-ring (2918 59) <p style="text-align: center;">2297 O-ring remover</p>  <p style="text-align: center;">Remove the o-ring</p>	 
2	3294 Spacer Remove the spacer	
3	3293 Banjo house Remove the banjo house	
4	0011-276 O-ring (2782 59) x 2 <p style="text-align: center;">2297 O-ring remover</p>  <p style="text-align: center;">Remove the o-rings</p>	 

11. Electronics module and battery MkVI

0005-006 Banjo 90 HP O2

Cleaning

⚠️ Make absolutely sure Hydrochloric acid is NOT poured into the ultra-sonic cleaner. It would then destroy the ultra-sonic cleaner and the parts attempted to be cleaned.

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempcid* or 15% Hydrochloric acid for about 10 minutes. Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

**Hempcid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning*

Cleaning for Oxygen Use

The process of cleaning for oxygen use and the information given herein shall be strictly adhered to. Only then can Poseidon guarantee the part will be cleaned to a cleanliness level which is acceptable for its intended use. This process has been verified to produce hydrocarbon residual levels less than 50mg/m² and a particulate level less than Cleaning Test Level 100 (ASTM G 93 Spec.)

As an alternative, oxygen servicing procedures can be carried out in accordance with other herein listed organizations standard procedures and requirements. However, the use of cleaning agents, the order of the operating sequences and the time to treat parts during ultra sonic cleaning as specified in this manual must be adhered to. Wherever there is a conflict between the procedures and set of requirements, unless the other procedure represents a greater requirement for cleanliness, this manual takes precedence. Some methods, equipment, and detergents which are not mentioned in this manual can have a harmful or unknown effect on materials, such as e.g. ozone cleaning systems, strong acids etc. and shall therefore be discarded.

The other standard procedures that can be used given the limitations above are:
 EAN and Oxygen Servicing Procedures, Fourth Edition (ANDI)
 IANTD Gas Blender & Service Technician Program, First Edition, August 1999
 MIL-STD-1330D (SH) of the 20 September 1996

⚠️ The safety of your customer and yourself depends on you carefully and strictly following these instructions. Negligence in any step can cause serious injury or even death.





⚠️ You must be certified by Poseidon as oxygen technician to undertake this procedure.


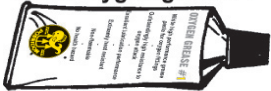

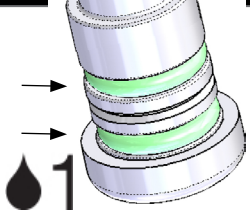
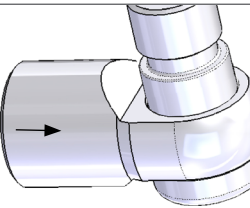
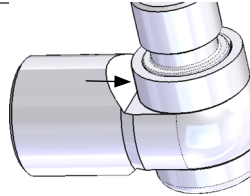

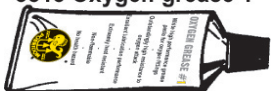

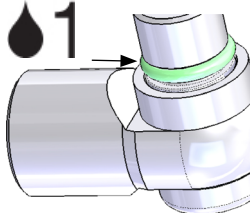
⚠️ Keep hands and tools clean and free from grease, except for what is required and stated in this manual. We recommend that you use lint-free gloves when handling parts used with O₂.

11. Electronics module and battery MkVI

0005-006 Banjo 90 HP O2

Assembly

-  Use protective clothing to prevent dust, fingerprints, hair, and particles to contaminate.
-  Use only dedicated and cleaned tools.
-  Ensure your oxygen handling is in conjunction with national laws.
-  Ensure no foreign contaminants, such as e.g. liquids, grease, particulate, dust, and mist can enter into the cleanroom area.

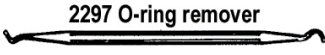

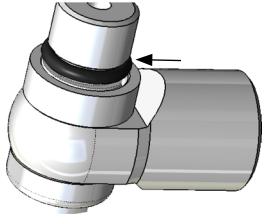
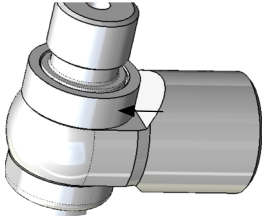
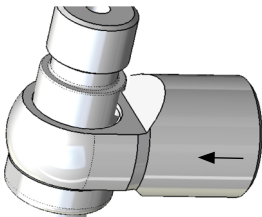
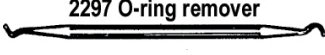

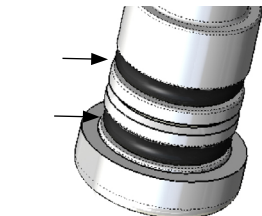
	Parts	Tools/Instructions		Picture
1	0011-276 O-ring (2782 59) x 2	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8515 Oxygen grease 1</p> 		
2	3293 Banjo house	Thread the Banjo house on to the Banjo screw, over the o-rings.		
3	3294 Spacer	Mount the spacer		
4	0011-277 O-ring (2918 59)	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8515 Oxygen grease 1</p> 		

11. Electronics module and battery MkVI

3291 Banjo 90 HP

Disassembly

⚠ To remove o-rings, **ONLY** use o-ring remover tool 2297. Make sure not to damage o-ring and sealing surfaces!!

	Parts	Tools/Instructions		Picture
1	0011-277 O-ring (2918)	 Remove the o-ring		
2	3294 Spacer	Remove the spacer		
3	3293 Banjo house	Remove the banjo house		
4	0010-353 O-ring (2782) x 2	 Remove the o-rings		

11. Electronics module and battery MkVI

3291 Banjo 90 HP

Cleaning




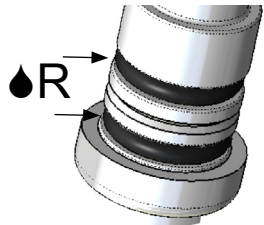
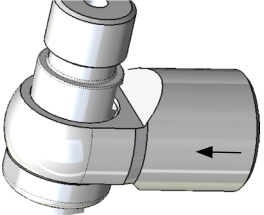
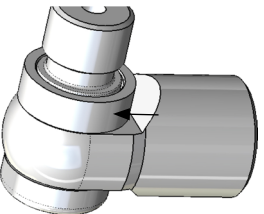



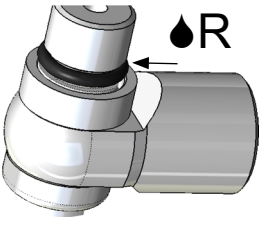
The metal parts of the 3291 Banjo connection can be cleaned using an ultra sonic washer or placed in a 10% acid solution bat for 10 minutes.

Air dry the parts after cleaning.

11. Electronics module and battery MkVI

0000-160 Banjo 90 HP

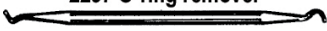



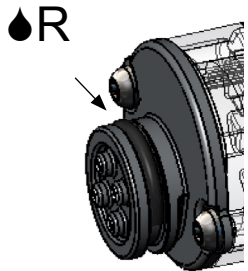
Assembly

	Parts	Tools/Instructions		Picture
1	0010-353 O-ring (2782) x 2	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8516 Regulator grease</p> 		
2	3293 Banjo house	Thread the Banjo house on to the Banjo screw, over the o-rings.		
3	3294 Spacer	Mount the spacer		
4	0011-277 O-ring (2918)	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8516 Regulator grease</p> 		

11. Electronics module and battery MkVI

6011-005 Battery pack with 6011-015 Charger

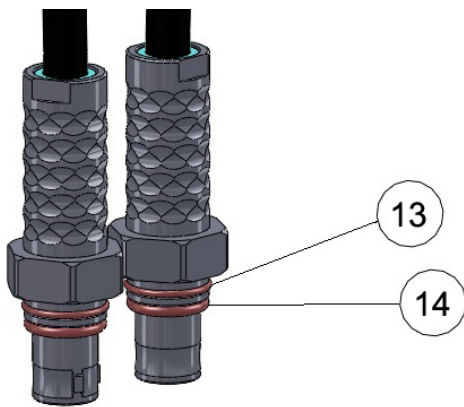
Inspection

	Parts	Tools/Instructions		Picture
1	6011-005 Battery pack	Check the battery pack for damage. If it's damaged, it needs to be replaced.		
2	6011-005 Battery pack 0013-038 O-ring	<p>2297 O-ring remover</p>  <p>Remove and replace the O-ring</p> <p>8516 Regulator grease</p> 	 	
3	6011-005 Battery pack 6011-015 Battery Charger	Connect the battery charger to a power outlet. Place the battery in the charger.		
4	6011-005 Battery pack 6011-015 Battery Charger	Make sure that the battery is charging and that the charger is working according to instructions.		
4	6011-005 Battery pack 6011-015 Battery Charger	Allow the battery to be fully charged.		

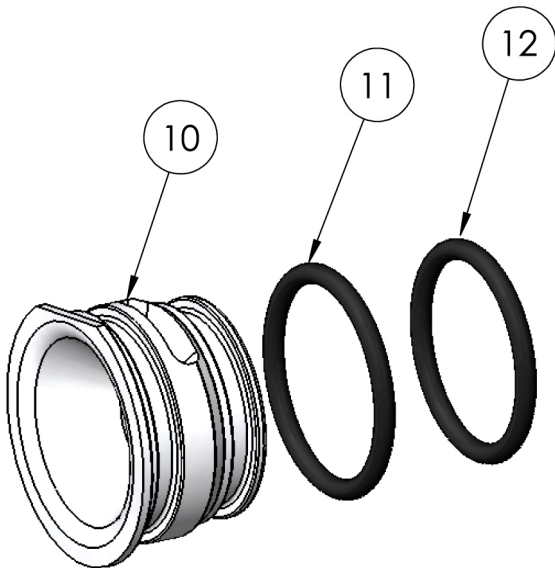
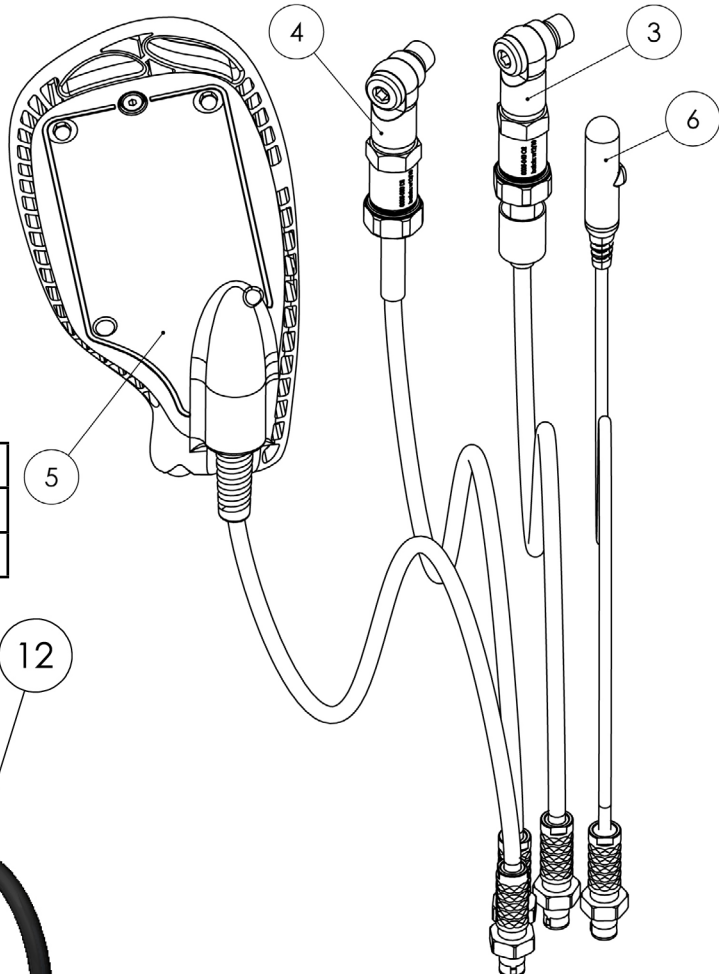
Revision: 2.8 Date: 17-04-12 Approved by: JN

12. Electronics module and battery SE7EN

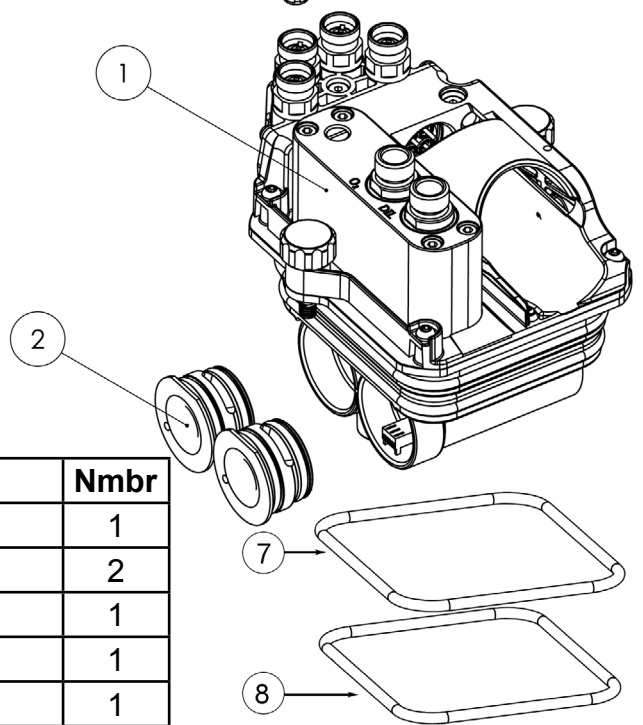
6010-039 O2 sensor base Cpl. & 0005-058 SE7EN Electronics module complete



Item	Part No	Descr.	Nmbr
13	0014-294	O-ring	4
14	0014-004	O-ring	4



Item	Part No	Description	Nmbr
10*	6010-205	O2 sensor base	1
11*	0013-215	O-ring	1
12*	0013-214	O-ring	1



Item	Part No	Description	Nmbr
1	0005-057	Electronics module	1
2	6010-039	O2 sensor base compl.*	2
3	0005-041	HP-Sensor O2 incl Banjo	1
4	0005-051	HP Sensor DIL incl Banjo	1
5	0005-045	Display DG2	1
6	0005-030	CHUD G2	1
7	0015-467	O-ring	1
8	0015-461	O-ring	1

Revision: 2.8 Date: 17-04-12 Approved by: JN

12. Electronics module and battery SE7EN

Battery pack and 6011-015 Battery charger

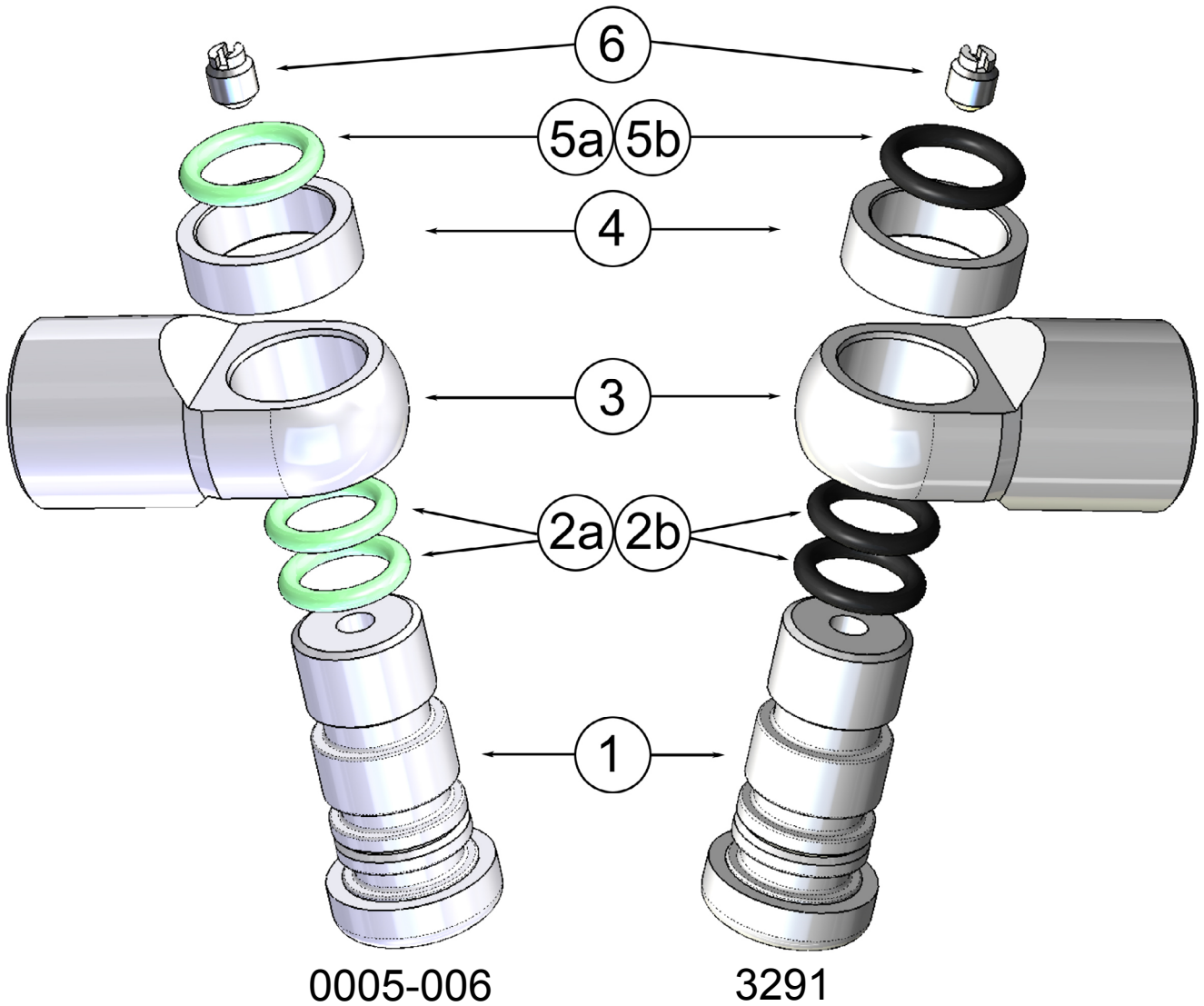
Part No	Description
6011-005	Battery Module 40m Recreation - GREEN
6011-027	Battery Module 40m DECO - YELLOW
6011-028	Battery Module 48m TRIMIX - BLUE
6011-029	Battery Module 60m TRIMIX - WHITE
6011-036	Battery Module DEEP - BLACK



Item	Part No	Description	Nmbr
1		Depends on depth rating of battery	1
2	6011-015	Battery charger	1
	6010-290	Power adapter 12V	1
	6010-291	Power adapter 4-plug KIT	1
3	0013-038	O-ring	1

12. Electronics module and battery SE7EN

0005-006 Banjo 90 HP O2 and 3291 Banjo 90 HP

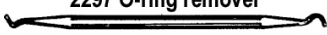



Item	Part No	Description	Nmbr
1	3292	Banjo screw	1
2a	0011-276	O-ring Viton (2782 59)	2
2b	0010-353	O-ring	2
3	3293	Banjo house	1
4	3294	Spacer	1
5a	0011-277	O-ring Viton (2918 59)	1
5b	0010-354	O-ring (2918)	1
6	1095	Strangle screw	1

12. Electronics module and battery SE7EN

0005-058 G2 Electronics module

Disassembly

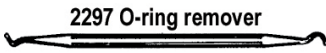
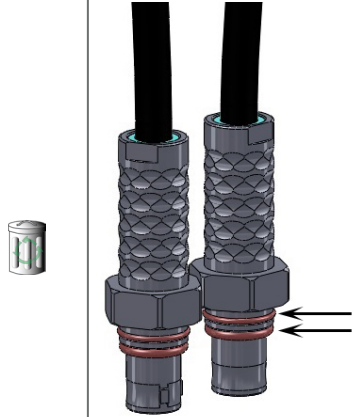
Parts	Tools/Instructions	Picture
1	The battery pack should have been removed from the electronics unit before the service began.	
2	0005-045 Display DG2 0005-041 HP-Sensor O2 0005-051 HP-Sensor DIL 0005-030 CHUD	Disconnect these components from the electronics module. Make sure you don't damage the connections.
3	0005-045 Display DG2 0005-041 HP-Sensor O2 0005-051 HP-Sensor DIL 0005-030 CHUD	Make sure that you DO NOT unscrew the female connections on the e-module!
4	0005-045 Display DG2 0005-041 HP-Sensor O2 0005-051 HP-Sensor DIL 0005-030 CHUD	If you have unscrewed a female connection on the electronics module, it must be tightened with a torque of 5 Newton
5	0005-006 Banjo 90 HP O2 3291 Banjo 90 HP DIL	Unscrew the two Banjo connections from the HP sensors.
6	0015-461 O-ring 0015-467 O-ring	Remove the o-rings 
7	0013-214 O-ring 0013-215 O-ring	Remove the o-rings 

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12. Electronics module and battery SE7EN

0005-058 G2 Electronics module

Disassembly

	Parts	Tools/Instructions	Picture
8	0014-004 - O-ring 0014-294 - O-ring	Remove all 8 o-rings from the connections.  2297 O-ring remover	

12. Electronics module and battery SE7EN

0005-058 G2 Electronics module

Cleaning

Do NOT submerge/soak the whole electronics module or any part/component of it, in any liquid!

Doing that might cause damage to the electronics.

Use a damp cloth to clean the electronics module up, if needed.

The only two parts of the electronics module that may be submerged/soaked in liquid is the display unit and the HUD.






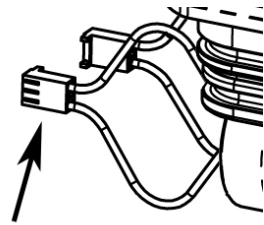
Do not place/clean the connections in any liquid. Doing this can cause damage to the electronics connections.

Make sure all electronics components are dry before assembly.

12. Electronics module and battery SE7EN

0005-058 Electronics module

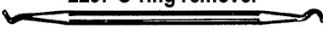

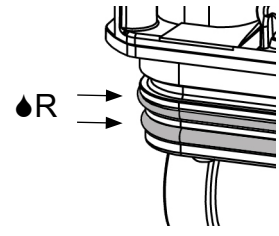
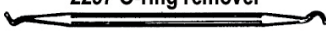

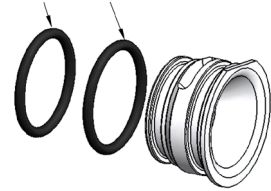
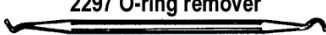

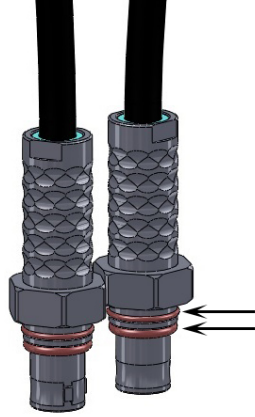
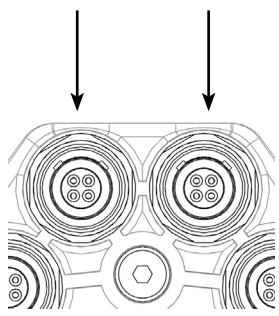
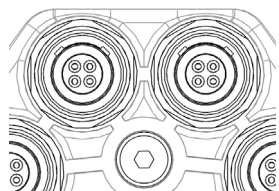
Inspection

	Parts	Tools/Instructions		Picture
1	0005-058 G2 Electronics module	Check the Electronics module for damage		
2	0005-058 G2 Electronics module	Check the hoses/wires to the HP sensors, the HP sensors, HUD and primary display for holes and/or damage.		
3	0005-058 G2 Electronics module	Check the Primary display and HUD for damages.		
4	0005-058 G2 Electronics module	If any part/component of the electronics module is damaged, contact your Poseidon Distributor. Do NOT attempt to repair the module or parts!		
5	0005-058 G2 Electronics module	Check: - Cables to the O2 sensors. - O2 sensor connections. - Battery connections.	 	

12. Electronics module and battery SE7EN

0005-058 G2 Electronics module complete

Assembly

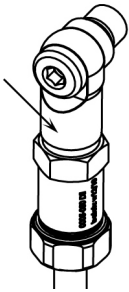
	Parts	Tools/Instructions		Picture
1	0015-461 O-ring 0015-467 O-ring	<p>2297 O-ring remover</p>  <p>Mount the o-rings</p> <p>8516 Regulator grease</p> 	↻	
2	0013-214 O-ring 0015-215 O-ring	<p>2297 O-ring remover</p>  <p>Mount the o-rings</p> <p>8516 Regulator grease</p> 	↻	
3	0014-004 - O-ring 0014-294 - O-ring	<p>2297 O-ring remover</p>  <p>Mount the o-rings on the connections. Lubricate with regulator lubricant #8516.</p> <p>8516 Regulator grease</p> 		
4	0005-045 Display DG2 0005-041 HP-Sensor O2 0005-051 HP-Sensor DIL 0005-030 CHUD	<p>Re-attach the connections to the electronics module.</p> <p>Note that the two HP sensor connections only fit in the two center connections.</p>		
5	0005-041 HP-Sensor O2 0005-051 HP-Sensor DIL	<p>The HP sensors must be re-attached to the same connections as when they were removed.</p>		<p>DIL O2</p> 

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12. Electronics module and battery SE7EN

0005-058 G2 Electronics module complete

Assembly

	Parts	Tools/Instructions		Picture
6	0005-045 Display DG2 0005-041 HP-Sensor O2 0005-051 HP-Sensor DIL 0005-030 CHUD	When attached, these connections must be tightened with a torque setting of 3 Newton		
7	0005-006 Banjo 90 HP O2 3291 Banjo 90 HP DIL	Re-attach the two banjo connections to the HP sensors. Make sure you mount the correct Banjo connection on the correct HP sensor.		



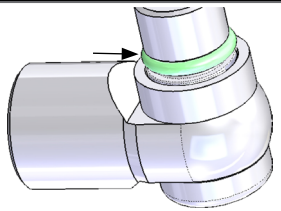
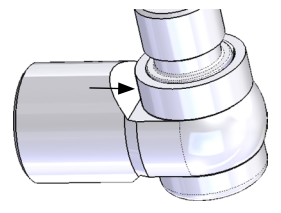
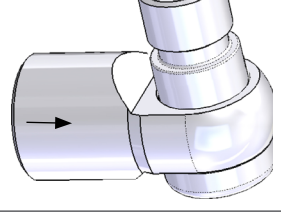


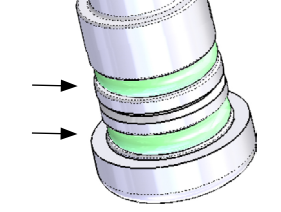
12. Electronics module and battery SE7EN

0005-006 Banjo 90 HP O2

Disassembly

⚠ Do not disassemble the O2 Banjo connection in the clean room environment. All parts shall be taken to the clean room environment after inspection and after the pre-cleaning process if such is needed. Otherwise you risk to contaminate the clean room environment. New parts should be stored in it's original packing until it is time for assembly.

⚠ To remove o-rings, **ONLY** use o-ring remover tool 2297. Make sure not to damage o-ring and sealing surfaces!!

	Parts	Tools/Instructions		Picture
1	0011-277 O-ring (2918 59)	 Remove the o-ring		
2	3294 Spacer	Remove the spacer		
3	3293 Banjo house	Remove the banjo house		
4	0011-276 O-ring (2782 59) x 2	 Remove the o-rings		

12. Electronics module and battery SE7EN

0005-006 Banjo 90 HP O2

Cleaning

⚠ Make absolutely sure Hydrochloric acid is NOT poured into the ultra-sonic cleaner. It would then destroy the ultra-sonic cleaner and the parts attempted to be cleaned.

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempodid* or 15% Hydrochloric acid for about 10 minutes. Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

**Hempodid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning*

Cleaning for Oxygen Use

The process of cleaning for oxygen use and the information given herein shall be strictly adhered to. Only then can Poseidon guarantee the part will be cleaned to a cleanliness level which is acceptable for its intended use. This process has been verified to produce hydrocarbon residual levels less than 50mg/m² and a particulate level less than Cleaning Test Level 100 (ASTM G 93 Spec.)

As an alternative, oxygen servicing procedures can be carried out in accordance with other herein listed organizations standard procedures and requirements. However, the use of cleaning agents, the order of the operating sequences and the time to treat parts during ultra sonic cleaning as specified in this manual must be adhered to. Wherever there is a conflict between the procedures and set of requirements, unless the other procedure represents a greater requirement for cleanliness, this manual takes precedence. Some methods, equipment, and detergents which are not mentioned in this manual can have a harmful or unknown effect on materials, such as e.g. ozone cleaning systems, strong acids etc. and shall therefore be discarded.

The other standard procedures that can be used given the limitations above are:
 EAN and Oxygen Servicing Procedures, Fourth Edition (ANDI)
 IANTD Gas Blender & Service Technician Program, First Edition, August 1999
 MIL-STD-1330D (SH) of the 20 September 1996

⚠ The safety of your customer and yourself depends on you carefully and strictly following these instructions. Negligence in any step can cause serious injury or even death.





⚠ You must be certified by Poseidon as oxygen technician to undertake this procedure.


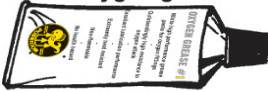

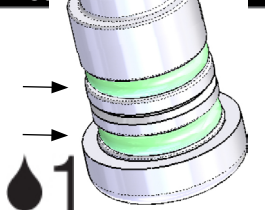
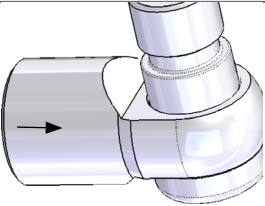
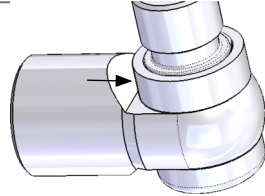



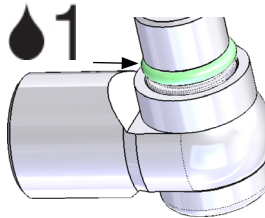
⚠ Keep hands and tools clean and free from grease, except for what is required and stated in this manual. We recommend that you use lint-free gloves when handling parts used with O₂.

12. Electronics module and battery SE7EN

0005-006 Banjo 90 HP O2

Assembly

-  Use protective clothing to prevent dust, fingerprints, hair, and particles to contaminate.
-  Use only dedicated and cleaned tools.
-  Ensure your oxygen handling is in conjunction with national laws.
-  Ensure no foreign contaminants, such as e.g. liquids, grease, particulate, dust, and mist can enter into the cleanroom area.

	Parts	Tools/Instructions		Picture
1	0011-276 O-ring (2782 59) x 2	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8515 Oxygen grease 1</p> 		
2	3293 Banjo house	Thread the Banjo house on to the Banjo screw, over the o-rings.		
3	3294 Spacer	Mount the spacer		
4	0011-277 O-ring (2918 59)	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8515 Oxygen grease 1</p> 		

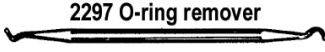

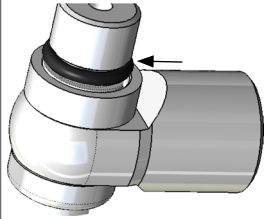
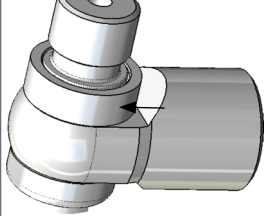
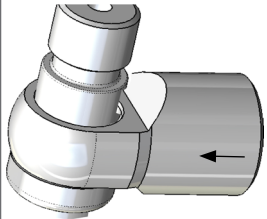
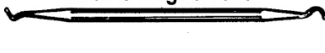

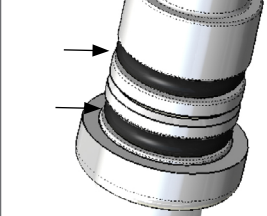
Revision: 2.8 Date: 17-04-12 Approved by: JN

12. Electronics module and battery SE7EN

3291 Banjo 90 HP

Disassembly

⚠ To remove o-rings, **ONLY** use o-ring remover tool 2297. Make sure not to damage o-ring and sealing surfaces!!

	Parts	Tools/Instructions		Picture
1	0011-277 O-ring (2918)	 Remove the o-ring		
2	3294 Spacer	Remove the spacer		
3	3293 Banjo house	Remove the banjo house		
4	0010-353 O-ring (2782) x 2	 Remove the o-rings		

12. Electronics module and battery MkVI

3291 Banjo 90 HP

Cleaning




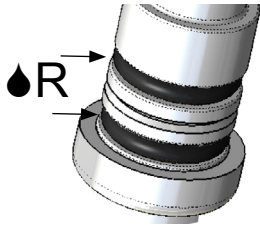
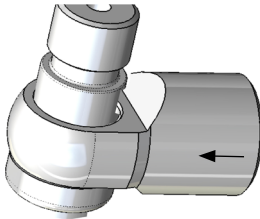
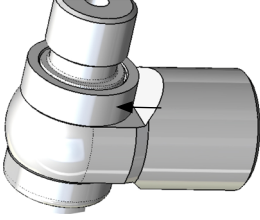



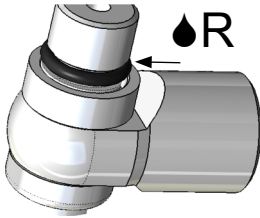
The metal parts of the 3291 Banjo connection can be cleaned using an ultra sonic washer or placed in a 10% acid solution bat for 10 minutes.

Air dry the parts after cleaning.

12. Electronics module and battery SE7EN

0000-160 Banjo 90 HP





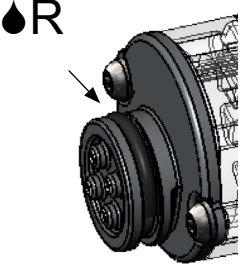
Assembly

	Parts	Tools/Instructions		Picture
1	0010-353 O-ring (2782) x 2	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8516 Regulator grease</p> 		
2	3293 Banjo house	<p>Thread the Banjo house on to the Banjo screw, over the o-rings.</p>		
3	3294 Spacer	<p>Mount the spacer</p>		
4	0011-277 O-ring (2918)	<p>2297 O-ring remover</p>  <p>Mount the o-rings 8516 Regulator grease</p> 		

12. Electronics module and battery SE7EN

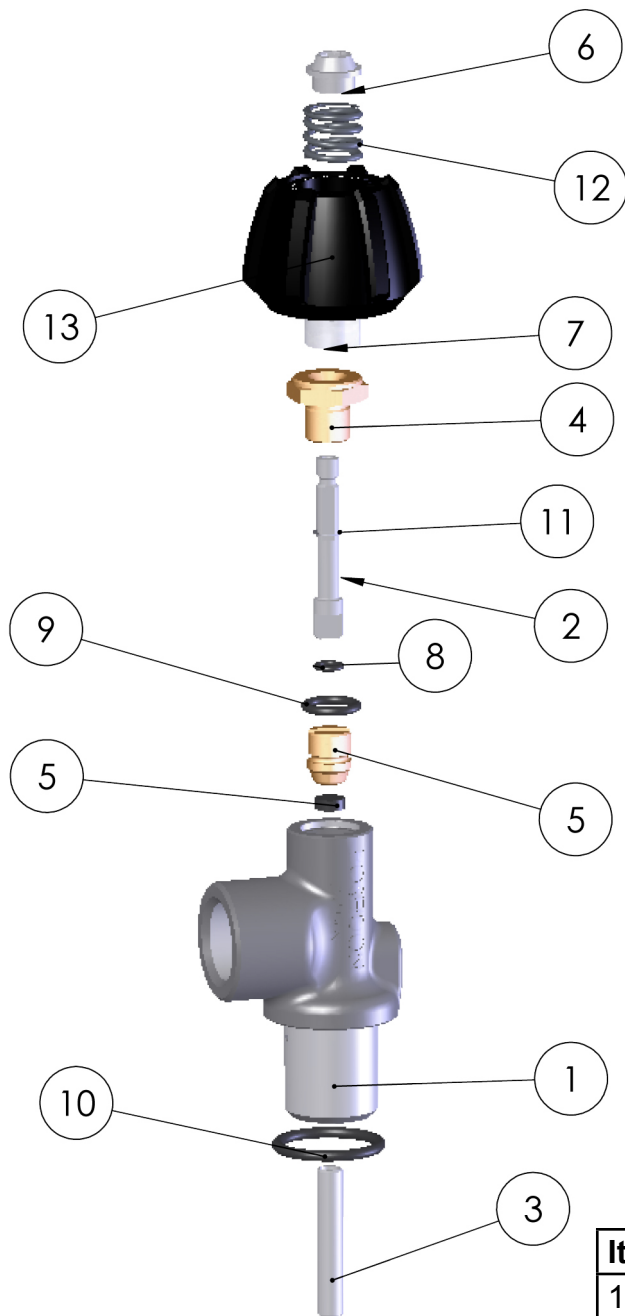
Battery pack with 6011-015 Charger

Inspection

Parts	Tools/Instructions		Picture
1	Check the battery pack for damage. If it's damaged, it needs to be replaced.		
2	0013-038 O-ring 2297 O-ring remover Remove and replace the O-ring 8516 Regulator grease 	  	
3	6011-015 Battery Charger	Connect the battery charger to a power outlet. Place the battery in the charger.	
4	6011-015 Battery Charger	Make sure that the battery is charging and that the charger is working according to instructions.	
4	6011-015 Battery Charger	Allow the battery to be fully charged.	

13. Valves

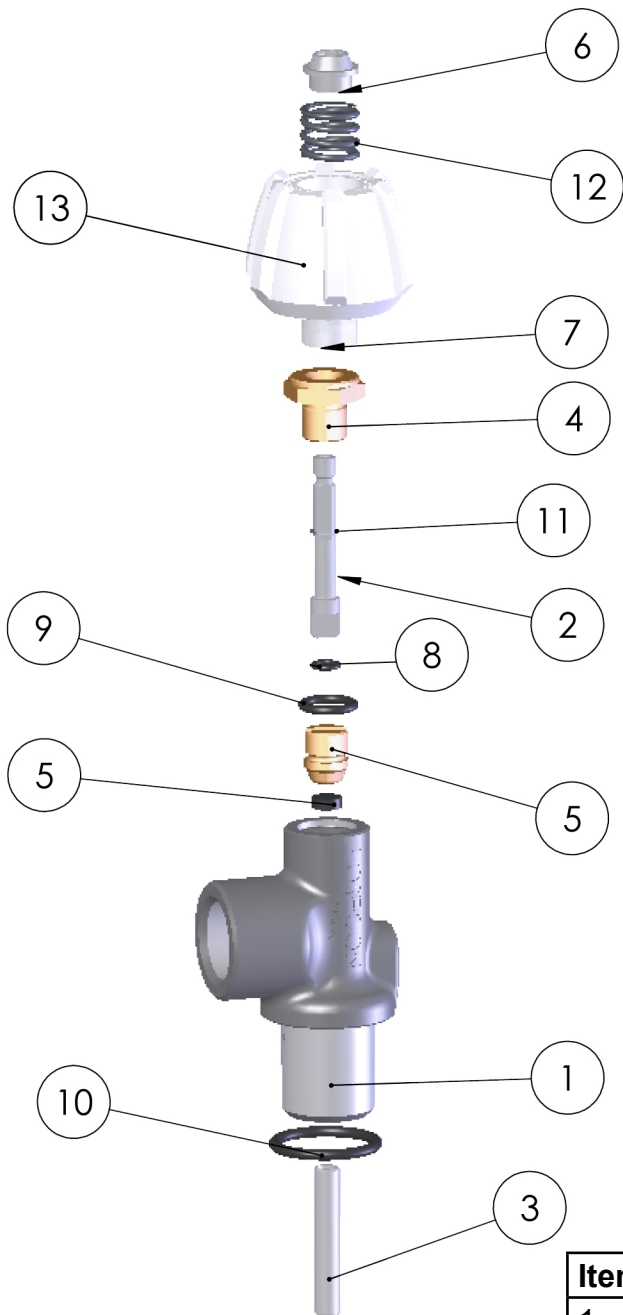
0410-100 Diluent valve - 200 bar



Item	Part No	Description	Nmbr
1	6010-263	Tank valve housing	1
2	2572	Valve spindle	1
3	3063	Water protection pipe	1
4	2569	Sealing nut	1
5	1037	Valve cone	1
6	1002	Spring nut	1
7	2597	Washer	1
8	0010-006	O-ring	1
9	0012-028	O-ring	1
10	0015-627	O-ring	1
11	1006	Gasket	1
12	4414	Spring	1
13	4416-BK	Tank handle	1

13. Valves

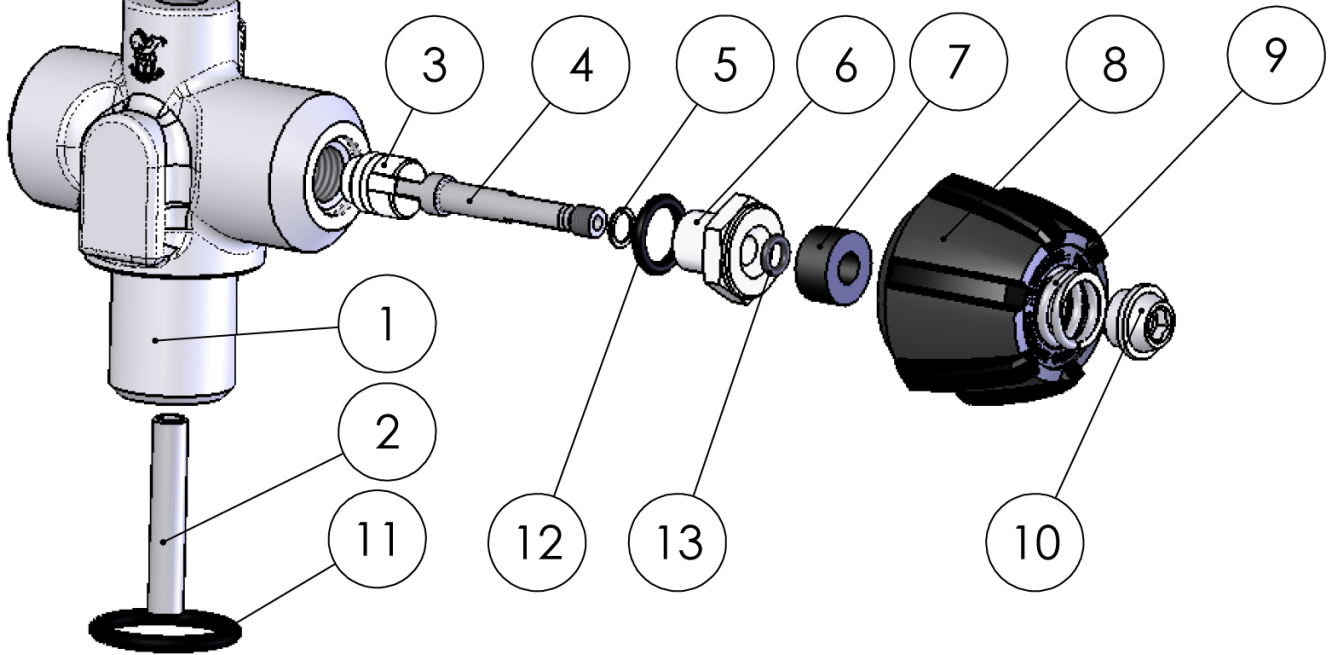
0410-101 Oxygen valve - 200 bar



Item	Part No	Description	Nmbr
1	6010-263	Tank valve housing	1
2	2572	Valve spindle	1
3	3063	Water protection pipe	1
4	2569	Sealing nut	1
5	1037	Valve cone	1
6	1002	Spring nut	1
7	2597	Washer	1
8	0011-003	O-ring viton	1
9	0011-037	O-ring viton	1
10	0016-382	O-ring viton	1
11	1006	Gasket	1
12	4414	Spring	1
13	4416-WE	Tank handle	1

13. Valves

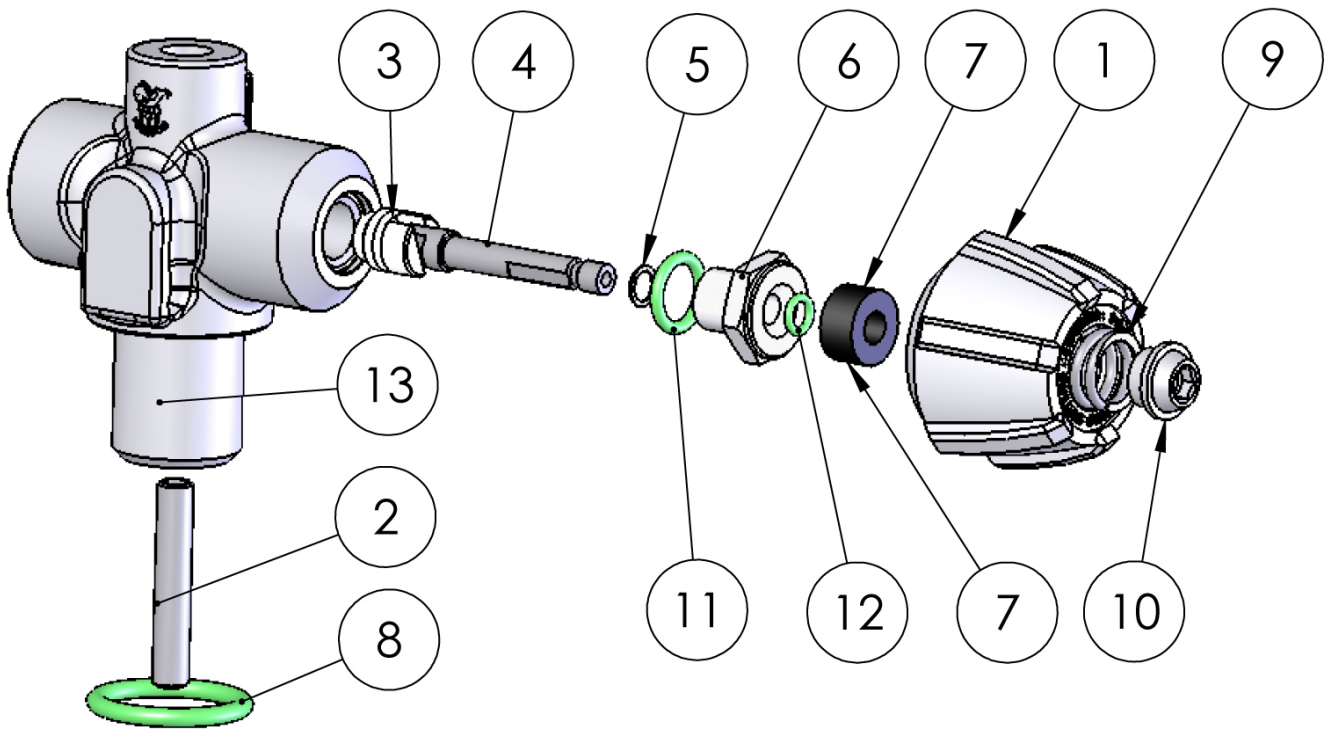
0410-155 Cylinder valve G5/8" single 90 - 200 bar



Item	Part No	Description	Nmbr
1	0000-643	Valve housing	1
2	3063	Water protection pipe	1
3	1037	Valve cone	1
4	2572	Spindle	1
5	1006	Gasket	1
6	2569	Sealing nut	1
7	2597	Spacer	1
8	4416	MPV Wheel, black	1
9	4414	MPV Spring	1
10	1002	Spring nut	1
11	0010-112	O-ring	1
12	0010-052	O-ring	1
13	0010-006	O-ring	1

13. Valves

0410-156 Cylinder valve M26 single 90 - 200 bar O2



Item	Part No	Description	Nmbr
1	4416-WE	MPV Wheel, White	1
2	3063	Water protection pipe	1
3	1037	Valve cone	1
4	2572	Spindle	1
5	1006	Gasket	1
6	2569	Sealing nut	1
7	2597	Spacer	1
8	0016-382	O-ring, Viton	1
9	4414	MPV Spring	1
10	1002	Spring nut	1
11	0011-037	O-ring, viton	1
12	0011-003	O-ring, viton	1
13	0000-644	Valve housing 90 M26	1

13. Valves

0410-100 Diluent valve - 200 bar and 0410-101 Oxygen valve - 200 bar
0410-155 Diluent valve 90 -200 bar and 0410-156 Oxygen valve 90 - 200 bar

⚠ The service instructions described in this section ONLY apply to the Poseidon valves, with article number 0410-100, 0410-101, 0410-155 and 0410-156 that are delivered with the Discovery MkVI EU version.

These valves do not contain any burst disc, and can not be used in the USA or any other country where a burst disc in the valve is required.

13. valves

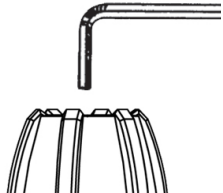
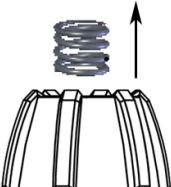
0410-101 Oxygen valve - 200 bar, 0410-156 Oxygen valve 90 - 200 bar

Disassembly

⚠ Do not disassemble the O2 valve in the clean room environment. All parts shall be taken to the clean room environment after inspection and after the pre-cleaning process if such is needed. Otherwise you risk to contaminate the clean room environment. New parts should be stored in it's original packing until it is time for assembly.

⚠ To remove o-rings, ONLY use o-ring remover tool 2297. Make sure not to damage o-ring and sealing surfaces!!

⚠ The valves should be removed from the tank(s) before the servicing process starts. DO NOT service the valves while they are connected to the tank(s)!!

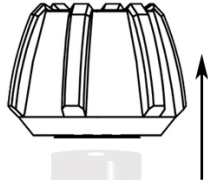






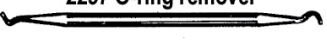



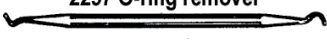


	Parts	Tools/Instructions	Picture
1	0410-101 oxygen valve 0410-156 oxygen valve 90	Unscrew the valve from the oxygen tank.	
2	1002 Spring nut	Unscrew the spring nut with a 6 mm allen wrench.	
3	4414 Spring	Remove the spring	

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13. valves

0410-101 Oxygen valve - 200 bar

Disassembly

	Parts	Tools/Instructions		Picture
4	4416-we Tank handle 2597 Washer	Remove the tank handle and the washer		
5	0011-003 O-ring	 Remove the o-ring		
6	2569 Sealing nut	Place the valve in a fixture/vice. Remove the sealing nut with a 19" key.		
7	2572 Valve spindel 1006 gasket	Pull the valve spindle out from the sealing nut and remove the gasket.		
8	0011-037 O-ring Viton	 Remove the o-ring.		
9	1037 Valve cone	Use a screwdriver to unscrew the Valve cone.		
10	0016-382 O-ring	 Remove the O-ring		

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13. Valves

0410-101 Oxygen valve - 200 bar, 0410-156 Oxygen valve 90 - 200 bar.

Cleaning

⚠ Make absolutely sure Hydrochloric acid is NOT poured into the ultra-sonic cleaner. It would then destroy the ultra-sonic cleaner and the parts attempted to be cleaned.

If corrosion or salt deposits occurs on metallic parts, immerse part in concentrated Hempodid* or 15% Hydrochloric acid for about 10 minutes. Then rinse them thoroughly in fresh water and blow them dry with air. The synthetic parts must not be treated with solvents and must only be cleaned with fresh water.

**Hempodid=Acid Liquid detergent containing phosphoric acid (5-10%) and bactericide for disinfectant cleaning*

Cleaning for Oxygen Use

The process of cleaning for oxygen use and the information given herein shall be strictly adhered to. Only then can Poseidon guarantee the part will be cleaned to a cleanliness level which is acceptable for its intended use. This process has been verified to produce hydrocarbon residual levels less than 50mg/m² and a particulate level less than Cleaning Test Level 100 (ASTM G 93 Spec.)

As an alternative, oxygen servicing procedures can be carried out in accordance with other herein listed organizations standard procedures and requirements. However, the use of cleaning agents, the order of the operating sequences and the time to treat parts during ultra sonic cleaning as specified in this manual must be adhered to. Wherever there is a conflict between the procedures and set of requirements, unless the other procedure represents a greater requirement for cleanliness, this manual takes precedence. Some methods, equipment, and detergents which are not mentioned in this manual can have a harmful or unknown effect on materials, such as e.g. ozone cleaning systems, strong acids etc. and shall therefore be discarded.

The other standard procedures that can be used given the limitations above are:
 EAN and Oxygen Servicing Procedures, Fourth Edition (ANDI)
 IANTD Gas Blender & Service Technician Program, First Edition, August 1999
 MIL-STD-1330D (SH) of the 20 September 1996

⚠ The safety of your customer and yourself depends on you carefully and strictly following these instructions. Negligence in any step can cause serious injury or even death.

⚠ You must be certified by Poseidon as oxygen technician to undertake this procedure.

⚠ Keep hands and tools clean and free from grease, except for what is required and stated in this manual. We recommend that you use lint-free gloves when handling parts used with O₂.

⚠ When the Oxygen valve is removed, the oxygen tank should be cleaned in accordance with industry standard cleaning instructions and procedures.

13. Valves

0410-101 Oxygen valve - 200 bar, 0410-156 Oxygen valve 90 - 200 bar.

Inspection

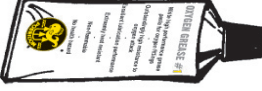
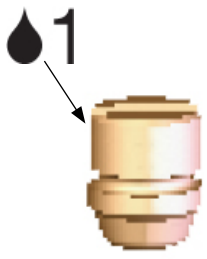
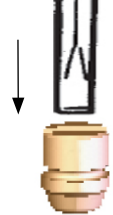


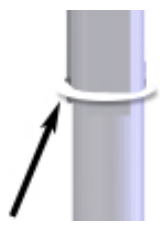
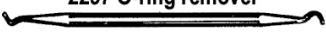




Check all parts for signs of damage.

Scratch marks on critical parts may cause the valve to leak.

13. valves

0410-101 Oxygen valve - 200 bar, 0410-156 Oxygen valve 90 - 200 bar.

Assembly

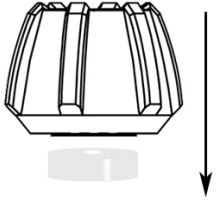
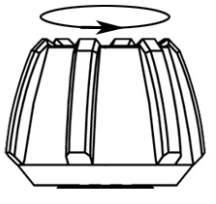
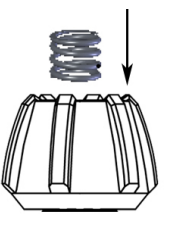
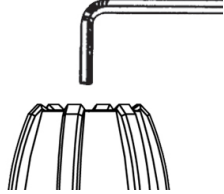
	Parts	Tools/Instructions		Picture
1	1037 valve cone	Apply some oxygen grease #1 to the threads of the valve cone. 8515 Oxygen grease 1 		
2	1037 Valve cone	Screw the valve cone all the way to the bottom of the valve housing.		
3	0011-003 O-ring	Thread the o-ring on to the valve spindle.		
4	2572 Valve spindle 1006 gasket	Thread the gasket on to the valve spindle.		
5	2572 Valve spindle 2569 Sealing nut 0011-037 O-ring	Thread the sealing nut over the Valve spindle. Mount the o-ring on the sealing nut. 2297 O-ring remover 		
6	2569 Sealing nut 2572 Valve spindle	Place the valve spindle in the valve housing, so that the flat end fits into the groove on the valve cone.		
7	2569 Sealing nut	Screw the Sealing nut in to the valve housing, using a torque wrench. Torque: 30 N		

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13. valves

0410-101 Oxygen valve - 200 bar, 0410-156 Oxygen valve 90 - 200 bar.

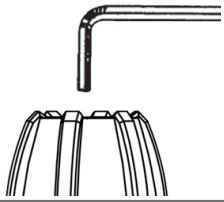
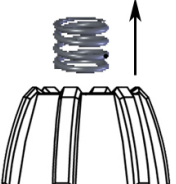
Assembly

	Parts	Tools/Instructions	Picture
8	2579 Washer 4416-WE Tank handle	Thread the washer and tank handle on to the Sealing nut.	
9	4416-WE Tank handle	Unscrew the tank handle counter clock wise untill it stops.	
10	4414 Spring	Place the spring in the hole on the top of the Tank handle.	
11	1002 Spring nut	Attach the spring nut with a 6 mm Allen key. Tighten with hand force.	

13. valves

0410-100 Valve - 200 bar, 0410-155 Valve 90 - 200 bar.

Disassembly

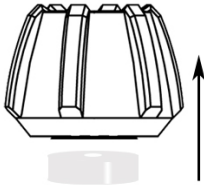













	Parts	Tools/Instructions	Picture
1	0410-100 Valve 0410-155 Valve 90	Unscrew the valve from the diluent tank.	
2	1002 Spring nut	Unscrew the spring nut with a 6 mm allen wrench.	
3	4414 Spring	Remove the spring	

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13. valves

0410-100 Valve - 200 bar, 0410-155 Valve 90 - 200 bar.

Disassembly

	Parts	Tools/Instructions		Picture
4	4416 Tank handle 2597 Washer	Remove the tank handle and the washer		
5	0010-006 O-ring	 Remove the o-ring		
6	2569 Sealing nut	Place the valve in a fixture/vice. Remove the sealing nut with a 19" key.		
7	2572 Valve spindel 1006 gasket	Pull the valve spindel out from the sealing nut and remove the gasket.		
8	0012-028 O-ring	 Remove the o-ring.		
9	1037 Valve cone	Use a screwdriver to unscrew the Valve cone.		
10	0015-627 O-ring	 Remove the O-ring		

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13. Valves

0410-100 Valve - 200 bar, 0410-155 Valve 90 - 200 bar.

Cleaning

All metal parts of the valve can either be washed in an ultra sonic washer or submerged in a container with a 10% acid solution for 10 - 15 minutes.

Rinse all parts in water after the wash.

Let the parts air dry.

13. Valves

0410-100 Valve - 200 bar, 0410-155 Valve 90 - 200 bar.

Inspection



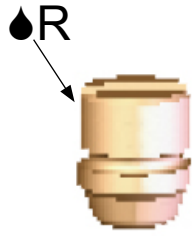










Check all parts for signs of damage.

Scratch marks on critical parts may cause the valve to leak.

13. valves

0410-100 Valve - 200 bar, 0410-155 Valve 90 - 200 bar.

Assembly

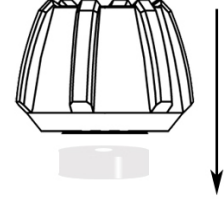
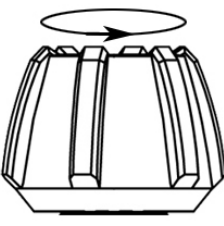
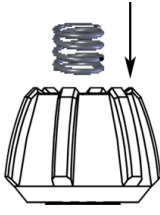
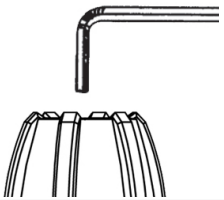
	Parts	Tools/Instructions		Picture
1	1037 valve cone	Apply some regulator grease to the threads of the valve cone. 8516 Regulator grease 		
2	1037 Valve cone	Screw the valve cone all the way to the bottom of the valve housing.		
3	0010-006 O-ring	Thread the o-ring on to the valve spindle. 2297 O-ring remover 		
4	2572 Valve spindle 1006 gasket	Thread the gasket on to the valve spindle.		
5	2572 Valve spindle 2569 Sealing nut 0011-037 O-ring	Thread the sealing nut over the Valve spindle. Mount the o-ring on the sealing nut. 2297 O-ring remover 		
6	2569 Sealing nut 2572 Valve spindle	Place the valve spindle in the valve housing, so that the flat end fits into the groove on the valve cone.		
7	2569 Sealing nut	Screw the Sealing nut in to the valve housing, using a torque wrench. Torque: 30 N		

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13. valves

0410-100 Valve - 200 bar, 0410-155 Valve 90 - 200 bar.

Assembly

	Parts	Tools/Instructions	Picture
8	2579 Washer 4416 Tank handle	Thread the washer and tank handle on to the Sealing nut.	
9	4416 Tank handle	Unscrew the tank handle counter clock wise until it stops.	
10	4414 Spring	Place the spring in the hole on the top of the Tank handle.	
11	1002 Spring nut	Attach the spring nut with a 6 mm Allen key. Tighten with hand force.	

13. valves

0410-100 Diluent valve - 200 bar and 0410-101 Oxygen valve - 200 bar

0410-155 Diluent valve 90 -200 bar and 0410-156 Oxygen valve 90 - 200 bar


Mounting on tanks


When mounting the valve(s) on to the the tank(s), they should be tightend using a torque wrench.

Torque forces:

Mounting on an aluminum tank: 90 +/- 10 Nm

Mounting on an steel tank: 90 +/- 10 Nm

 If a lubricat is applied to the valve threads prior to mounting the valve on a tank, make sure that a oxygen approved lubricant is used before mounting the oxygen valve on an oxygen clean tank!

 The safety of your customer and yourself depends on you carefully and strictly following these instructions. Negligence in any step can cause serious injury or even death.

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13. valves

0410-160 Inline Valves Green O2 - US and 0410-161 Inline Valves Black - US



0410-161 Inline Valves, black.



0410-160 Inline valves Green O2

These valves are not made by Poseidon and not covered in this service manual.

For partnumbers and service kits, we recommend that you visit:
<http://blusteelllc.com/products/valves/valve-repair-parts.html>

14. Final assembly MkVI

6011-000 MkVI Discovery EU, 6011-020 Mk VI Discovery US



Item	Part No	Description	Nmbr
1	6011-003	Roundpack	1
2	6010-047	Electronics module	1
3	0132-003	CC Hose compl.	4
4	0000-116	Tank band Discovery MkVI	4
5	6010-011	T-section	2
6	0400-100	3L 200 bar tank DIL (EU)	1
7	0400-101	3L 200 bar tank O2 (EU)	1
8	6010-021	Counter lung left	1
9	6010-020	Counter lung right	1
10	0410-101	Tank valve O2 (EU)	1
11	0410-100	Tank valve DIL (EU)	1
12	0110-002	Xstream Oxy M26 (EU)	1
12	0110-003	Xstream Duration G5/8 (US)	1
13	0110-000	Xstream Deep	1
14	6011-001	Mouthpiece	1
14	0005-055	Mouthpiece G2	1
15	0100-006	Jetstream Octopus Mk3	1
16	0130-004	LP Hose 90 cm	1
17	0130-017	LP hose DIL 16 cm	1
18	0130-018	LP hose O2 16 cm	1

Revision: 2.8 Date: 17-01-12 Approved by: JN

14. Final assembly MkVI

This chapter describes the steps to assemble and prepare the MkVI Discovery for after service testing.

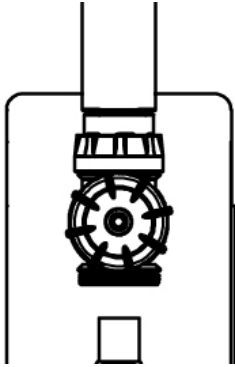

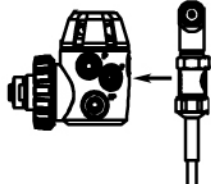
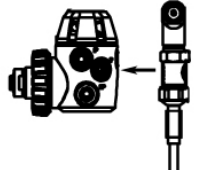
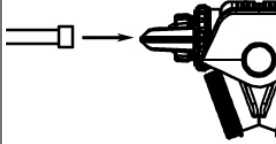
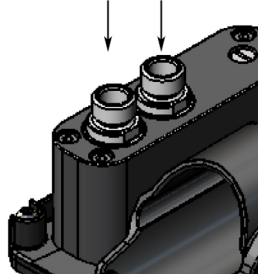
Assembly

	Parts	Tools/Instructions	Picture
1	6010-138 Round pack housing 0000-160 Tank band 6010-242 Bumper	Mount the tank bands on the sides of the round pack housing. Push the bumpers in to place on the round pack housing.	
2	6010-138 Round pack housing 6010-006 Round pack	Mount the Round pack on the top of the round pack housing and secure it with the six screws.	
3	6010-138 Round pack housing 6011-011 Molprod bottom	Mount the molprod bottom on the bottom end of the round pack housing. Secure with the four screws.	
4	6010-047 Electronics module	Mount the electronics module on to the round pack and secure it with the two screws.	
5	0410-100 Tank valve DIL 0400-100 3L Alum. tank, 200 bar ONLY EU	Mount the DIL (black) tank valve on to the DIL tank.	
6	0410-101 Tank valve O2 0400-100 3L Alum. tank, 200 bar ONLY EU	Mount the O2 tank valve on to the O2 tank.	
7	6010-016 CC hose compl. x 2 6010-006 Round pack	Mount one CC loop hose on each CL Interface on the round pack.	

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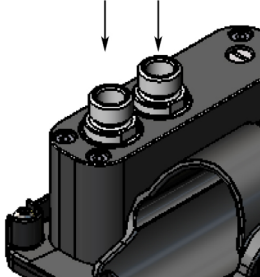
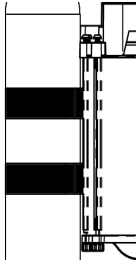
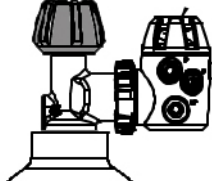

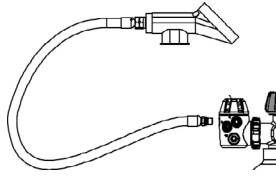
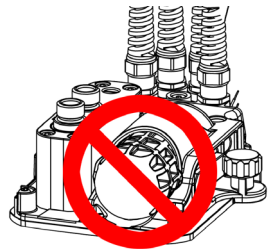
14. Final assembly MkVI

Assembly

	Parts	Tools/Instructions	Picture
8	6010-016 CC hose compl. x 2 6010-021 Counter lung, left 6010-020 Counter lung, right	Connect the left side CC loop hose to the T-section of the left counter lung. Connect the right side CC loop hose to the T-section of the right counter lung.	
9	6010-016 CC hose compl. x 2 6010-021 Counter lung, left 6010-020 Counter lung, right 6011-001 Mouthpiece	Connect the left counter lung T-section with the inhale side of the mouthpiece. Connect the right counter lung T-section with the exhale side of the mouthpiece.	
10	6010-047 Electronics module 0110-002 Xstream Oxygen (EU) or 0110-002 Xstream Dur. G 5/8 (US)	Connect the O2 clean (white) HP sensor (Banjo 90 O2) to a HP port on the O2 side 1st stage.	
11	6010-047 Electronics module 0110-000 Xstream Deep	Connect the DIL HP sensor (Banjo 90 DIL) to a HP port on the DIL side 1st stage.	
12	0110-000 Xstream Deep 0130-004 LP hose 90 cm 6011-001 Mouthpiece	Connect the ADV with a LP port on the DIL 1st stage, with the 90 cm polyurethan hose.	
13	0110-002 Xstream Oxygen (EU) or 0110-002 Xstream Dur. G 5/8 (US) 0130-018 LP hose O2 16 cm 6010-047 Electronics module	Connect a LP port on the Xstream Oxygen/Duration 1st stage with the solenoid connection marked O2, using the 16 cm O2 LP hose.	

14. Final assembly MkVI

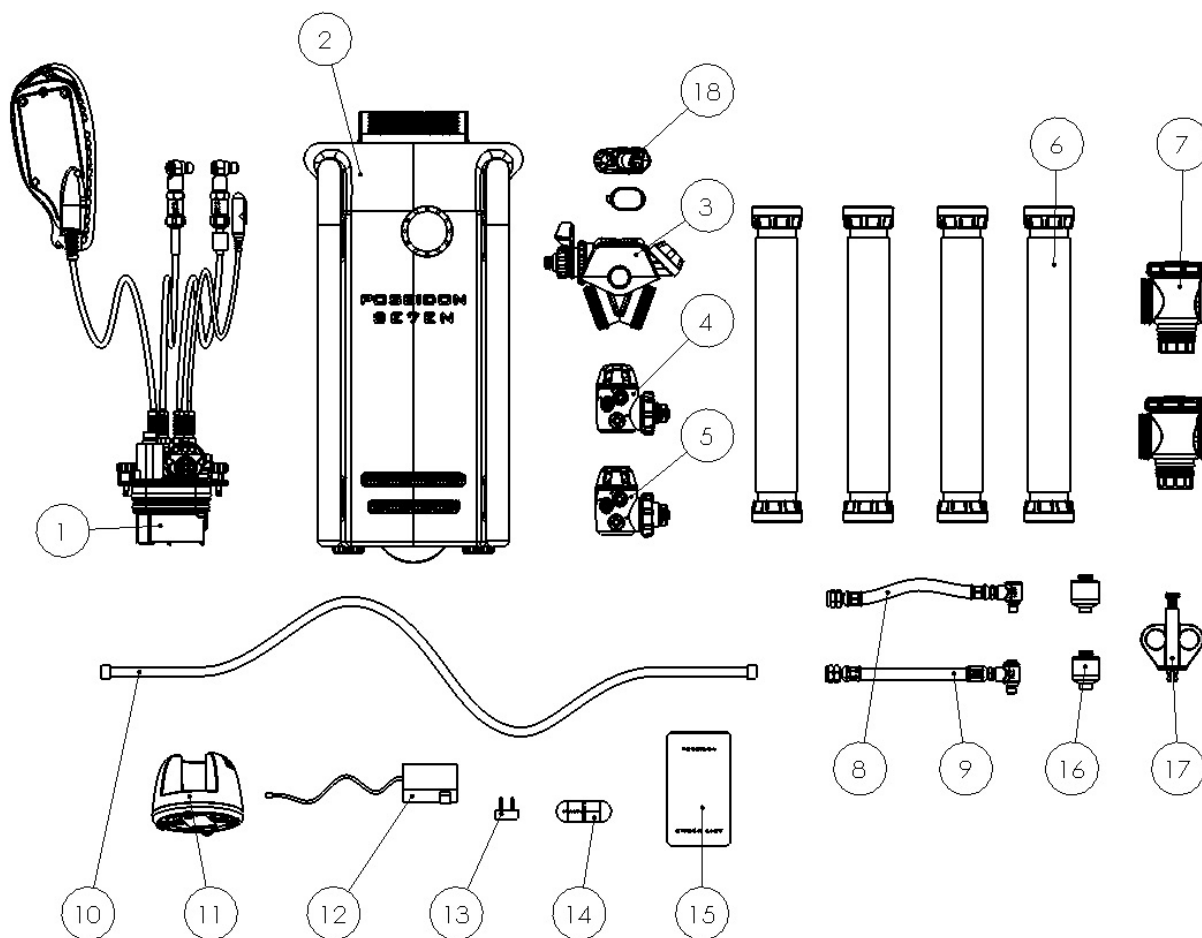
Assembly

	Parts	Tools/Instructions	Picture
14	0110-000 Xstream Deep (US) 0130-018 LP hose DIL 16 cm 6010-047 Electronics module	Connect a LP port on the Xstream Deep 1st stage with the solenoid connection marked DIL, using the 16 cm DIL LP hose.	
15	0400-100 3L Alum. tank DIL 0400-101 3L Alum. tank O2	With the tank bands, attach the DIL tank to the Left side of the round pack housing and the O2 tank o the Right side of the round pack housing.	
16	0400-100 3L Alum. tank DIL 0110-000 Xstream Deep (US)	Connect the Xstream Deep (black) 1st stage to the DIL (black) tank valve.	
17	0400-101 3L Alum. tank O2 0110-002 Xstream Oxygen (EU) or 0110-002 Xstream Dur. G 5/8 (US)	Connect the Xstream Oxygen (white) / Xtream Duration (green) 1st stage to the O2 (white) tank valve.	
18	0100-006 Jetstream Octo. Mk3	Connect the Jetstream Mk 3 Octopus to a LP port on the Xstream Deep 1st stage.	
19		Do NOT insert the battery in to the electronics unit!	

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15. Final assembly SE7EN

6012-010 Poseidon SE7EN EU, 6012-012 Poseidon SE7EN US - Base configuration



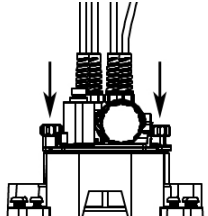
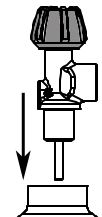
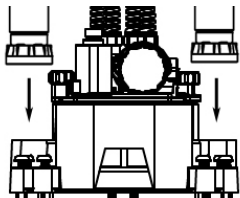
Item	Part No	Description	Nmbr
1	0005-058	G2 E-Module Complete	1
2	0005-225	SE7EN Roundpack	1
3	0005-055	Mouthpiece G2	1
4	0110-000	Xstream Deep	1
5	0110-002	Xstream Oxy M26	1
6	0132-003	CC Hose black overmoulded	4
7	6010-011	T-Section	2
8	0130-034	LP-Hose DIL (20cm) with 90° Swivel	1
9	0130-035	LP-Hose O2 (20cm) with 90° Swivel	1
10	0130-004	LP hose Polyurethane 9/16-18 90cm	1
11	6011-015	Battery Charger	1
12	6010-290	Power supply charger	1
13	6010-291	Power supply adapter kit	1
14	0050-092	Poseidon USB stick soft 512Mb	1
15	0055-011	Pre-Dive Check list, ENG	1
16	6010-206	O2 Sensor Molex	2
17	6010-311	O2 sensor tool	1
18	0005-009	Mouthpeice with cable tie	1

Revision: 2.8 Date: 17-04-12 Approved by: JN

15. Final assembly SE7EN

This chapter describes the steps to assemble and prepare the SE7EN for after service testing.

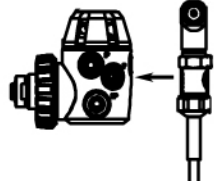
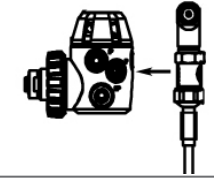
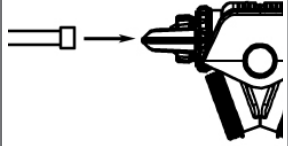
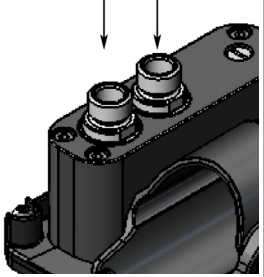
Assembly

Parts	Tools/Instructions	Picture	
1	Attach the tank bands to the tank band brackets on the round pack housing.		
2	6010-006 Round pack top 6011-003 Round pack housing	Mount the round pack top in the round pack housing	
3	0005-212 SE7EN handle	Place the SE7EN handle so that the screw holes line up with the hole in the Round pack top	
4		Secure the round pack top and SE7EN handle with the six screws.	
5	0005-058 G2 E-module complete	Place the E-module in the Round pack top and secure it with the two bolts.	
6		Mount the tank valves on the tanks. Make sure you place the correct valve on the O2/DIL tank.	
7	0132-003 CC Hose black over-moulded	Mount one CC loop hose on each CL Interface on the round pack top.	

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15. Final assembly SE7EN

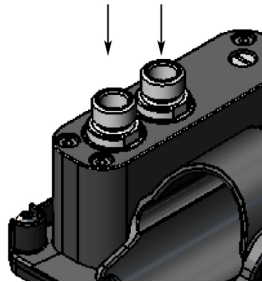
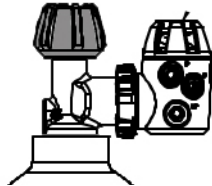
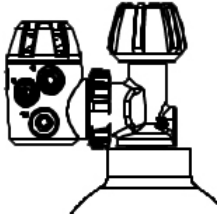
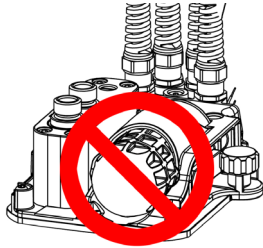
Assembly

Parts	Tools/Instructions	Picture
8	<p>Connect the left side CC loop hose to the T-section of the left counter lung.</p> <p>Connect the right side CC loop hose to the T-section of the right counter lung.</p>	
9	<p>Connect the left counter lung T-section with the inhale side of the mouthpiece.</p> <p>Connect the right counter lung T-section with the exhale side of the mouthpiece.</p>	
10	<p>Connect the O2 clean (white) HP sensor (Banjo 90 O2) to a HP port on the O2 side 1st stage.</p>	
11	<p>Connect the DIL HP sensor (Banjo 90 DIL) to a HP port on the DIL side 1st stage.</p>	
12	<p>Connect the ADV with a LP port on the DIL 1st stage, with the 90 cm polyurethan hose.</p>	
13	<p>Connect a LP port on the Xstream Oxygen/Duration 1st stage with the solenoid connection marked O2, using the 20 cm O2 LP hose.</p>	

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15. Final assembly SE7EN

Assembly

	Parts	Tools/Instructions	Picture
14		<p>Connect a LP port on the Xstream Deep 1st stage with the solenoid connection marked DIL, using the 16 cm DIL LP hose.</p>	
15		<p>Attach the DIL tank to the Left side of the round pack housing and the O2 tank on the Right side of the round pack housing.</p>	
16		<p>Connect the Xstream Deep (black) 1st stage to the DIL (black) tank valve.</p>	
17		<p>Connect the Xstream Oxygen (white) / Xstream Duration (green) 1st stage to the O2 (white) tank valve.</p>	
18		<p>Do NOT insert the battery in to the electronics unit!.</p>	

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16. Final test and upgrade

Final test - preparations

Before you start the test procedures, please make sure that the following has been done:

- The Discovery MkVI / SE7EN rebreather has been assembled as per instructions
- There is enough diluent gas (air) in the diluent tank
- There is enough 100% oxygen in the oxygen tank
- The battery is sufficiently charged
- All hoses are properly connected to the different parts of the unit
- There is a scrubber inserted in the round pack housing
- You have the latest version of the Discovery MkVI / SE7EN user Guide available

Upgrade - preparations

To perform the upgrade procedure, you need the following:

- A computer with an IrDa port / Adapter or Bluetooth connection (SE7EN only)
- The latest version of the PC config software (<http://www.poseidon.com>)
- The latest version of the Firmware (<http://www.poseidon.com>)
- Make sure the HUD is NOT mounted on the mouthpiece.

Service interval date - preparations

To set the service interval date, you need the following:

- A computer with a working IrDa port / Adapter or Bluetooth connection (SE7EN only)
- The latest version of the PC Config software.

16. Final test and upgrade

Final test

To perform the functionality of the MkVI/SE7EN, after it has been serviced, do the following:

1. Perform an "Intact Breathing Loop verification".

Inspect all breathing-hose connections to ensure that they are properly attached. The attachment nuts should be hand tight and the nuts should be screwed down flush against the receiver manifolds in all 8 locations (two at the top of the gas processor; four at the shoulder ports; and two at the mouthpiece). Also at this time, make sure the right counterlung dump valve is fully closed (turned all the way clockwise). This is important for the pre-dive routine that automatically follows power-up.

2. Perform a Negative Loop Test

Before powering-up the electronics, it is important to check the integrity of the breathing loop.

To conduct a manual negative-pressure loop test, first secure the exhalation counterlung over-pressure checkvalve by tightening it inward to its full extent using a clockwise rotation (when viewed standing in front of the valve and looking at the valve). Place the mouthpiece switch lever to closedcircuit (CC) position and inhale any residual gas within the breathing loop, exhaling it through the nose to remove it from the breathing loop. Repeat this procedure several times until you have pulled as strong a vacuum on the breathing loop as you can, and then quickly switch the mouthpiece to OC position to hold the vacuum inside the breathing loop. The breathing hoses will contract until no more breathing gas can be pulled from the loop.

With the mouthpiece in the OC position, observe over a period of a minute or two whether the breathing hoses expand from their contracted state, and the counterlungs show signs of relaxing or inflating slightly. If they do, then there is a leak somewhere in the breathing loop. This could be caused by any number of reasons including but not limited to any of the following:

- Improper hose connection (hose not connected or incompletely connected)
- Missing or failed o-ring in a hose connection or a Shoulder Port connection
- Tear in a counterlung or hose
- Failed overpressure checkvalve
- CO2 cartridge lid not in place; or o-rings damaged or missing
- Mouthpiece o-rings damaged or missing

When the Negative Loop test has been performed successfully, move to the next step.

16. Final test and upgrade

Final test

3. Power up the unit

As the power-up procedure may differ between different Firmware versions, it's recommended that you verify the proper start-up procedure for the Firmware version installed in the unit you are about to test, by referring to the appropriate User Guide version.

4. Verify the Firmware version

In the MkVI / SE7EN User Guide, you will find instructions on how to verify what Firmware version is installed in the unit you have started up. Make a note of the version installed.

If it isn't the latest Firmware version that is installed, we recommend that you perform a Firmware upgrade as described later in this chapter.

5. Pre-Dive Check

Allow the unit to perform a Pre-Dive check.

If the unit passes the Pre-Dive check, then it has been properly serviced.

If the unit DOES NOT pass the Pre-Dive check, make a note of the test the unit failed on and refer to the MkVI User Guide to find what's causing the failure.

Correct any problem(s) that causes the Pre-Dive check to fail and re do steps 1 - 5 in this list.

Do NOT return the unit to its owner, if it fails the Pre-Dive check!



The instructions in this service manual must be followed in detail step by step. Negligence can cause serious injury or even death.

16. Final test and upgrade

Firmware upgrade

If the MkVI/SE7EN that you have serviced does not contain the latest Firmware version, it's recommended that you perform a Firmware upgrade.

As the software used to perform a Firmware upgrade might differ between different Firmware versions, it's recommended that you refer to the release notes of the most current Firmware version. **DO NOT LOSE CONNECTION BETWEEN THE MKVI/SE7EN AND YOUR PC DURING THE UPDATE!**

16. Final test and upgrade

Service interval Date update

When the unit has passed the Pre-Dive check and the latest Firmware version has been verified (or installed), the last thing you do it to reset the Service Interval Date.

Check the user guide for the latest version of the Diagnostics PC Software for instructions of how to reset the Service Interval Date.



Make sure that the RTC time on the unit is set correctly, as this might cause a "Service interval test" failure if it isn't.

16. Final test and upgrade

Service Documentation

We recommend that when the service and update process has been completed, a service check list is created and a copy of it is handed to the customer.

This protocol should contain the following information:

- Who performed the service
- When was the service performed
- Who performed the Pre-dive check after the service
- Did the unit pass the Pre-dive check (Yes/No)
- Error messages during the Pre-dive check
- Was a Firmware update performed (yes/no)
- What Firmware version was installed
- What Firmware version was it upgraded to
- Who performed the upgrade
- Has the Service Interval Date been set

The next page contains an example of a Service Checklist.

We also recommend that you do NOT return the unit to its owner in such assembled state, that it can be Immediately dived with. Remove the CC hoses, T-connections and mouthpiece prior to delivery, to ensure that the diver will have to assemble the unit and perform a pre-dive check.

SERVICE CHECKLIST - DISCOVERY MKVI / SE7EN

Work note no:
 Date received:
 Date returned:

Unit serial no:
 Battery serial no:

Customer

Name: _____
 Address: _____

 Zip: _____
 City: _____
 Country: _____
 Phone: _____
 E-mail: _____
 Sign*: _____

**Customer signature when leaving the unit at the service center*

Service Center

Name: _____
 Address: _____

 Zip: _____
 City: _____
 Country: _____
 Phone: _____
 E-mail: _____

Service performed

- 1st stages, Diluent & Oxygen
- Octopus
- LP Hoses
- Mouthpiece (ADV)
- CC Hoses (x 4)
- Counter lungs, Compl. (x 2)
- Roundpack with Canister housing, Compl.
- Electronics unit, compl.
- Valves, Diluent and Oxygen
- Other _____

Pre-Dive check passed: Yes No

Error messages during Pre-Dive check:

Serviced by: _____
 Service date: _____

Notes

Firmware update

Firmware updated: Yes No

Old Firmware version: _____

New Firmware version: _____

Updated by: _____

Update date: _____

Service interval date

Service intervall date set: Yes No

Set by: _____

Set date: _____

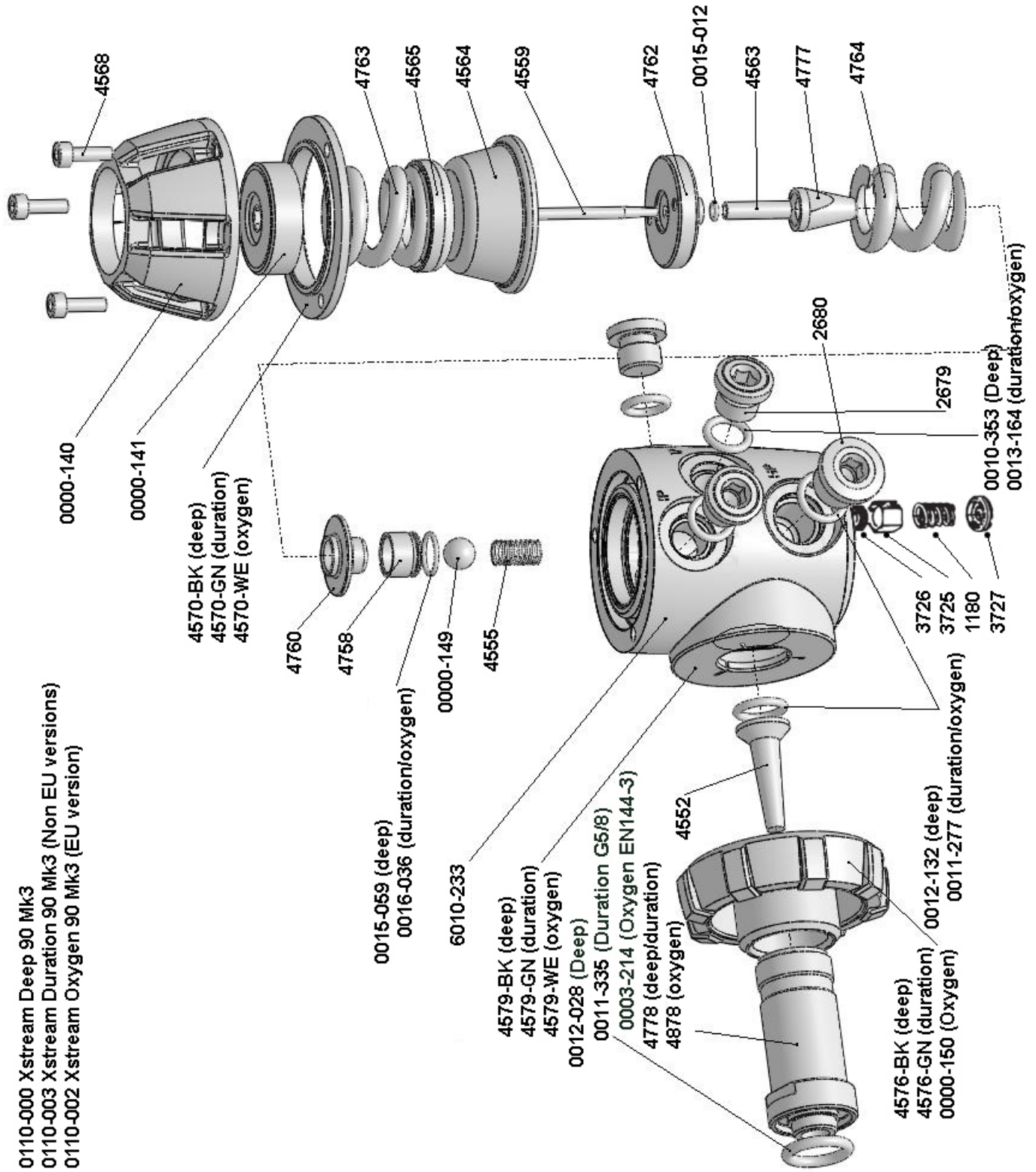
Revision: 2.8 Date: 17-04-12 Approved by: JN

17. Parts lists

First stages

Revision: 2.7 Date: 14-11-13 Approved by: JN

- 0110-000 Xstream Deep 90 Mk3
- 0110-003 Xstream Duration 90 Mk3 (Non EU versions)
- 0110-002 Xstream Oxygen 90 Mk3 (EU version)



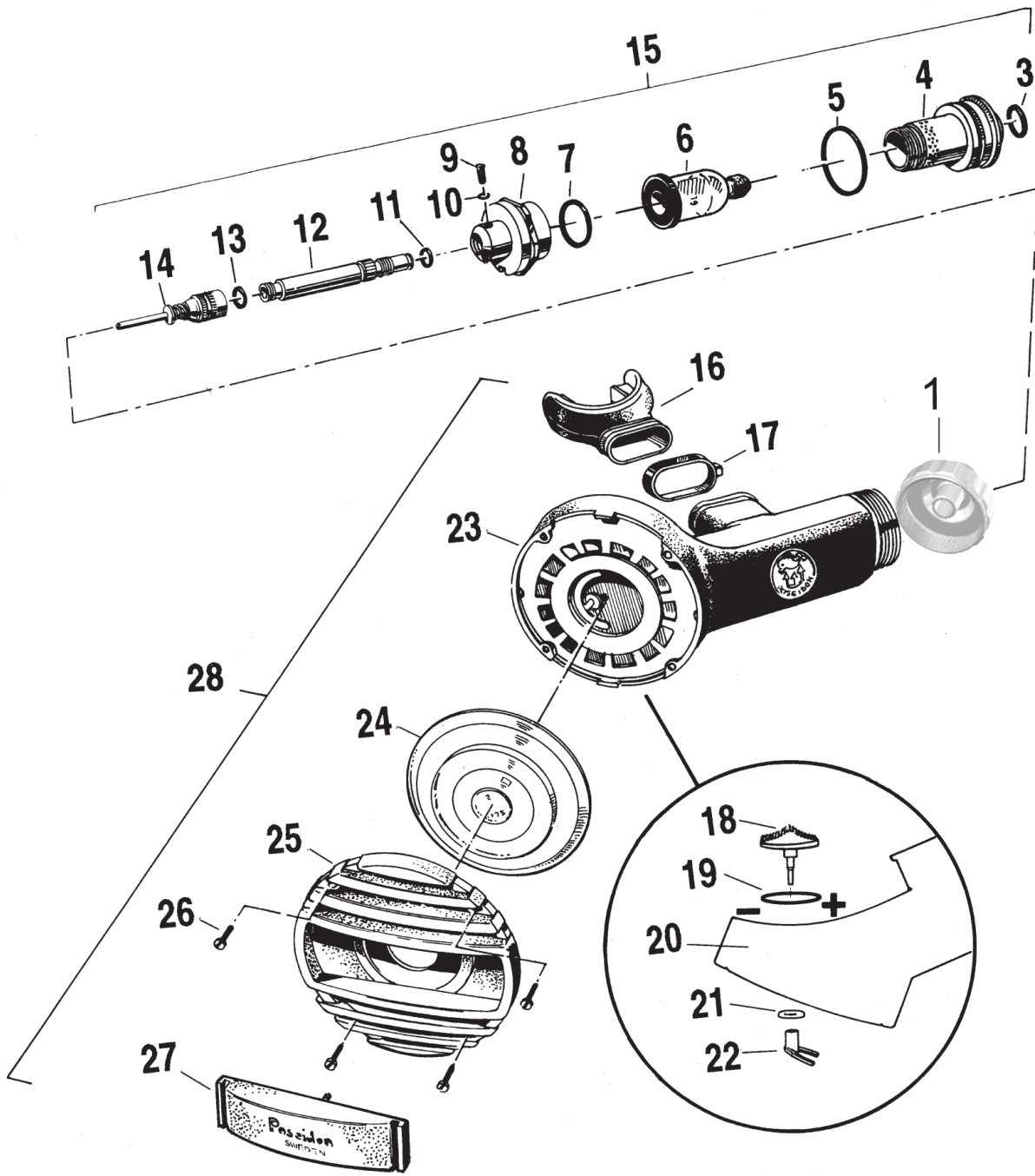
17. Parts lists

First stages

Item #	Description	Qty
0012-028	O-ring (Deep)	1
0011-037	O-ring, viton (Duration)	1
0003-214	O-ring, viton (Oxygen EN 144-3)	1
4778	Conn. stem 1.stage 90 Xstream Deep / Duration (G 5/8)	1
4878	Conn. stem 1.stage Oxygen EN 144-3	1
4552	Cup type filter long Xstream 90	1
2918	O-ring (Deep)	3
0011-277	O-ring (Duration/Oxygen)	3
4579-BK	Line protector Xstream, black	1
4579-GN	Line protector Xstream, green	1
4579-WE	Line protector Xstream, white	1
6010-233	Housing 1.stage 90 Xstream	1
4555	Spring for ball Xstream	1
0000-149	Ruby Ball 1.stage Xstream	1
0015-059	O-ring (Deep)	1
0016-036	O-ring, viton (Duration/Oxygen)	1
4758	Zytel valve seat Xstream	1
4760	Valve seat holder Xstream	1
4764	Valve seat spring Xstream	1
4777	Lower pin guide Xstream	1
4563	Pin bushing 1.stage Xstream	1
0015-012	O-ring	1
4762	Upper pin guide Xstream	1
4559	Actuating pin, Xstream	1
4564	Roll.diaphragm 1.stage Xstream	1
4565	Pressure plate 1.stage Xstream	1
4763	Adjust. spring 1.stage Xstream	1
4570-BK	Barrier 1.stage Xstream black	1
4570-GN	Barrier 1.stage Xstream green	1
4570-WE	Barrier 1.stage Xstream white	1
0000-140	Cover Xstream 1st stage, chrome	1
4568	Screw cover M3x10 Xstream	3
0000-141	Adjustment screw, chrome	1
2680	Blindscrew UNF7/16	2
2679	Blindscrew UNF3/8	5
0010-353	O-ring (Deep)	5
0013-164	O-ring, EPDM (Duration/oxygen)	5
4576-BK	Wheel G5/8" Xstream, black	1
4576-GN	Wheel G5/8" Xstream, green	1
0000-150	Wheel Xstream, White (Oxygen EN 144-3)	1
3726	Valve sealing	1
3725	Valve piston	1
1180	Pressure spring	1
3727	Locking screw	1

17. Parts lists

0100-006 Jetstream Mk3 Octopus



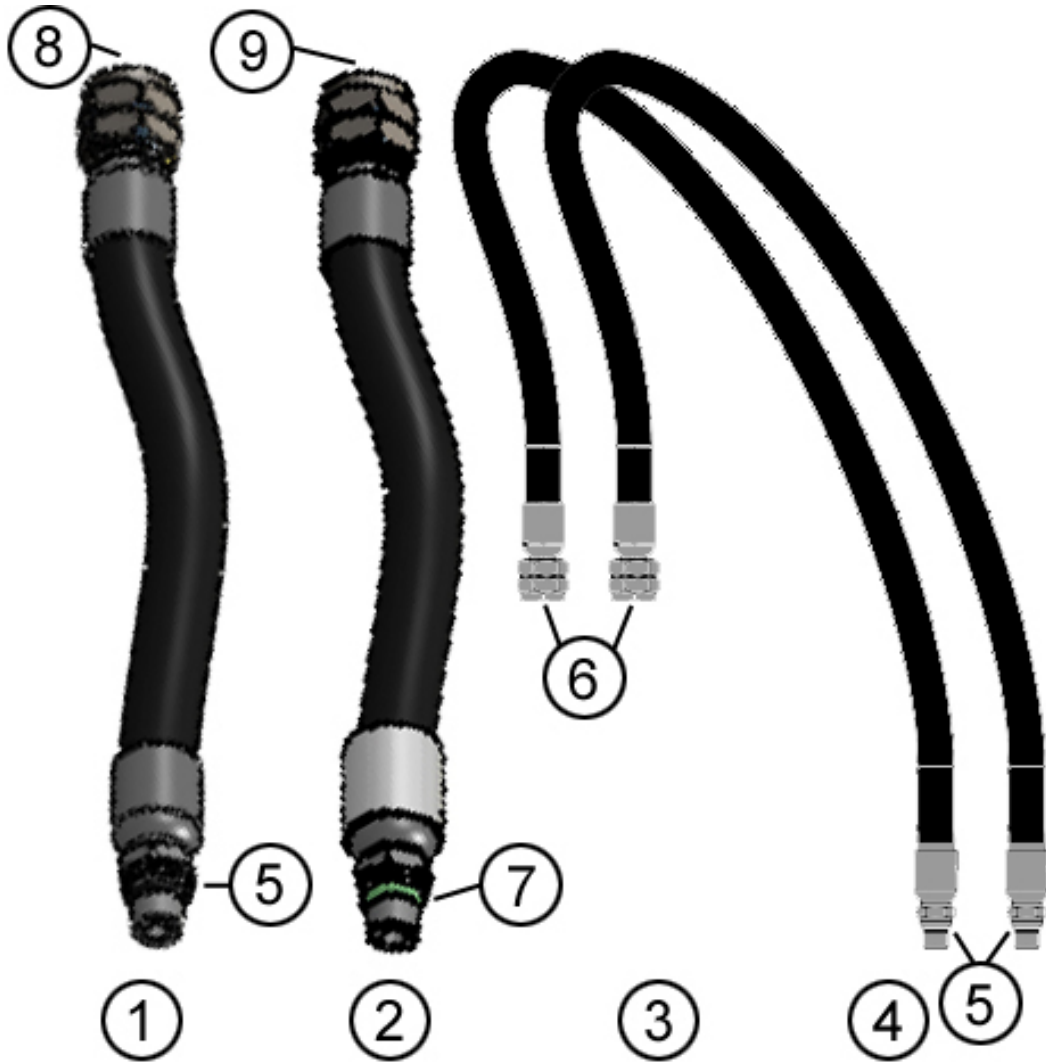
17. Parts lists

0100-006 Jetstream Mk3 Octopus

#	Item #	Description	Qty
1	0000-130	Hose Adapter	1
2	0130-002	LP hose, 9/16 - 90 cm / 35,4 inch	1
3	0010-355	O-ring	1
4	2857	Low pressure valve housing	1
5	0010-025	O-ring	1
6	3440	Valve insert	1
7	0012-007	O-ring	1
8	2974	Valve housing nut	1
9	2875	Stop screw	1
10	2787	Rubber plate	1
11	0015-019	O-ring	1
12	2839	Valve tube	1
13	1896	O-ring	1
14	2786	Servo valve, complete	1
15	3088	Low pressure valve, complete (parts 3 - 14)	1
16	3202	Mouth piece	1
17	1167	Locking strap	1
18	2711	Switch	1
19	0010-018	O-ring	1
20	3121	Housing	1
21	2794	Lock washer	1
22	2712	Diaphragm cam	1
23	3132	Housing, 2nd stage, incl parts 18-22, Yellow	1
24	2578	Diaphragm	1
25	2989	Cover for 2nd stage, yellow	1
26	2851	Screw	4
27	2853	Purge button	1
28	3104	Housing complete incl. parts 16-27, Yellow	1

17. Parts lists

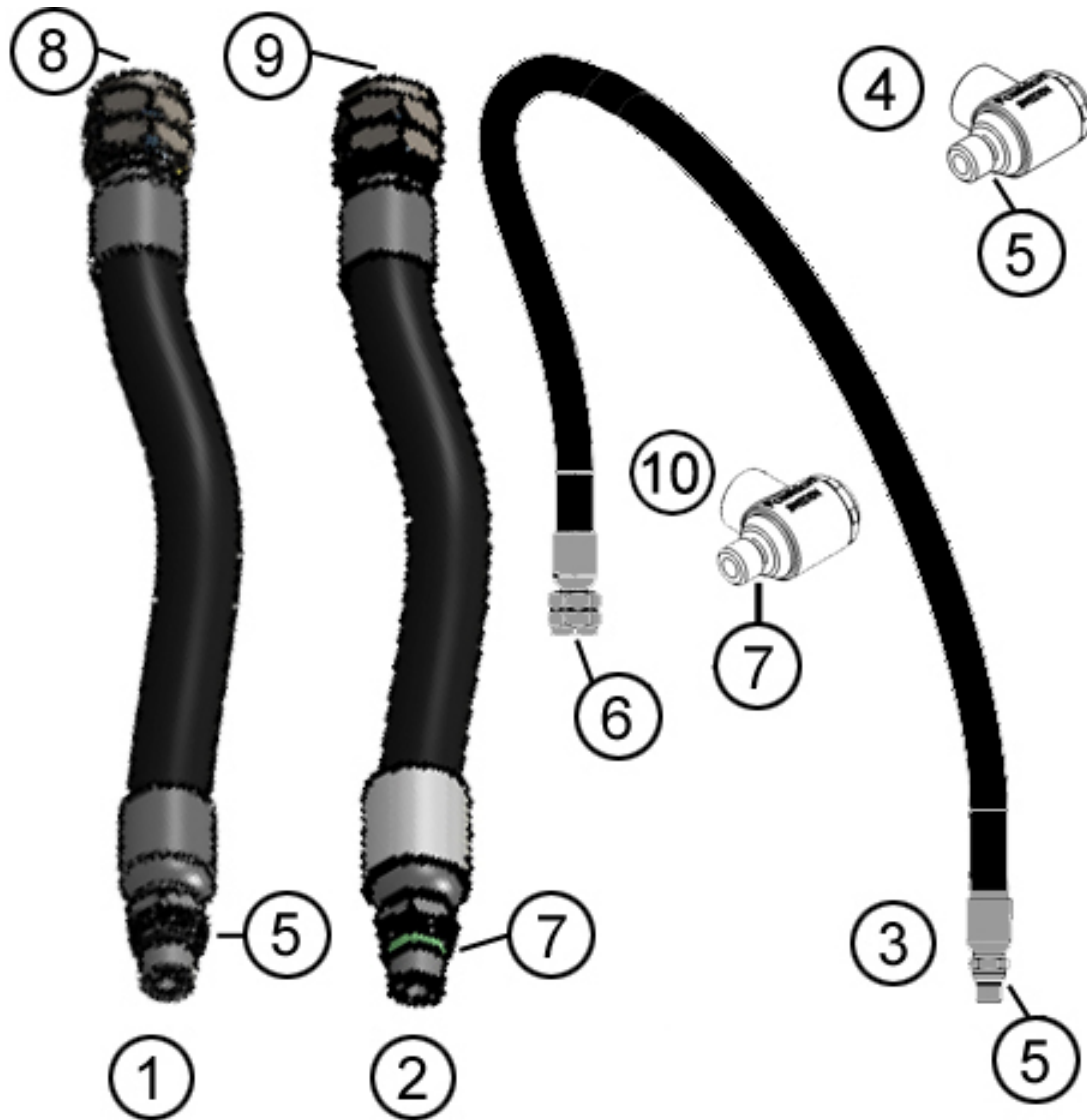
LP Hoses MkVI



Item #	Description	Qty
1	0130-017 - LP hose 16 cm DIL	1
2	0130-018 - LP hose 16 cm O2 (White - EU version)	1
2	0130-019 - LP hose 16 cm O2 (Green - US version)	1
3	0130-004 - LP hose Polyurethan 9/16-18 90cm	1
4	0130-002 - LP hose Mk3 - 9/16-18 90cm (Octopus)	1
5	0010-353 - O - ring	1
6	0010-009 - O-ring	1
7	0011-276 O-ring Viton	1
8	0010-009 - O-ring	1
9	0011-006 - O-ring Viton	1

17. Parts lists

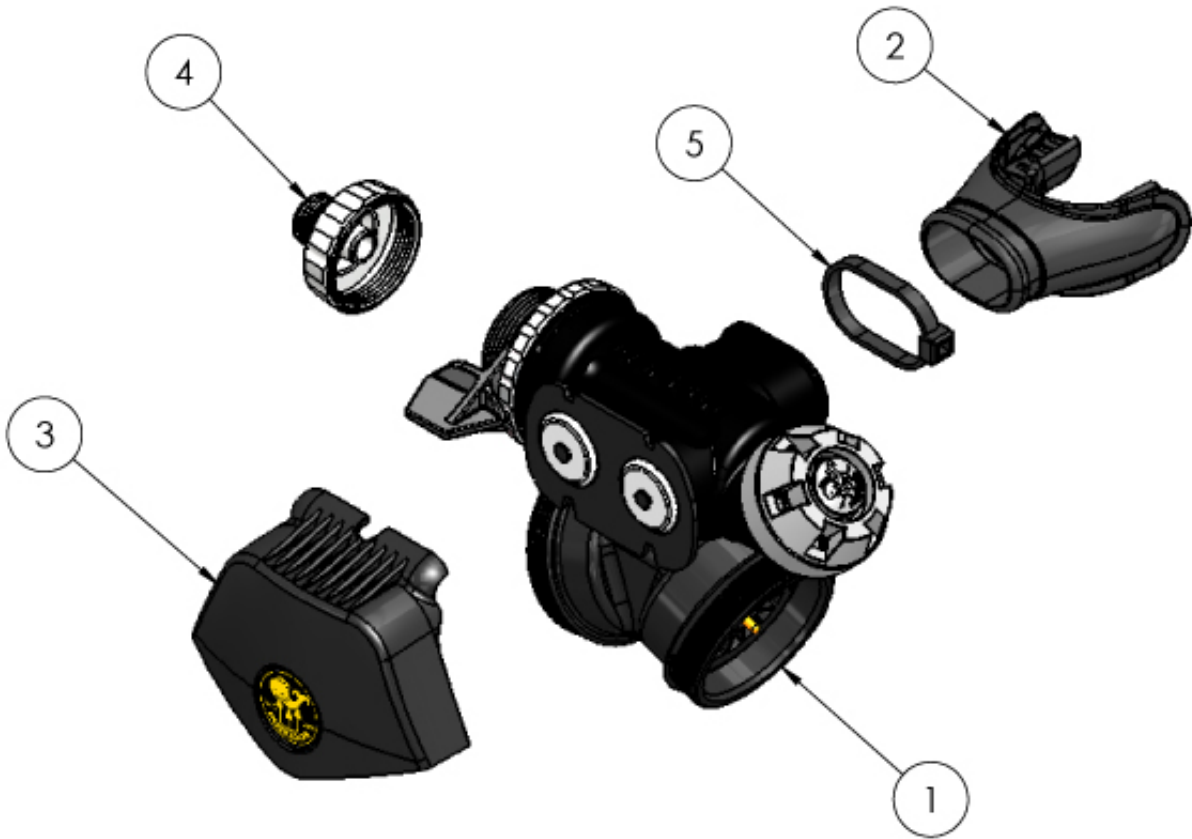
LP hoses - SE7EN



Item #	Description	Qty
1	0130-032 - LP hose 20 cm DIL	1
2	0130-030 - LP hose 20 cm O2 (Same for both EU and US units)	1
3	0130-004 - LP hose Polyurethan 9/16-18 90cm	1
4	3289 - LP Svivel 90 DIL	1
5	0010-353 - O - ring	3
6	0010-009 - O-ring	1
7	0011-276 O-ring Viton	2
8	0010-009 - O-ring	1
9	0011-006 - O-ring Viton	1
10	0000-915 - LP Svivel 90 O2	1

17. Parts lists

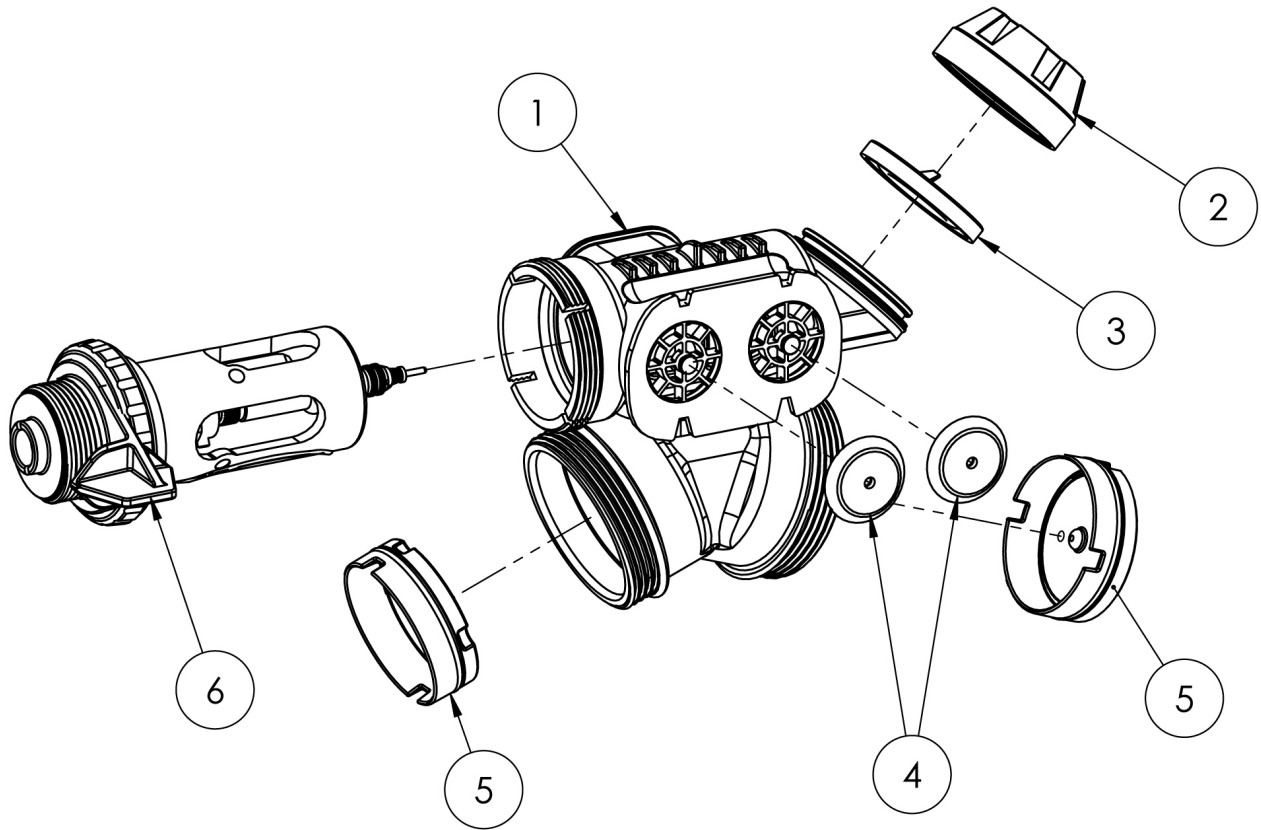
Mouthpiece G1: 6011-001



Item #	Article #	Description	Qty
1	6010-000	Mouthpiece house assembly	1
2	4532	Mouthpiece AIR	1
3	6010-005	OC outlet	1
4	0000-130	Hose adapter	1
5	1167	Cable tie	1

17. Parts lists

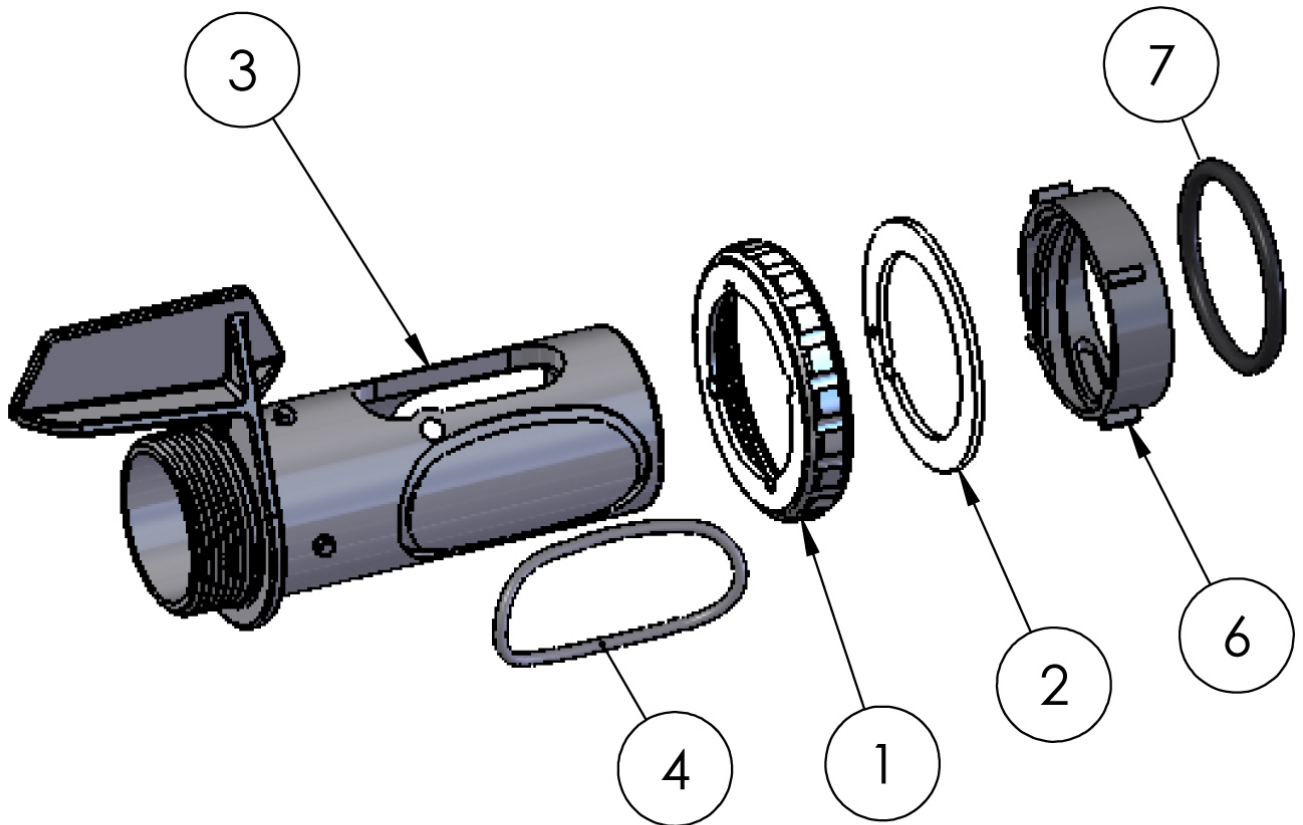
Mouthpiece G1: House assembly



Item #	Article #	Description	Qty
1	6010-001	Mouthpiece house	1
2	4536	Diaphragm cover	1
3	4533	Membrane with washer	1
4	0000-232	Membrane mouthpiece	2
5	6010-013	Membrane holder complete	2
6	6010-010	DV Switch	1

17. Parts lists

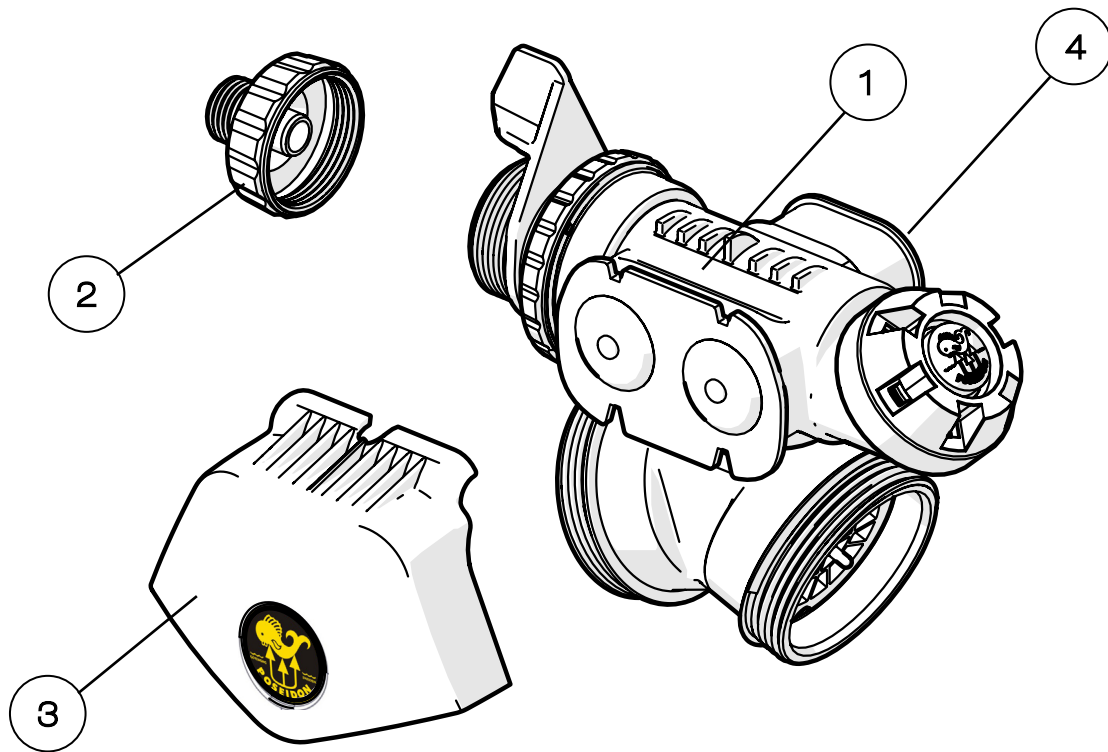
Mouthpiece G1: DV Switch (6010-010)



Item #	Article #	Description	Qty
1	6010-104	Lock nut	1
2	6010-257	Plastic washer	1
3	6010-012	Barrel magnet	1
4	0015-245	O-ring	1
6	6010-114	Helix block	1
7	0010-120	O-ring	1

17. Parts lists

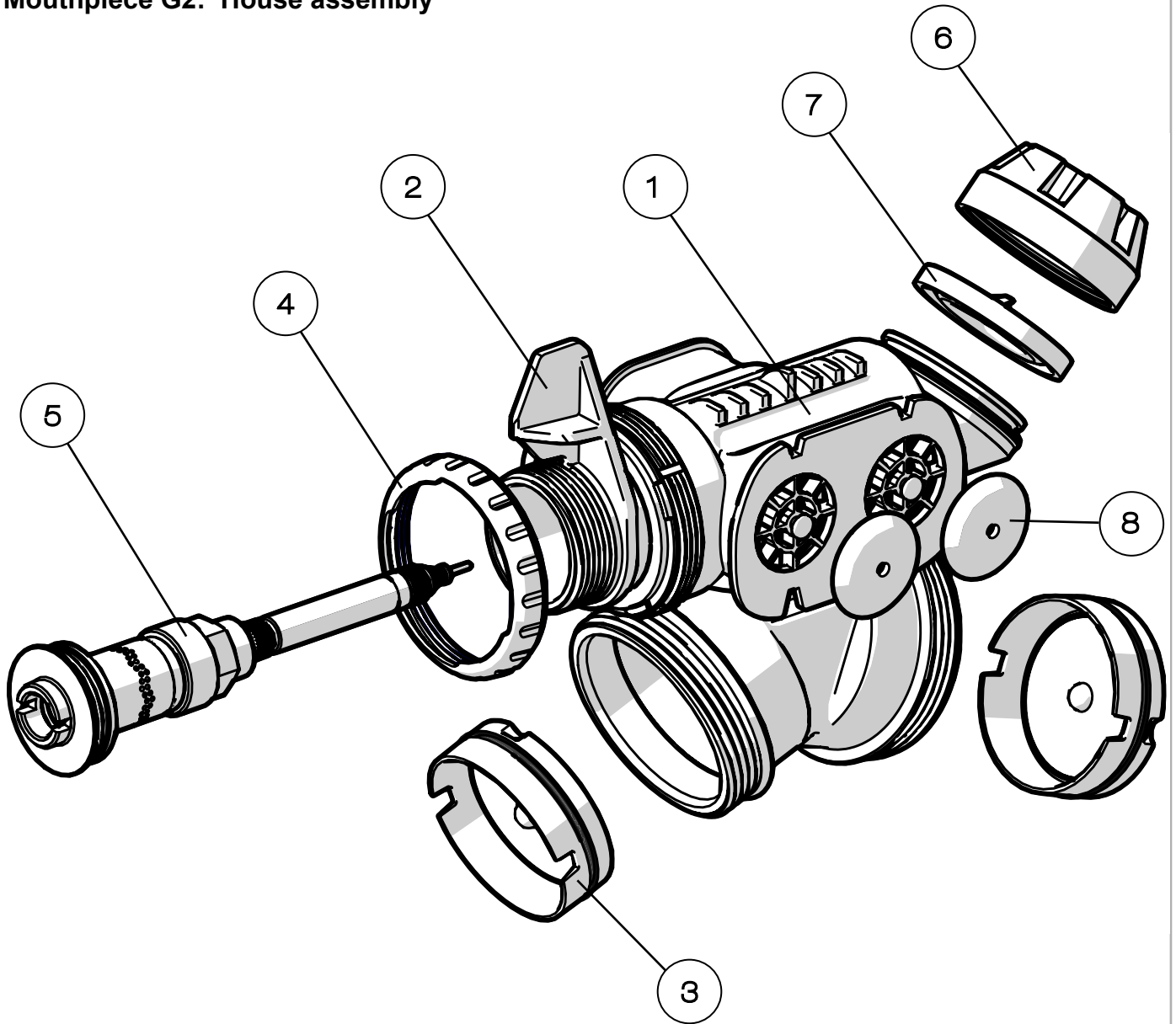
Mouthpiece G2: 0005-055



Item #	Article #	Description	Qty
1	0005-054	Mouthpiece house assembly G2	1
2	0000-130	Hose adapter	1
3	6010-005	OC outlet	1
4	4532	Mouthpiece AIR	1
5	1167	Cable tie	1

17. Parts lists

Mouthpiece G2: House assembly

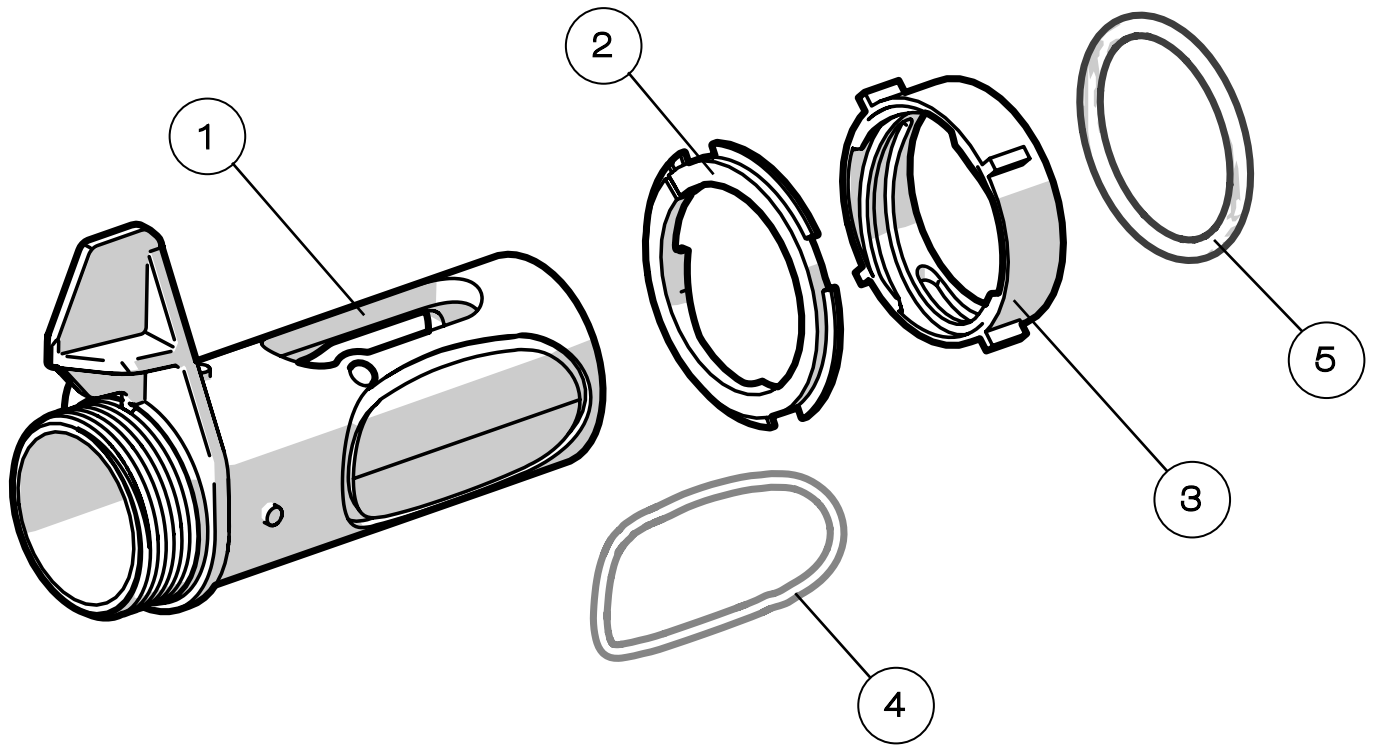


Item #	Article #	Description	Qty
1	0000-429	Mouthpiece house	1
2	0000-471	DV Switch	1
3	6010-013	Membrane holder complete	2
4	0000-427	Mouthpiece Lock Nut M45	1
5	0005-000	LP Valve Mk6	1
6	4536	Membrane cover Xstream	1
7	4533	Membrane with washer	1
8	0000-232	Membrane mouthpiece	2

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17. Parts lists

Mouthpiece G2: DV Switch (0000-471)



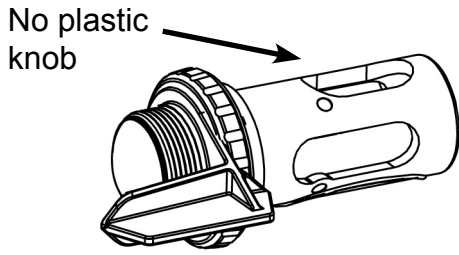
Item #	Article #	Description	Qty
1	6010-012	Barrel magnet	1
2	0000-293	Mouthpiece washer	1
3	6010-114	Helix Block	1
4	0015-245	O-ring	1
5	0010-120	O-ring	1

17. Parts lists

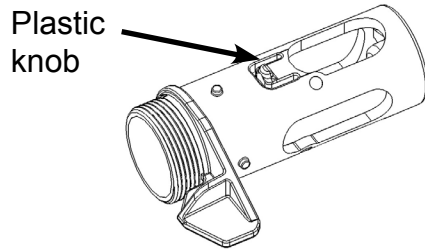
Mouthpiece SE7EN: 0005-055

Identification

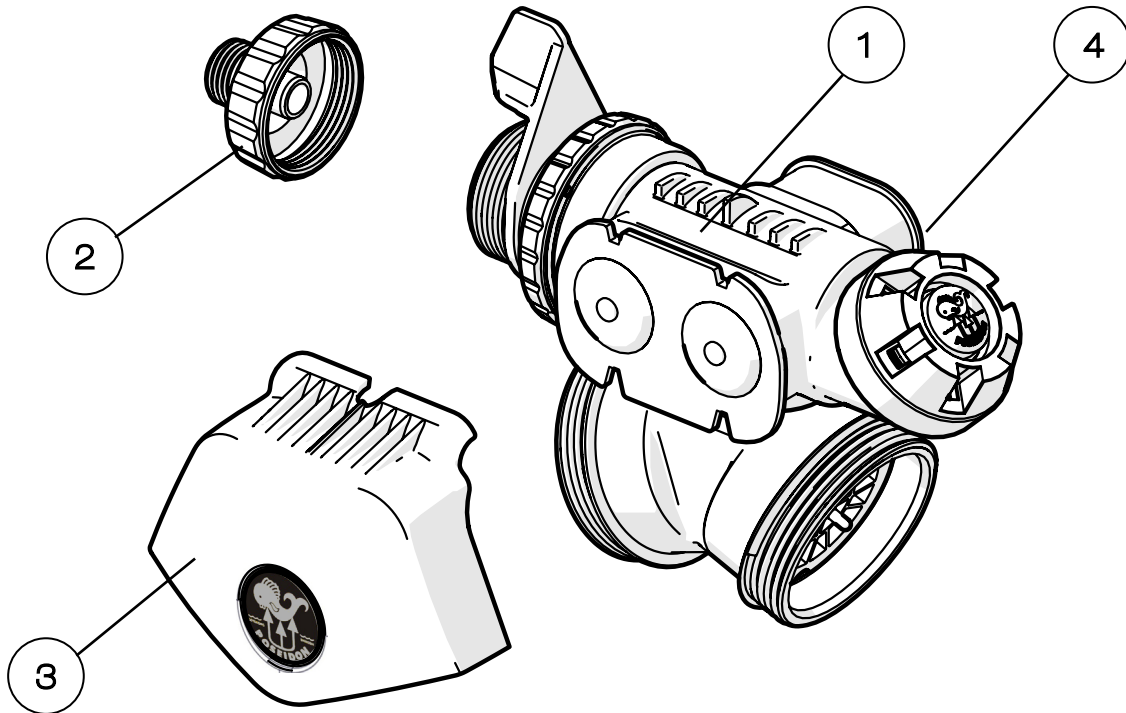
The G7 version of the MKVI mouthpiece is identified by the different Barrel Magnet (part #0000-950) compared to the previous version of the Mouthpiece (G2). Also, the serial number marking on the mouthpiece starts with "G7".



G2 Barrel Magnet (6010-012)



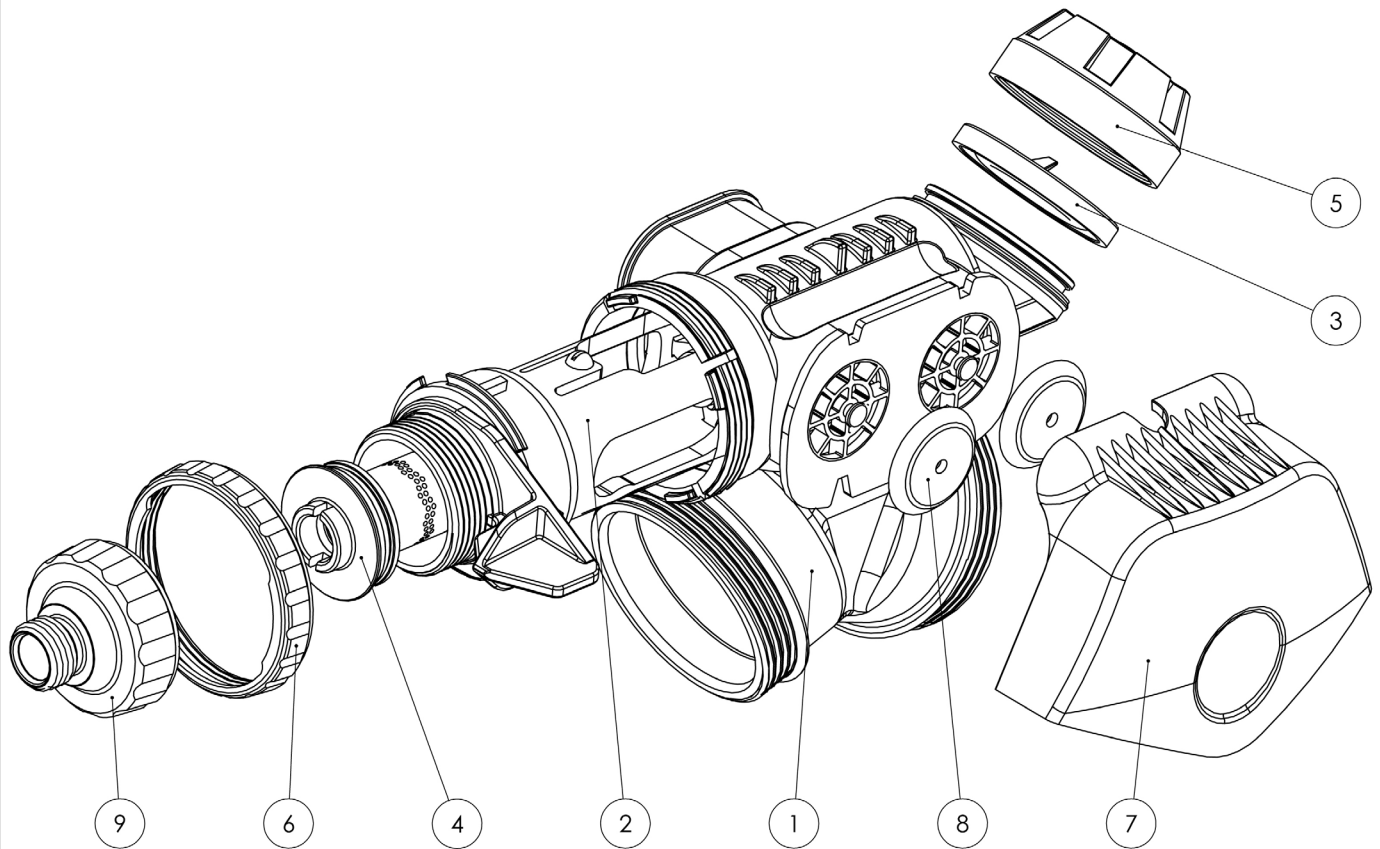
G7 barrel Magnet (0000-950)



Item #	Article #	Description	Qty
1	0005-054	Mouthpiece house assembly G7	1
2	0000-130	Hose adapter	1
3	6010-005	OC outlet	1
4	4532	Mouthpiece AIR	1
5	1167	Cable tie	1

17. Parts lists

Mouthpiece SE7EN: House assembly

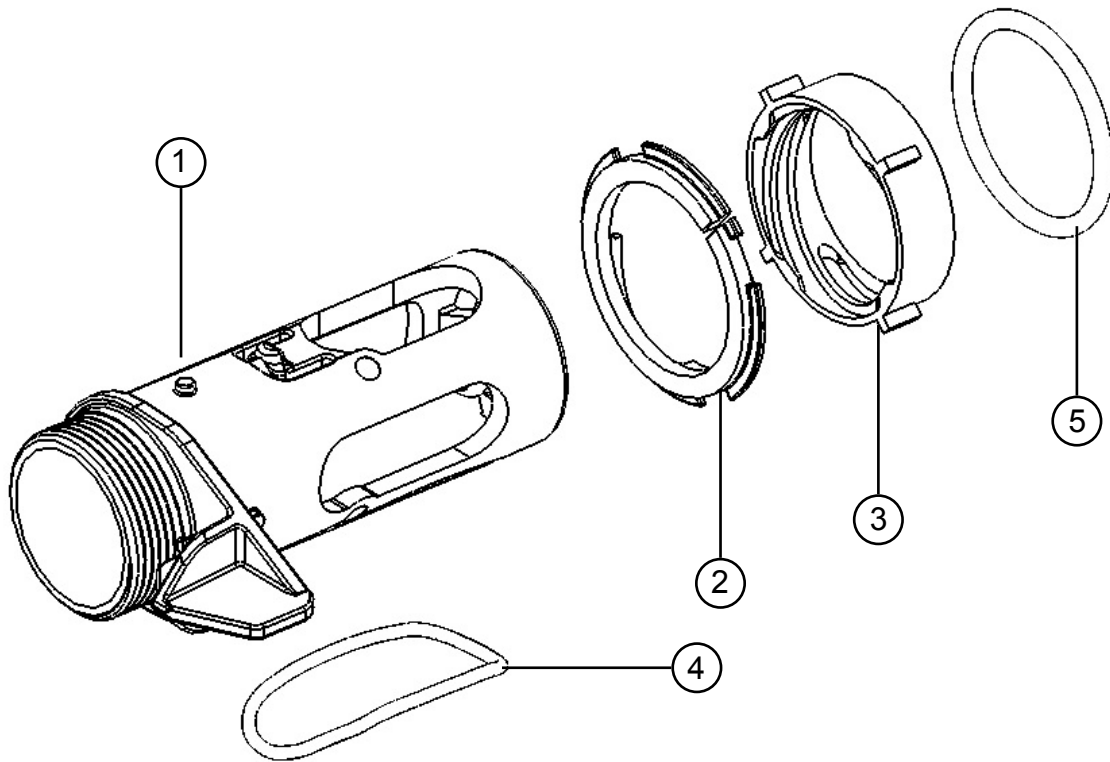


Item #	Article #	Description	Qty
1	0000-951	Mouthpiece House	1
2	0000-471	DV Switch	1
3	4533	Membrane with washer	1
4	0005-000	AM LP Valve Mk6	1
5	4536	Membrane cover Xstream	1
6	5800-100	Mouthpeice Lock Nut, plastic	1
7	6010-118	OC Cover	1
8	0000-232	Membrane mouthpiece	2
9	0000-130	Hose Adapter	1

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17. Parts lists

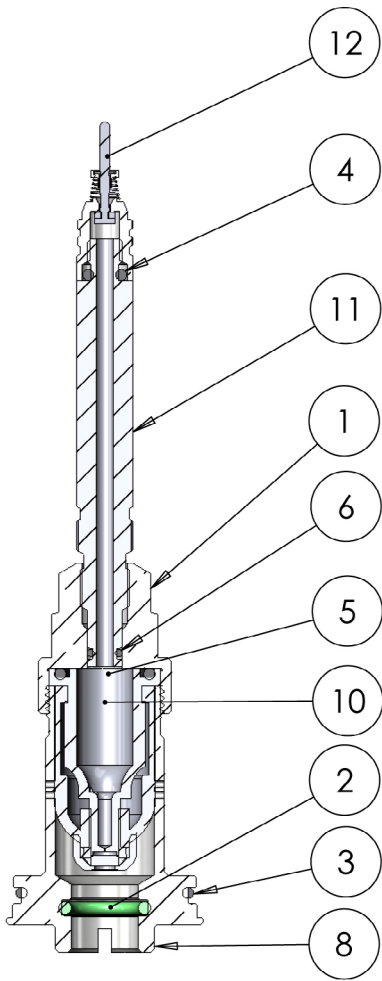
Mouthpiece SE7EN: DV Switch (0000-471)



Item #	Article #	Description	Qty
1	0000-950	Barrel Magnet	1
2	0000-293	Mouthpiece washer	1
3	6010-114	Helix block	1
4	0015-245	O-ring 29 x 2	1
5	0010-120	O-ring 31 x 3	1

17. Parts lists

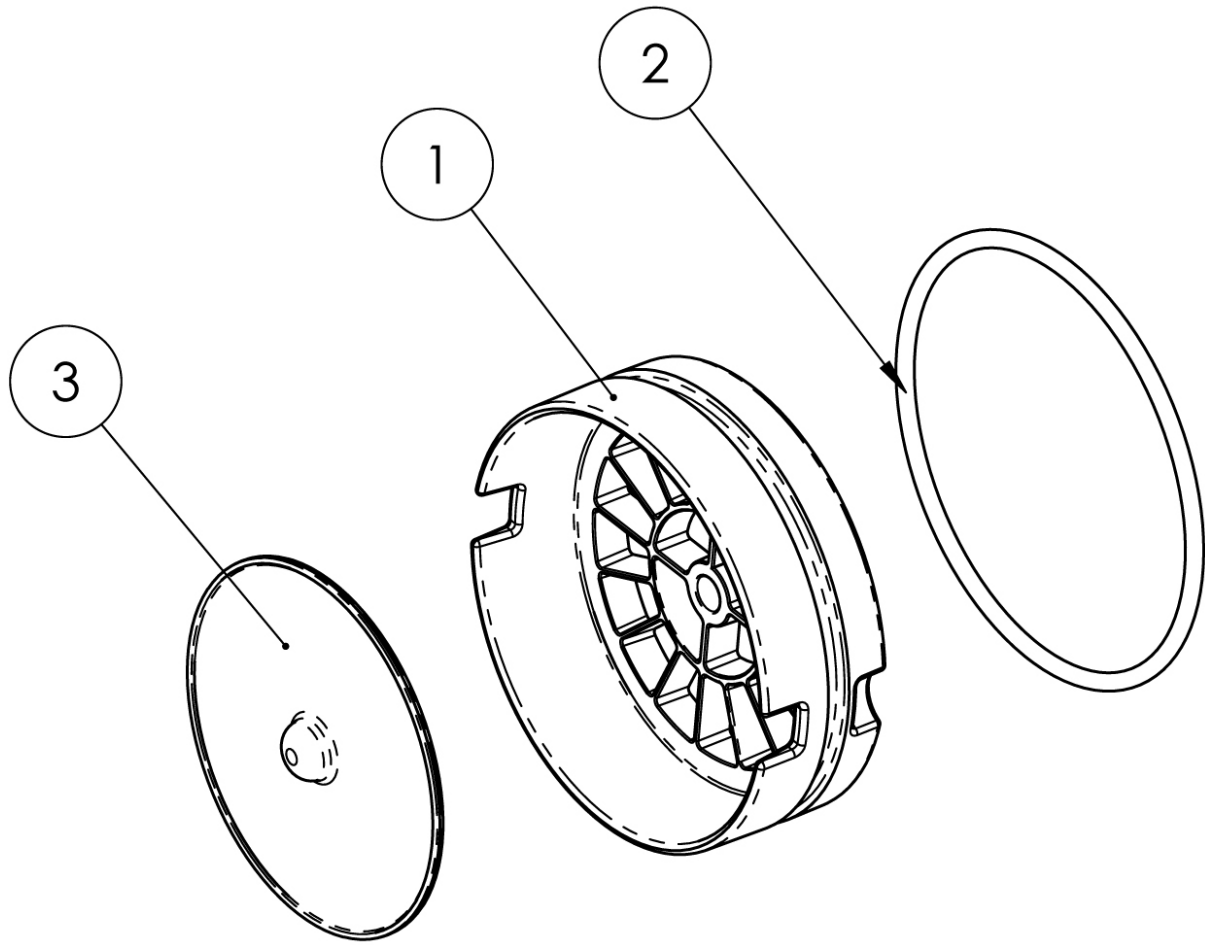
Mouthpiece G1, G2 & SE7EN: Low pressure valve MkVI (0005-000)



Item #	Article #	Description	Qty
1	0000-148	Valve house nut	1
2	0011-278	O-ring	1
3	0012-016	O-ring	1
4	0013-001	O-ring	1
5	0013-009	O-ring	1
6	0013-351	O-ring	1
7	2787-07	Rubber plate	1
8	2857	Low pressure valve house	1
9	2875	Stop screw	1
10	3440 07	Valve insert	1
11	2839	Valve tube	1
12	2786 07	Servo valve	1

17. Parts lists

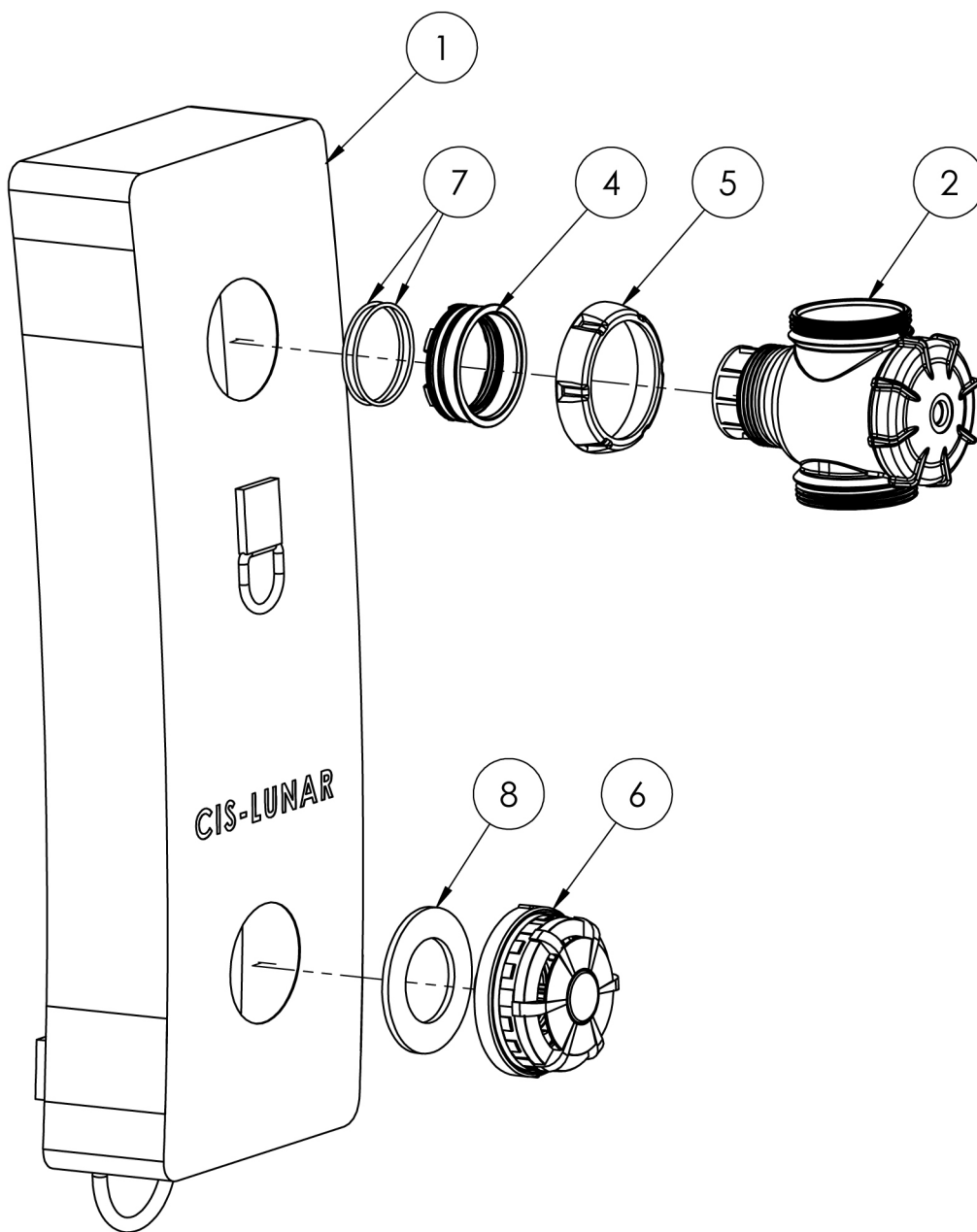
Mouthpiece G1, G2 & SE7EN: Membrane holder complete (6010-013)



Item #	Article #	Description	Qty
1	6010-116	Membrane holder	1
2	0010-032	O-ring	1
3	6010-268	Air membrane	1

17. Parts lists

Breathing loop components: 6010-020 Right counter lung

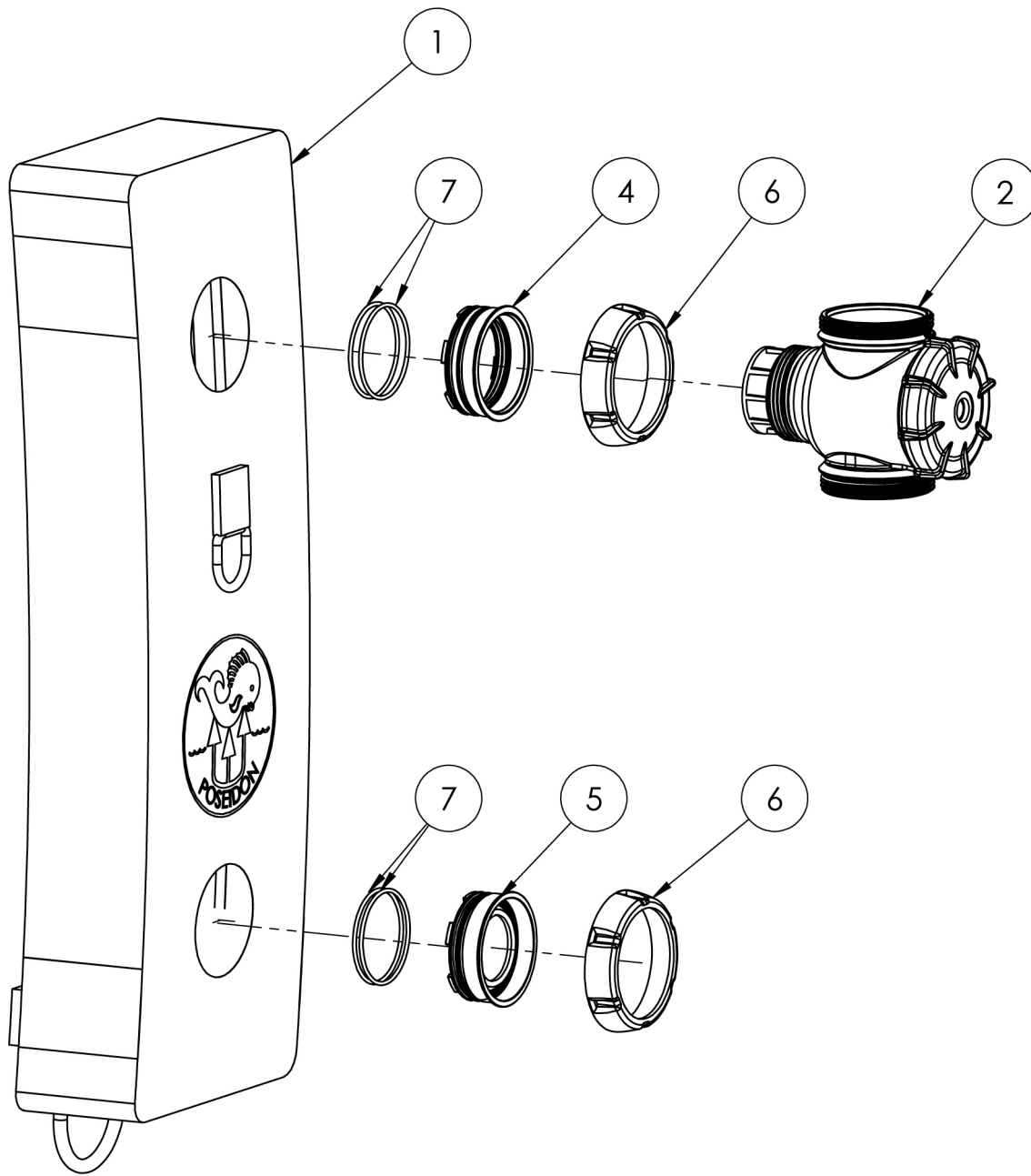


Item	Part No	Description	Nmbr
1	6010-008	Lung shell right	1
2	6010-011	T-Section	1
3	6010-018	Innerbladder right	1
4	6010-133	T-Lunginsert	1
5	6010-277	Ring nut valve insert	1
6	0000-180	Automatic outlet valve	1
7	0013-187	O-ring	2
8	0000-182	Valve patch Flexisuit	1

Revision: 2.7 Date: 14-11-13 Approved by: JN

17. Parts lists

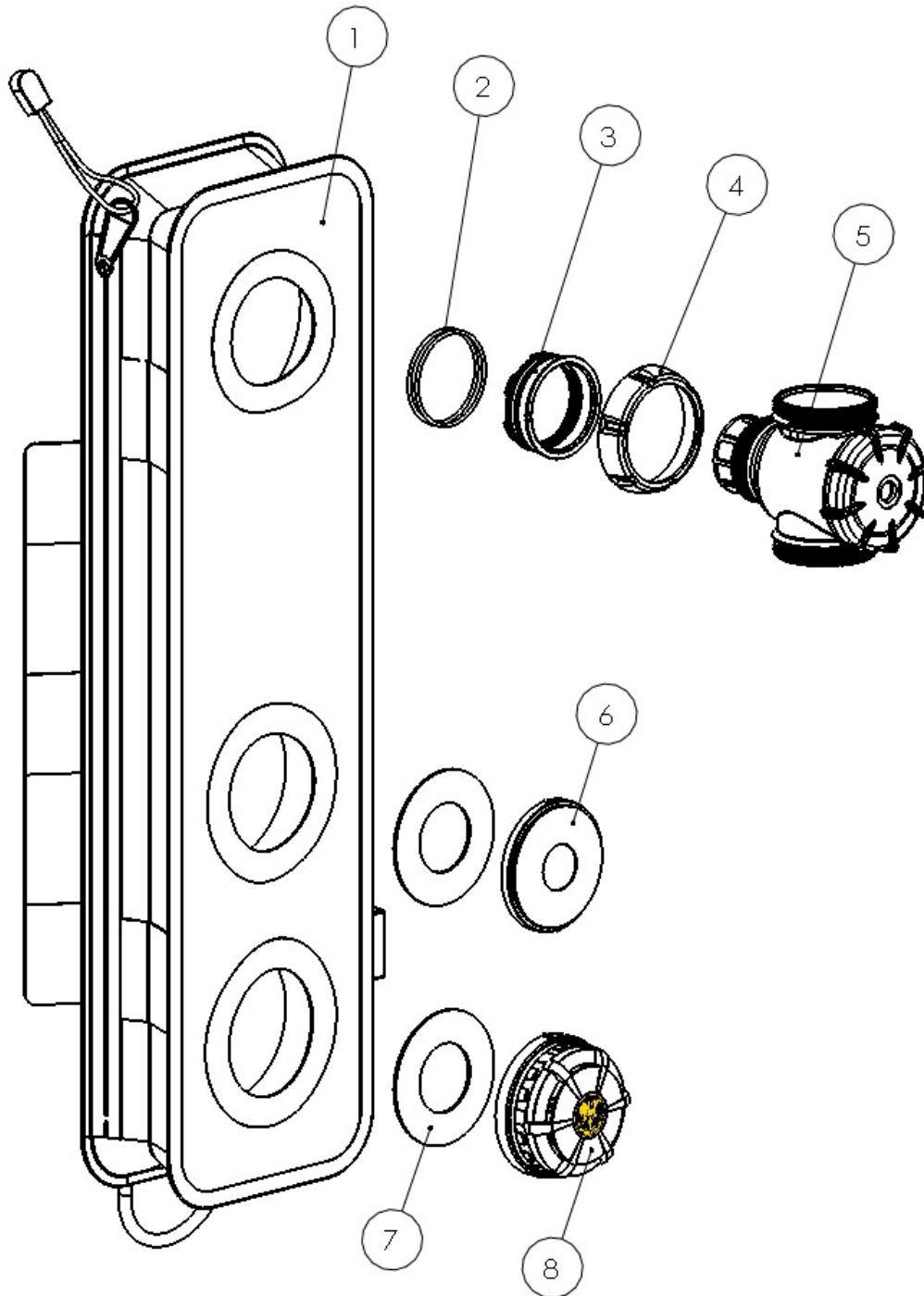
Breathing loop components: 6010-021 Left counter lung



Item	Part No	Description	Nmbr
1	6010-009	Lung shell left	1
2	6010-011	T-Section	1
3	6010-019	Innerbladder left	1
4	6010-133	T-Lunginsert	1
5	6010-273	Blind insert	1
6	6010-277	Ring nut valve insert	2
7	0013-187	O-ring	4

17. Parts lists

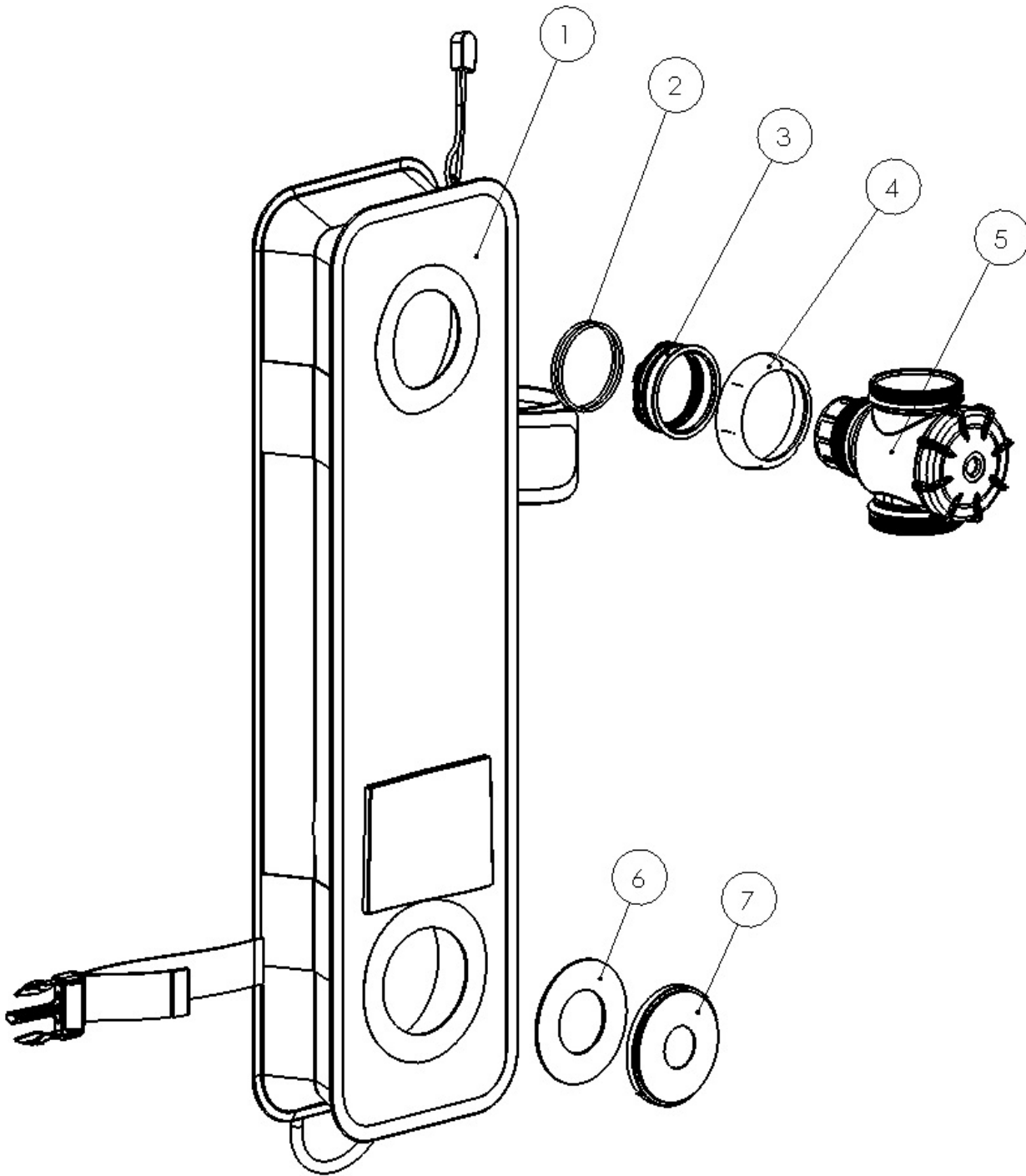
Breathing loop components: 0005-075 Right counter lung, Large



Item	Part No	Description	Nmbr
1	0005-146	Counterlung right shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	0005-201	Blind cover tech lung	1
7	3639	Valve sealing	2
8	0000-259	Automatic outlet valve	1
9	0000-551	Inner bladder 1+2 ports large	1

17. Parts lists

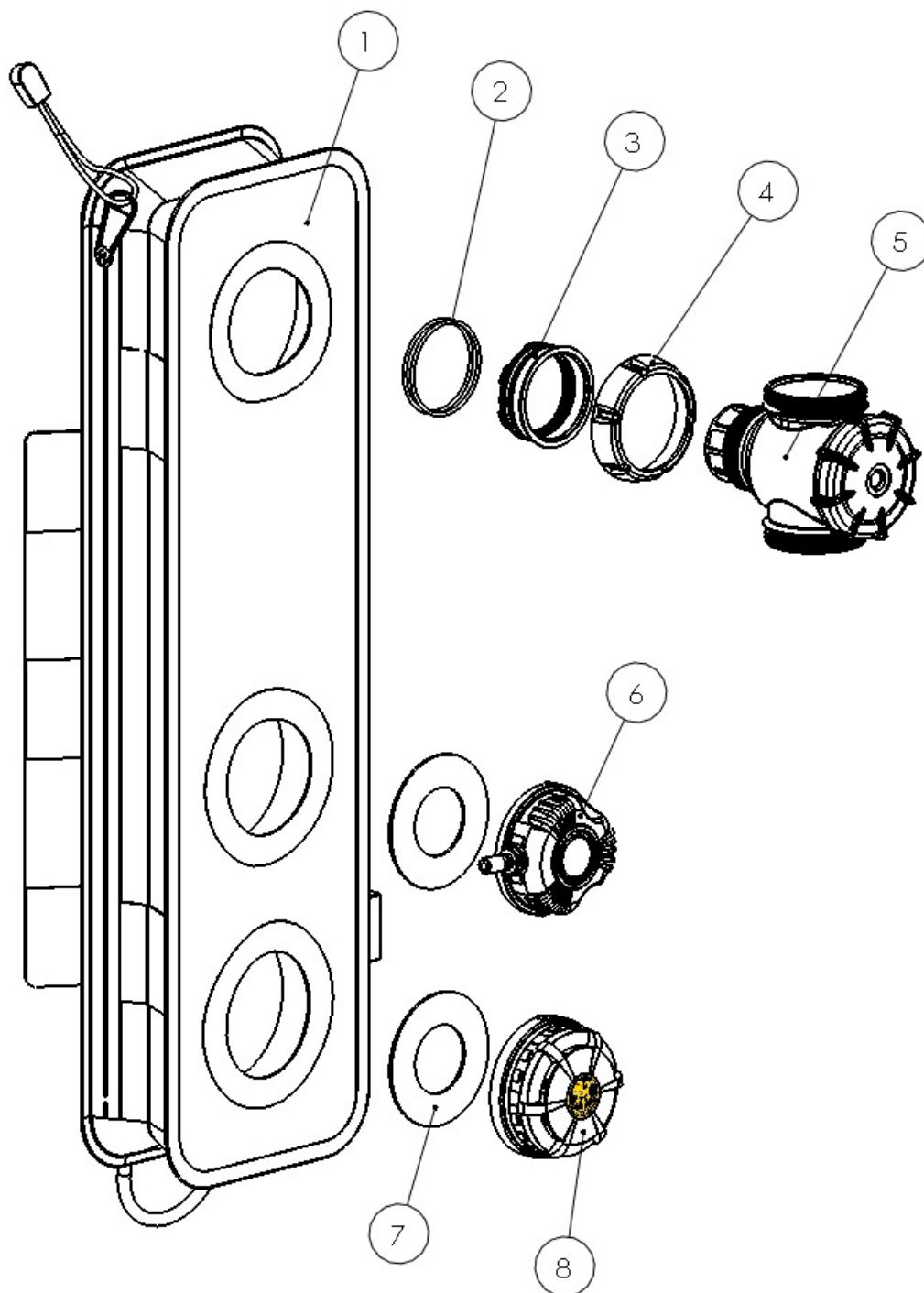
Breathing loop components: 0005-076 Left counter lung, Large



Item	Part No	Description	Nmbr
1	0005-147	Counterlung left shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	3639	Valve sealing	1
7	0005-201	Blind cover tech lung	1
8	0000-554	Inner bladder 1+1 ports large	1

17. Parts lists

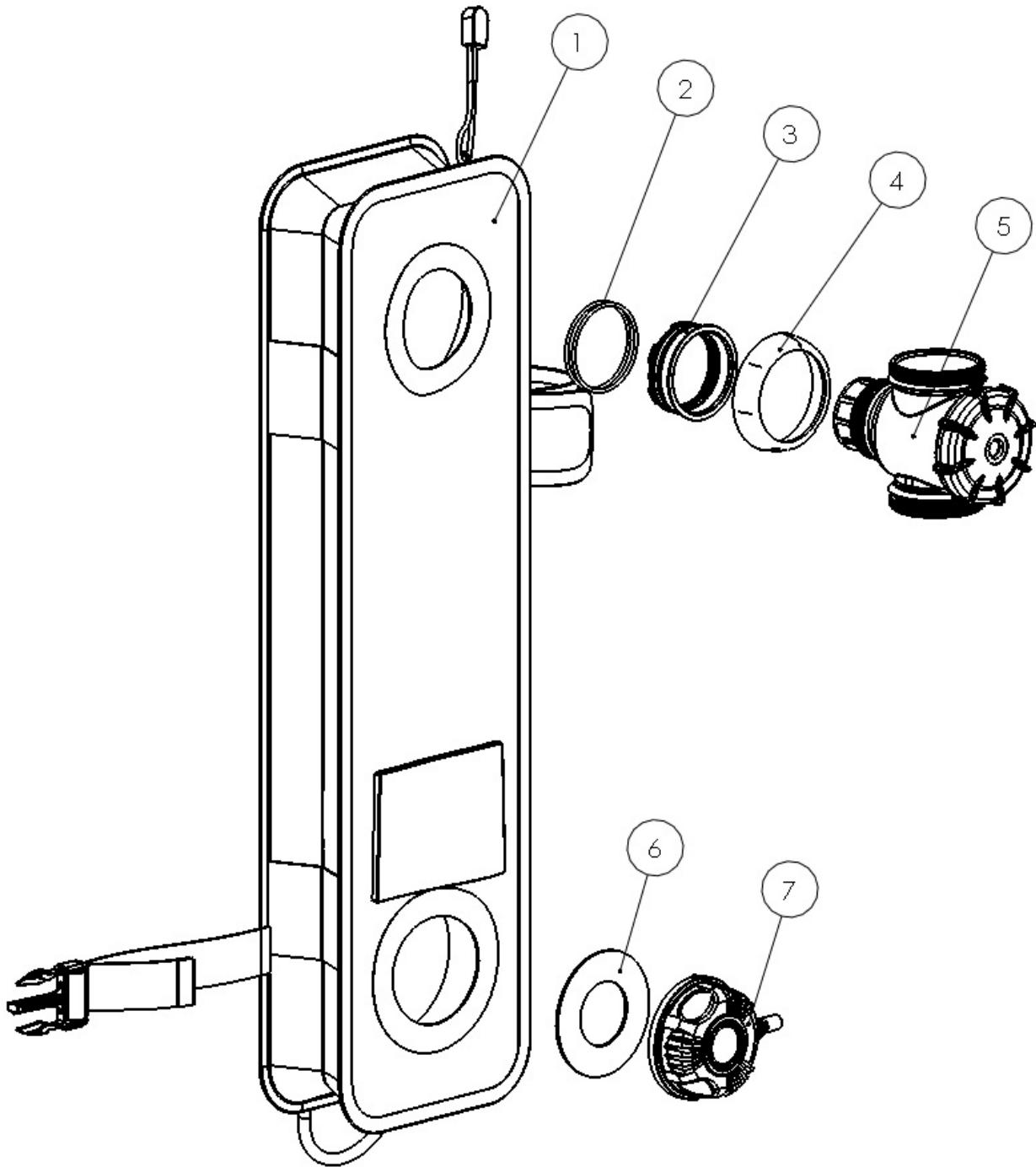
Breathing loop components: 0005-075 Right counter lung, Large, manual injection



Item	Part No	Description	Nmbr
1	0005-146	Counterlung right shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	0005-206	Manuel Injection O2	1
7	3639	Valve sealing	2
8	0000-259	Automatic outlet valve	1
9	0000-551	Inner bladder 1+2 ports large	1

17. Parts lists

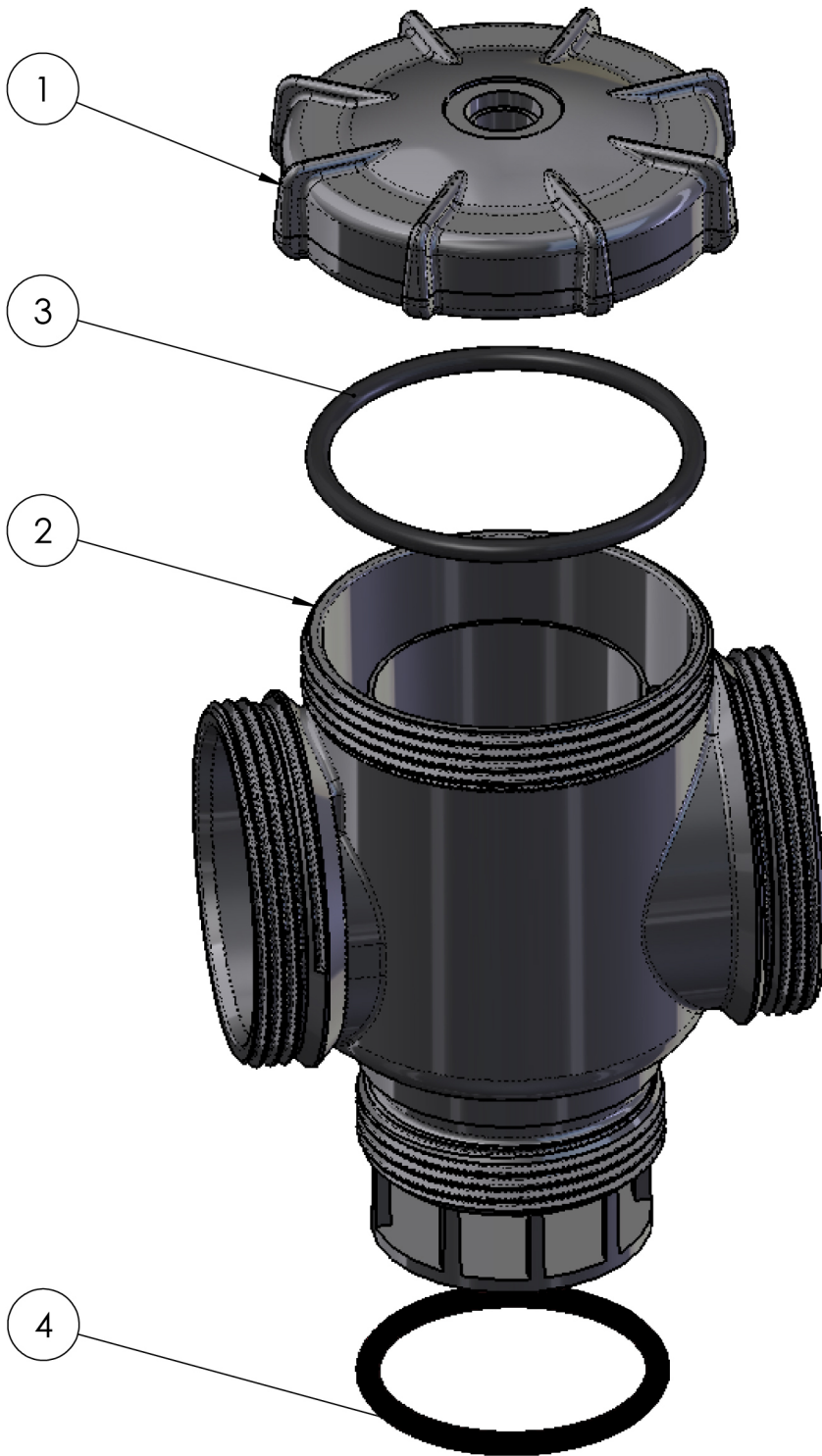
Breathing loop components: 0005-076 Left counter lung, Large, manual injection



Item	Part No	Description	Nmbr
1	0005-147	Counterlung left shell large	1
2	0013-187	O-ring	2
3	6010-133	T-Lunginsert	1
4	6010-277	Ring nut valve insert	1
5	6010-011	T-Section	1
6	3639	Valve sealing	1
7	0005-205	Manuel Injection Dil	1
8	0000-554	Inner bladder 1+1 ports large	1

17. Parts lists

Breathing loop components: 6010-011 T-section



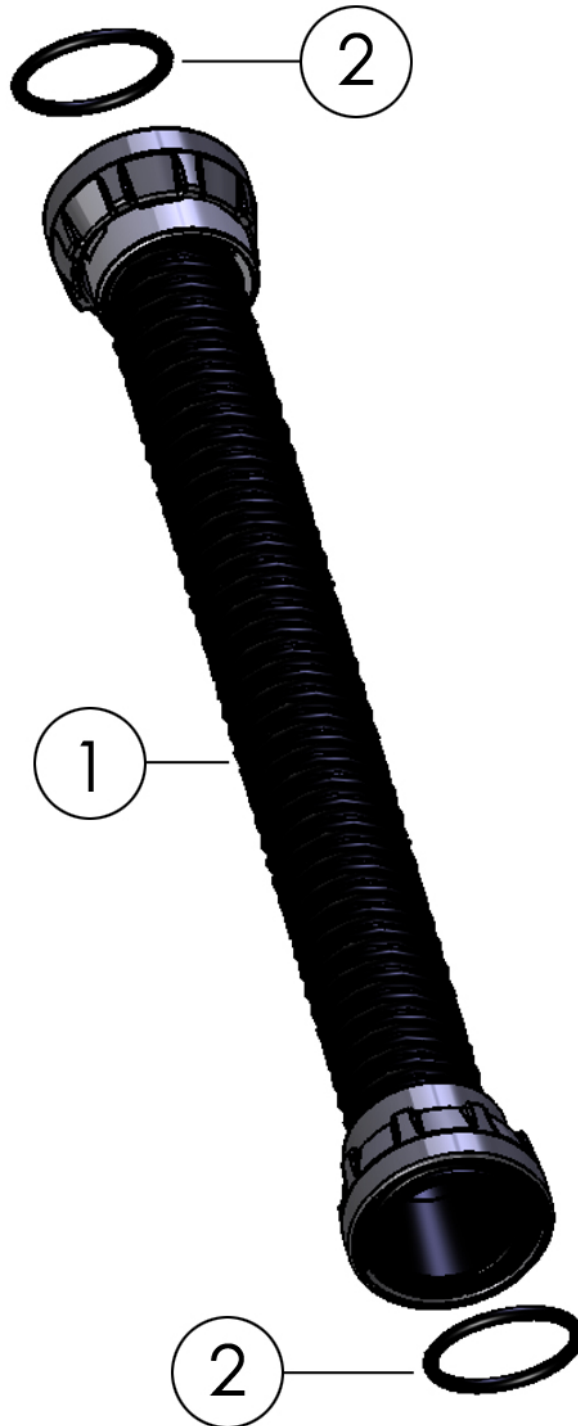
Item	Part No	Description	Nmbr
1	6010-131	T-top	1
2	6010-130	T-Bone	1
3	0010-140	O-ring	1
4	0014-034	O-ring	1

17. Parts lists

Breathing loop components: 0132-003 CC hose (x 4)

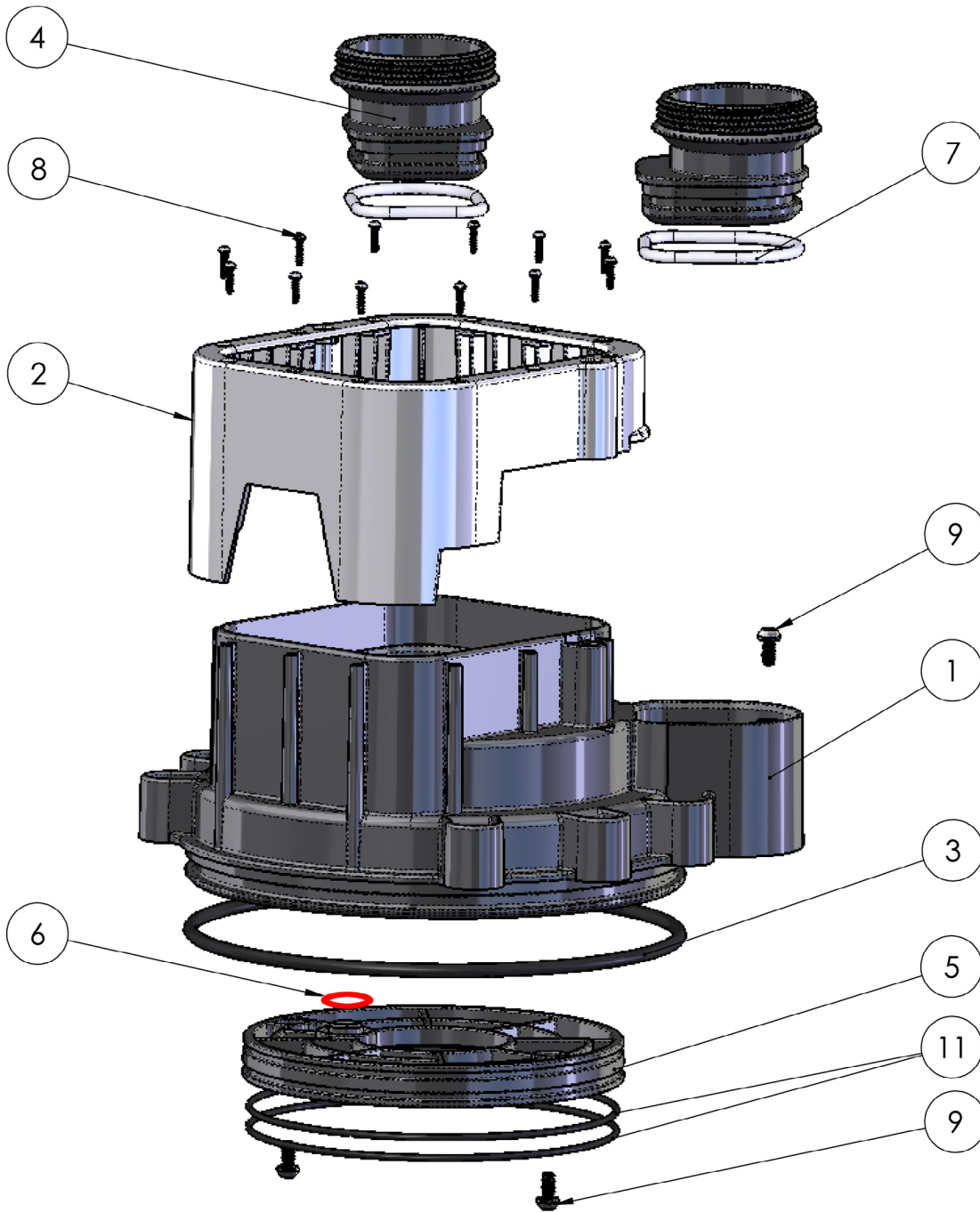
Item	Part No	Description	Nmbr
1	0132-003	CC hose	1
2	0013-261	O-ring	2

Hose 0132-002 replaced hose 6010-016 in March 2010.
 Hose 0132-002 was replaced by hose 0132-003 in april 2011.



17. Parts lists

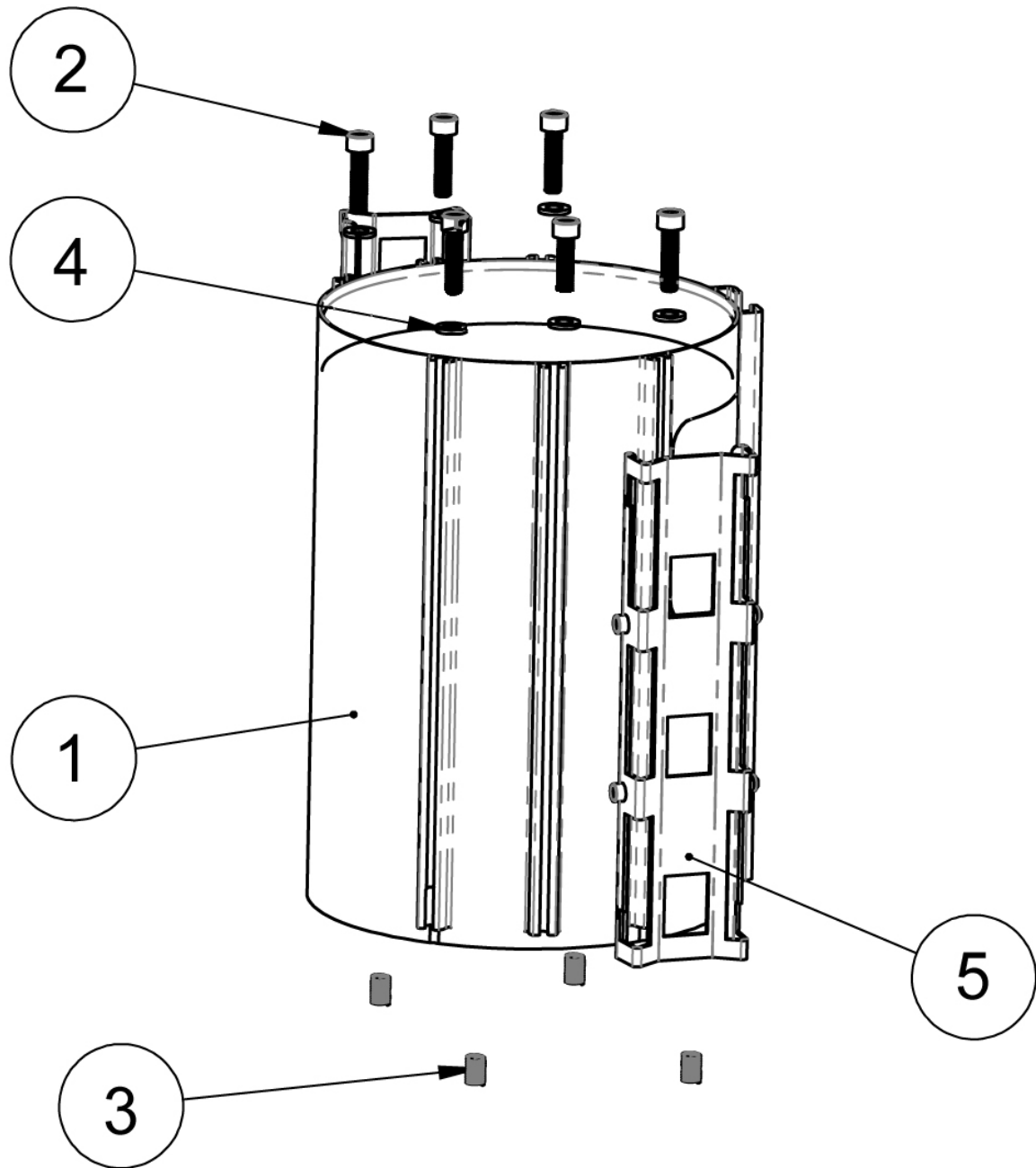
6010-006 Round pack top - MkVI & SE7EN



Item	Part No	Description	Nmbr
1	6010-139	Top half	1
2	6010-265	Top support	1
3	0015-533	O-ring	1
4	6010-192	CL_Interface	2
5	6010-191	Diverter	1
6	0014-013	O-ring	1
7	0013-265	O-ring	2
8	6010-129	Screw Delta PT20x8 WN5452	12
9	0310-108	Screw Delta PT 40x8	4
11	0010-402	O-ring	2

17. Parts lists

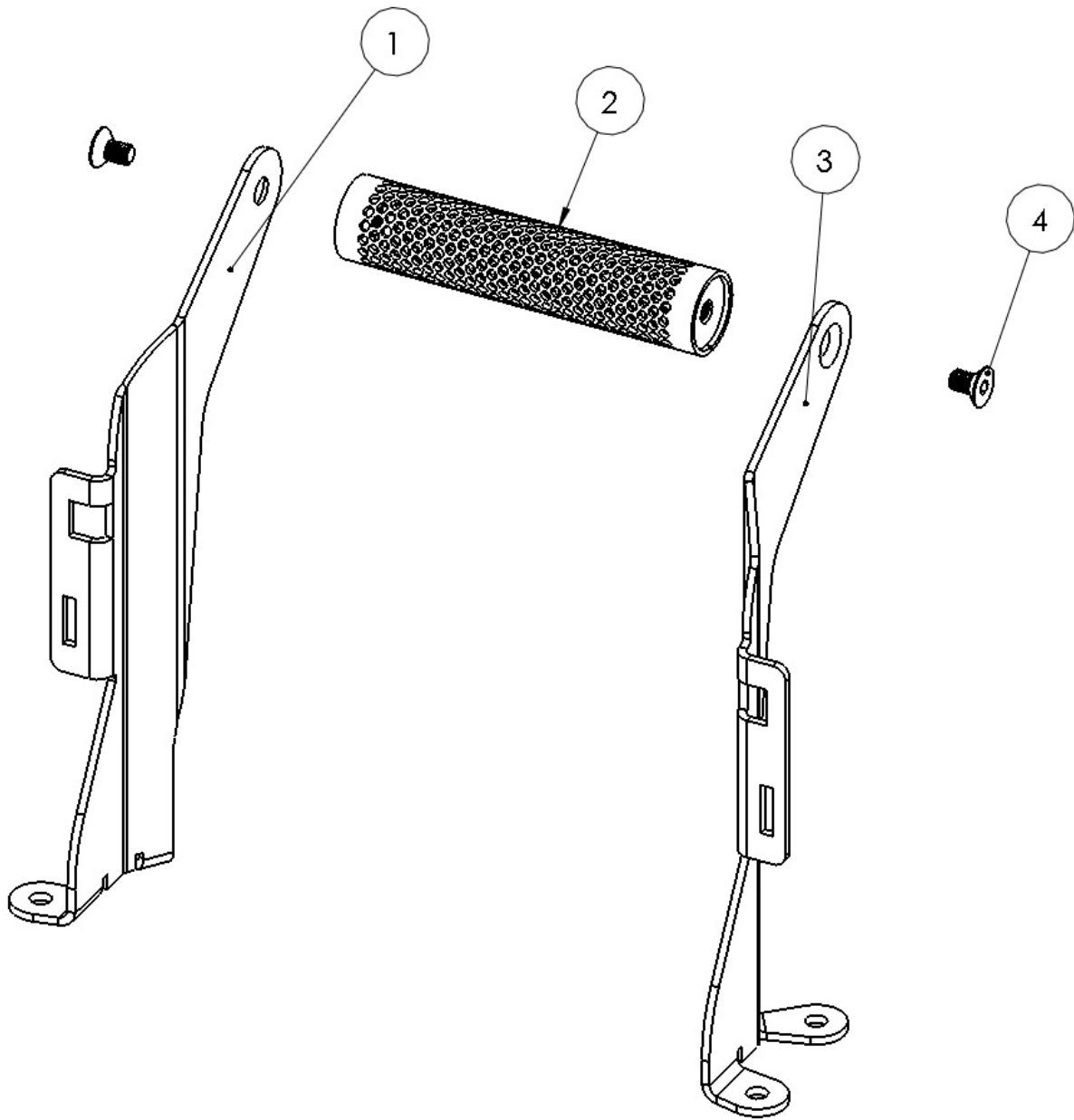
0000-469 Round Pack Housing - MkVI & SE7EN



Item	Part No	Description	Nmbr
1	0000-361	Round Pack Housing incl. helicoil	1
2	0001-149	Screw MC6S M6 x 25H, RF	6
3	6010-246	Heli coil plus	4
4	0001-139	Washer 6,4x12x1,6mm RF	6
5	0000-467	Cylinder Bracket Complete	2

17. Parts lists

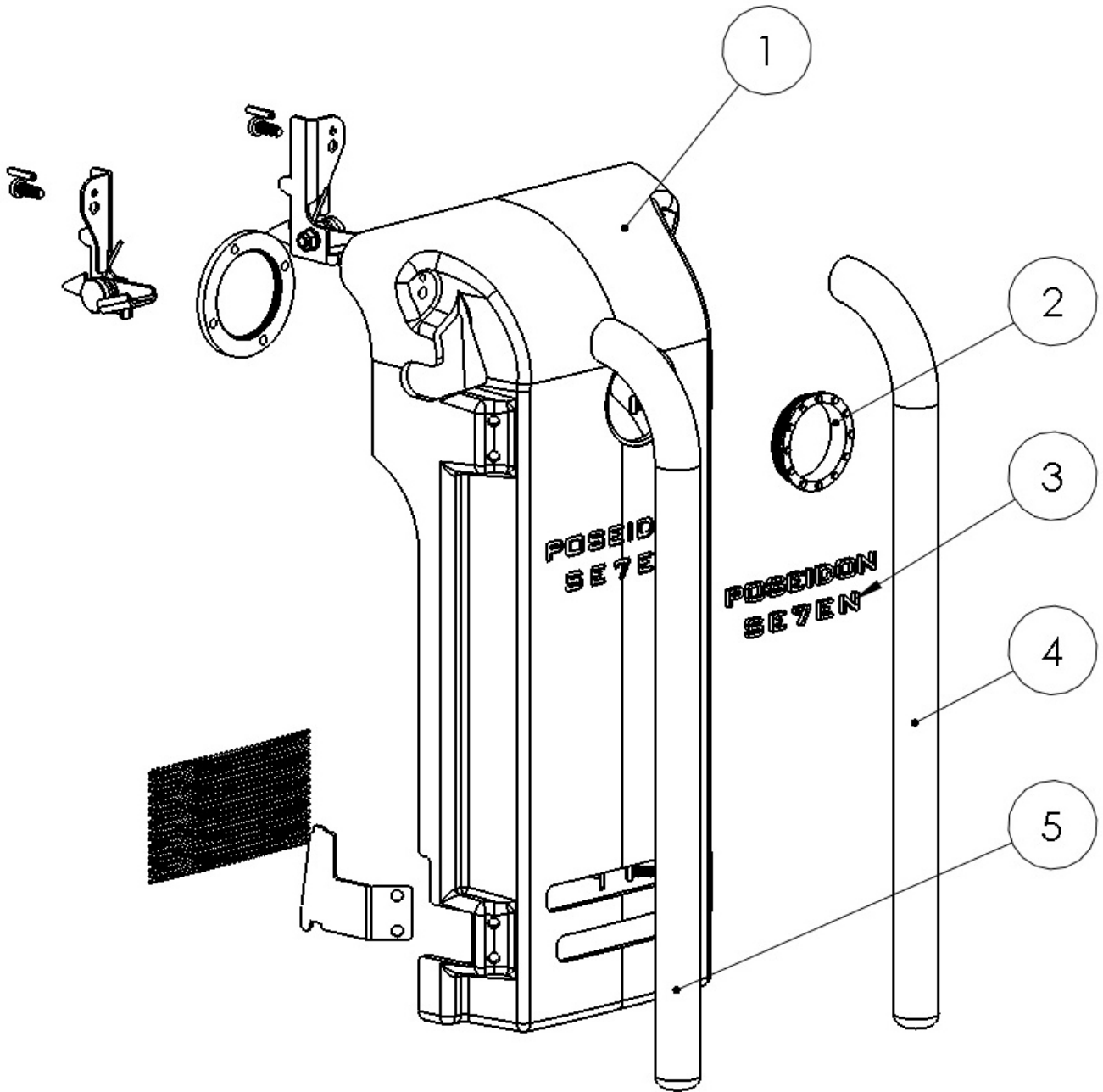
0005-212 SE7EN handle



Item	Part No	Description	Nmbr
1	0000-062	Handle support left	1
2	0000-030	Handle	1
3	0000-063	Handle support right	1
4	0001-305	MF6S-M6x10H	2

17. Parts lists

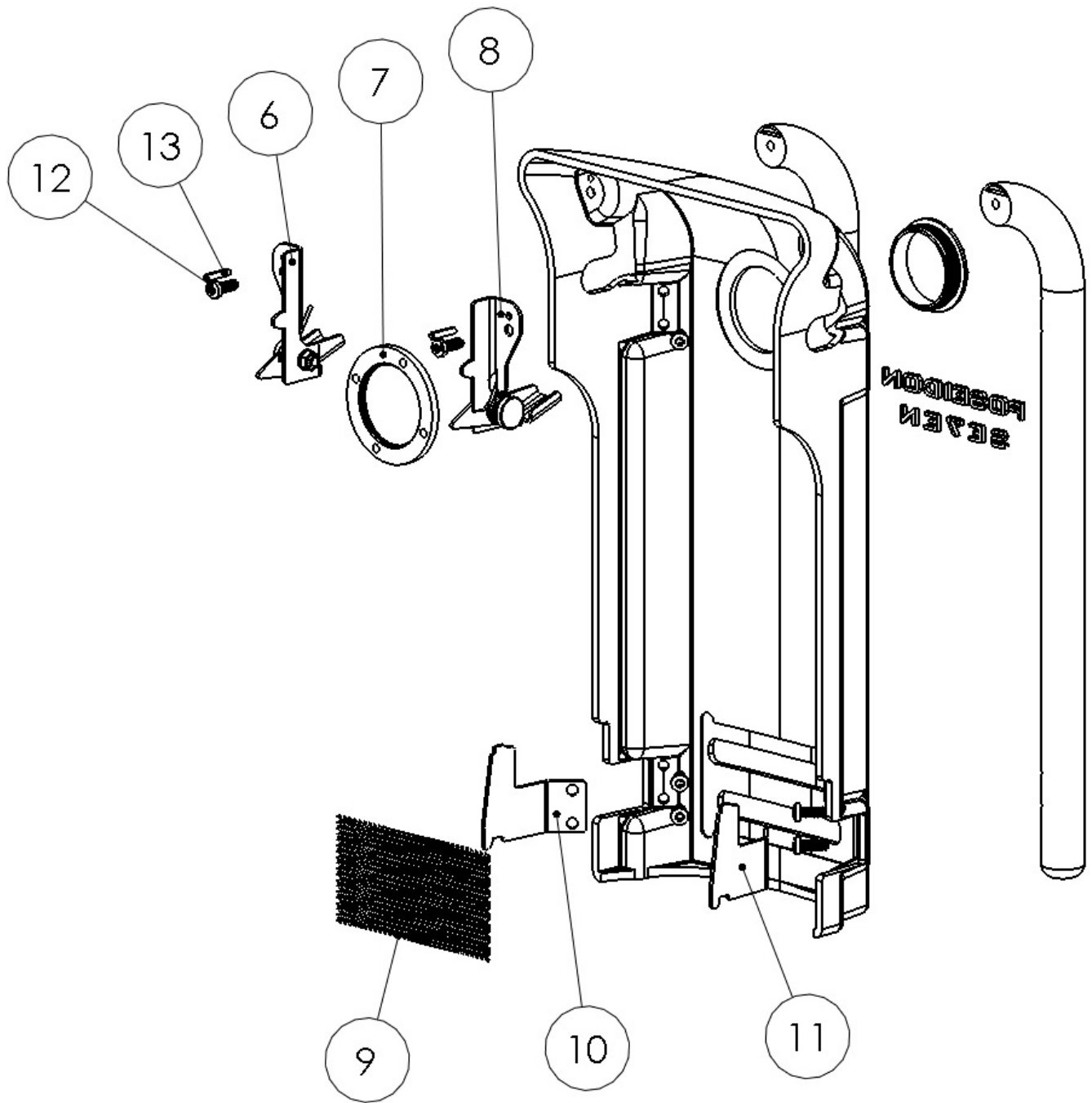
0000-040 SE7EN Cover complete - SE7EN - Outside



Item	Part No	Description	Nmbr
1	0000-035	Seven cover	1
2	0000-051	Window frame	1
3	0000-050	Seven letters	1
4	0000-038	Seven tube right	1
5	0000-037	Seven tube left	1

17. Parts lists

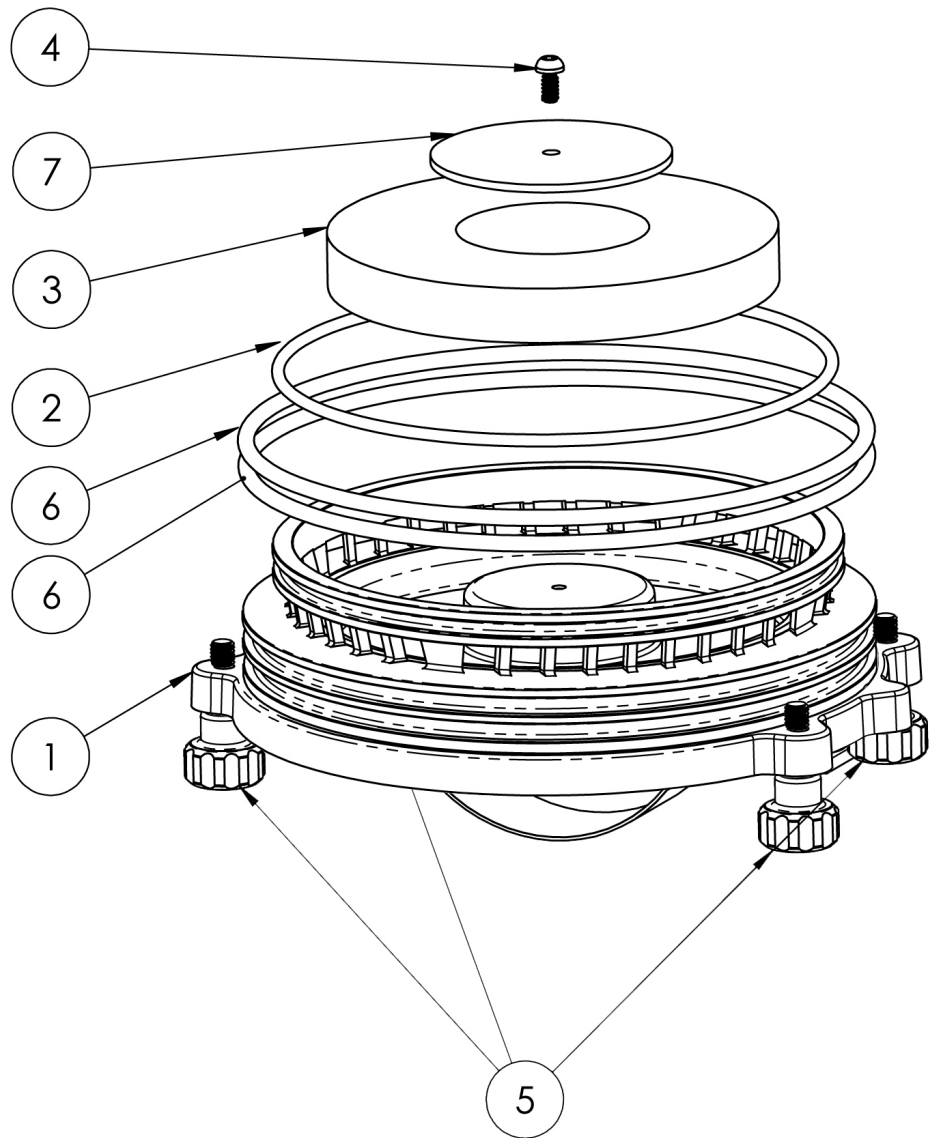
0000-040 SE7EN Cover complete - SE7EN - Inside



Item	Part No	Description	Nmbr
6	0000-070	Locking device right	1
7	0000-052	Window counter nut	1
8	0000-071	Locking device left	1
9	0000-036	Mesh plate	1
10	0000-032	Hook plate right	1
11	0000-031	Hook plate left	1
12	0001-650	MRT-TT M6-16H A4	8
13	0000-041	Tension pin 4x20 A4	2

17. Parts lists

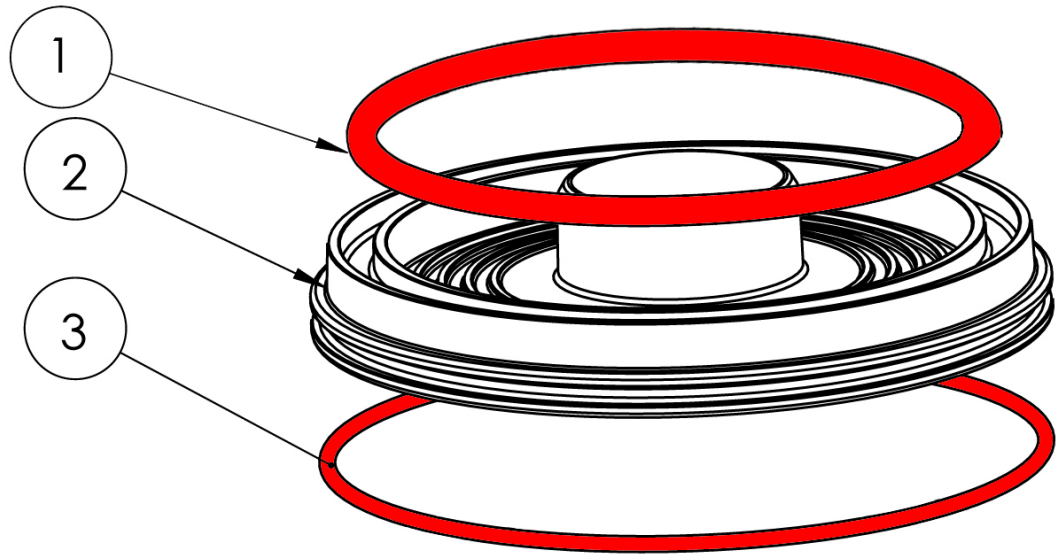
6011-011 Molprod Bottom - MkVI & SE7EN



Item	Part No	Description	Nmbr
1	6010-214	Can bottom	1
2	0014-293	O-ring	1
3	6010-236	Sponge	1
4	0310-108	Screw Delta PT 40x8	1
5	6010-176	Screw foot	4
6	0015-533	O-ring	2
7	6010-264	Sponge washer	1

17. Parts lists

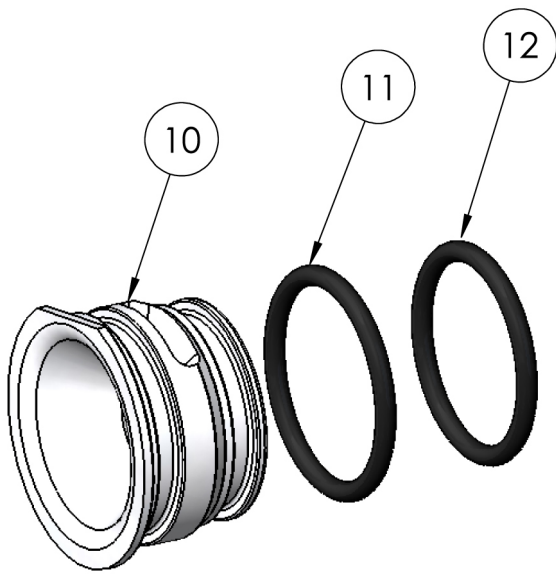
6011-012 Molprod Top - MkVI & SE7EN



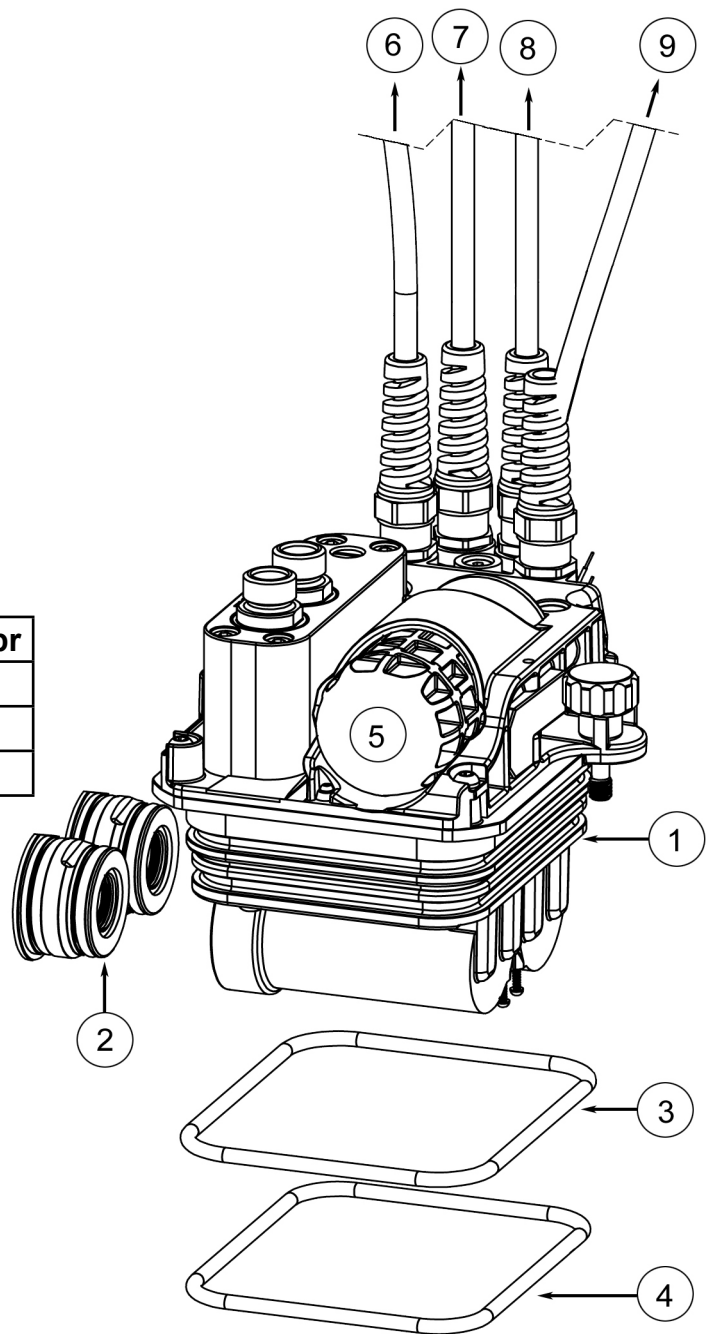
Item	Part No	Description	Nmbr
1	6010-236	Sponge	1
2	0014-292	O-ring	1
3	6010-215	Can top	1
4	0014-293	O-ring	1

17. Parts lists

6010-039 O2 Sensor base Complete & 6010-047 Electronics module MkVI



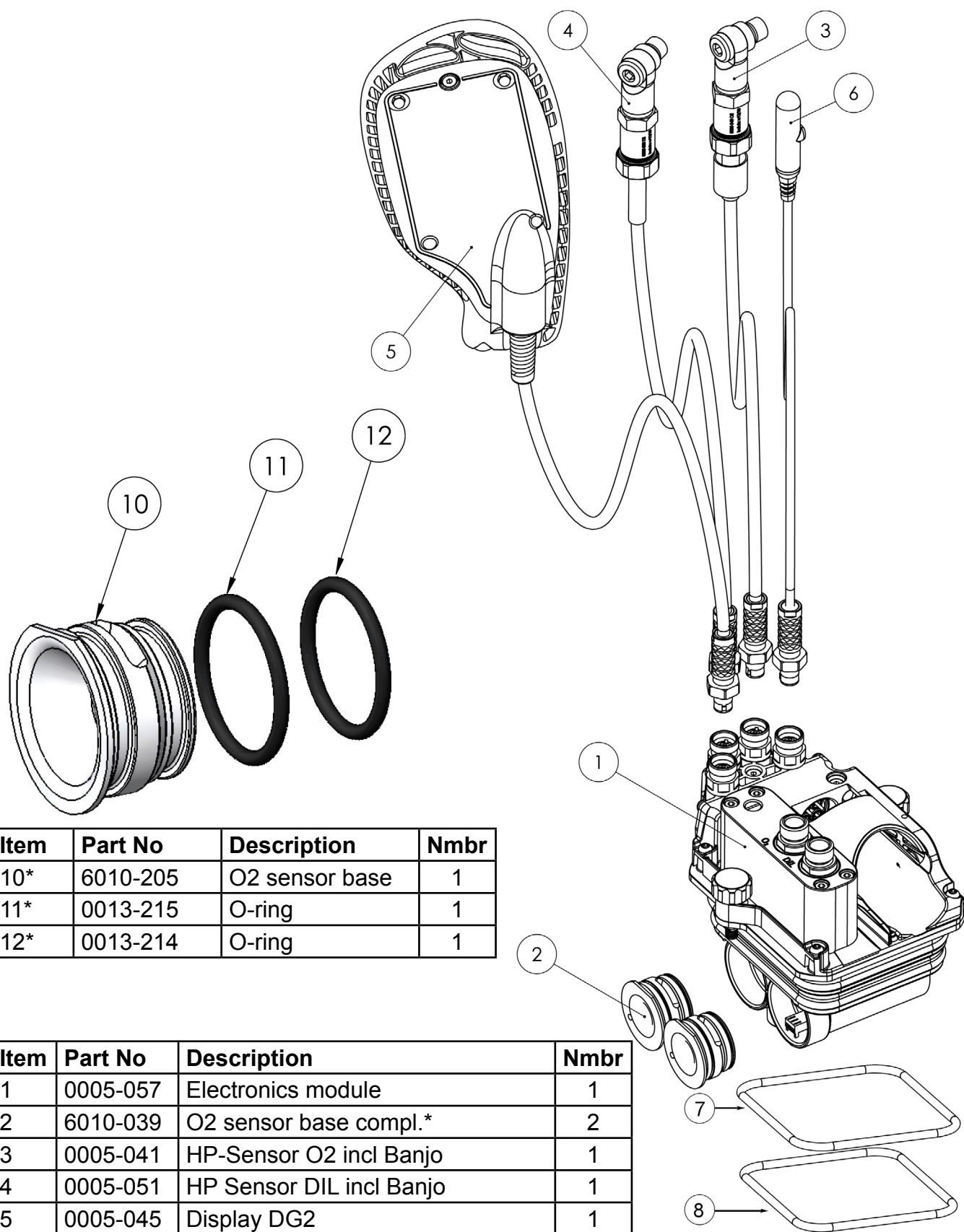
Item	Part No	Description	Nmbr
10	6010-205	O2 sensor base	1
11	0013-215	O-ring	1
12	0013-214	O-ring	1



Item	Part No	Description	Nmbr
1	6010-036	Electronica module	1
2	6010-039	2 sensor base compl.	2
3	0015-467	O-ring	1
4	0015-461	O-ring	1
5		Battery pack*	1
6		To the Display	1
7		To the HP sensor w. banjo Dil	1
8		To the HP sensor w. banjo O2	1
9		To the HUD	1

17. Parts lists

0005-058 Electronics module SE7EN



Item	Part No	Description	Nmbr
10*	6010-205	O2 sensor base	1
11*	0013-215	O-ring	1
12*	0013-214	O-ring	1

Item	Part No	Description	Nmbr
1	0005-057	Electronics module	1
2	6010-039	O2 sensor base compl.*	2
3	0005-041	HP-Sensor O2 incl Banjo	1
4	0005-051	HP Sensor DIL incl Banjo	1
5	0005-045	Display DG2	1
6	0005-030	CHUD G2	1
7	0015-467	O-ring	1
8	0015-461	O-ring	1

Revision: 2.7 Date: 14-11-13 Approved by: JN

17. Parts lists

Battery pack and 6011-015 Battery charger - MkVI & SE7EN

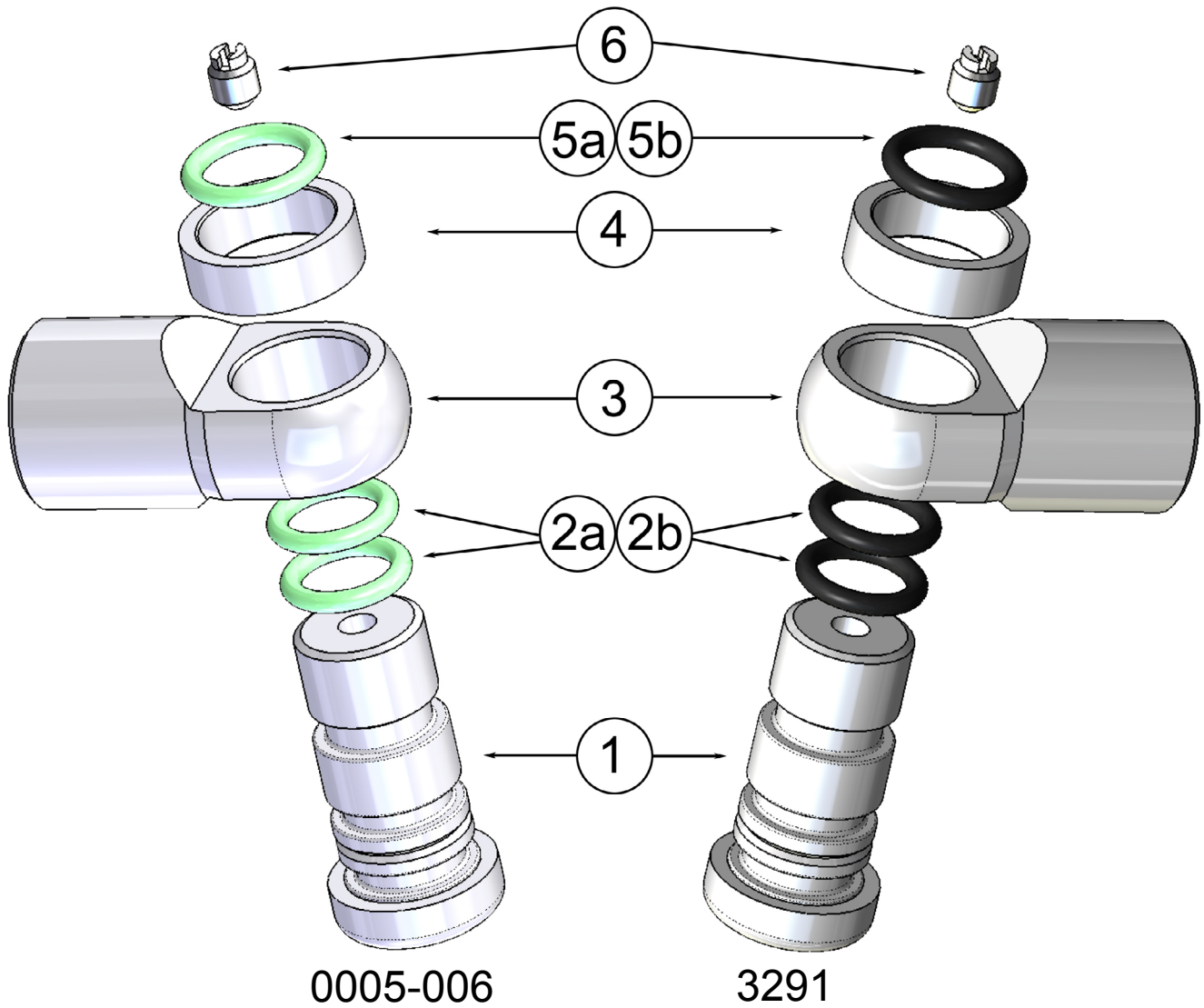
Part No	Description
6011-005	Battery Module 40m Recreation - GREEN
6011-027	Battery Module 40m DECO - YELLOW
6011-028	Battery Module 48m TRIMIX - BLUE
6011-029	Battery Module 60m TRIMIX - WHITE
6011-036	Battery Module DEEP - BLACK



Item	Part No	Description	Nmbr
1		Battery Module	1
2	6011-015	Battery charger	1
	6010-290	Power adapter 12V	1
	6010-291	Power adapter 4-plug KIT	1
3	0013-038	O-ring	1

17. Parts lists

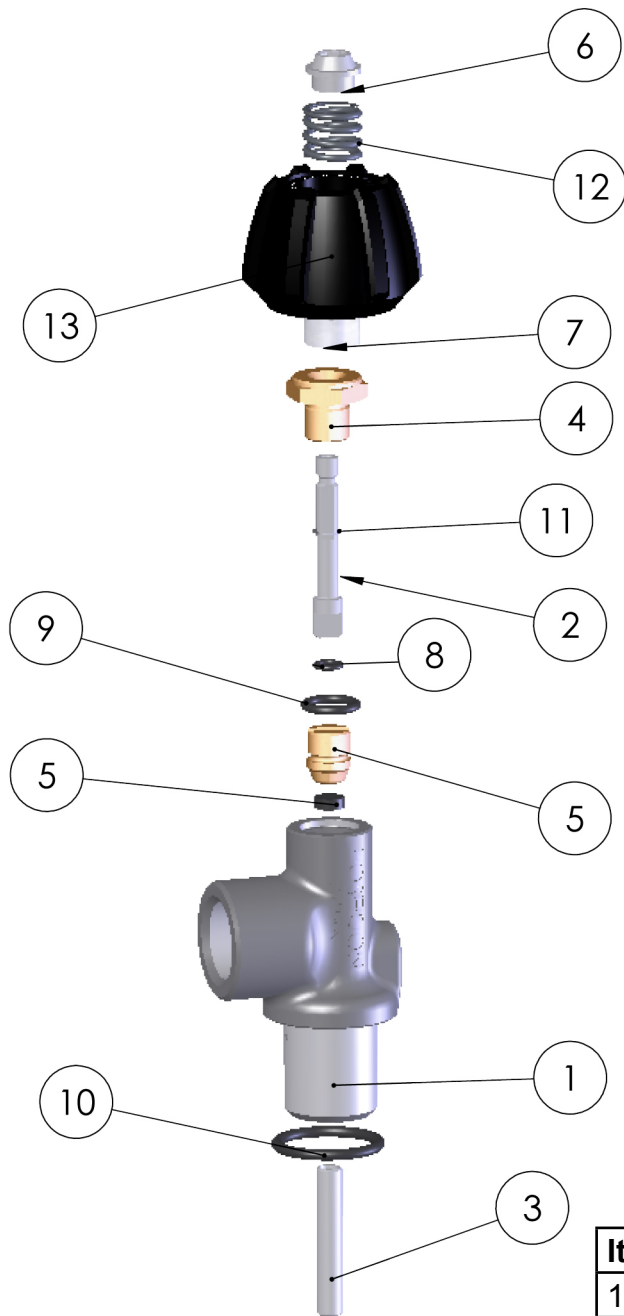
0005-006 Banjo 90 HP O2 and 3291 Banjo 90 HP



Item	Part No	Description	Nmbr
1	3292	Banjo screw	1
2a	0011-276	O-ring Viton (-)	2
2b	0010-353	O-ring	2
3	3293	Banjo house	1
4	3294	Spacer	1
5a	0011-277	O-ring Viton (2918 59)	1
5b	0010-354	O-ring (2918)	1
6	1095	Strangle screw	1

17. Parts lists

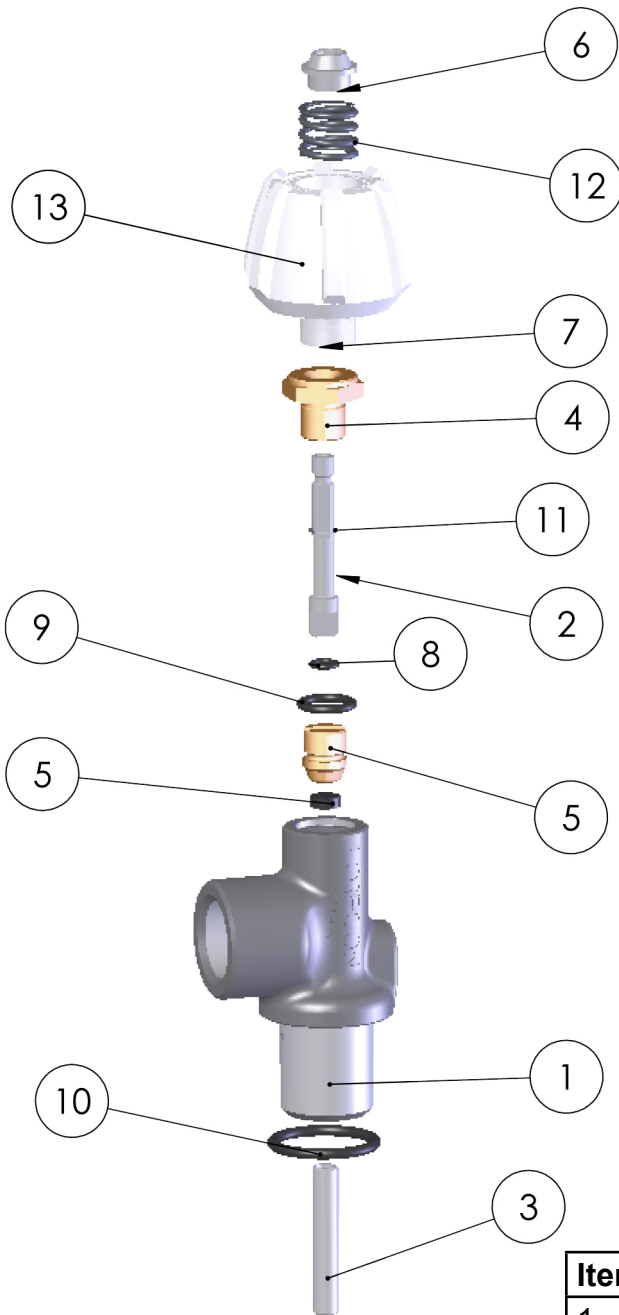
0410-100 Diluent valve - 200 bar



Item	Part No	Description	Nmbr
1	6010-263	Tank valve housing	1
2	2572	Valve spindle	1
3	3063	Water protection pipe	1
4	2569	Sealing nut	1
5	1037	Valve cone	1
6	1002	Spring nut	1
7	2597	Washer	1
8	0010-006	O-ring	1
9	0012-028	O-ring	1
10	0015-627	O-ring	1
11	1006	Gasket	1
12	4414	Spring	1
13	4416-BK	Tank handle	1

17. Parts lists

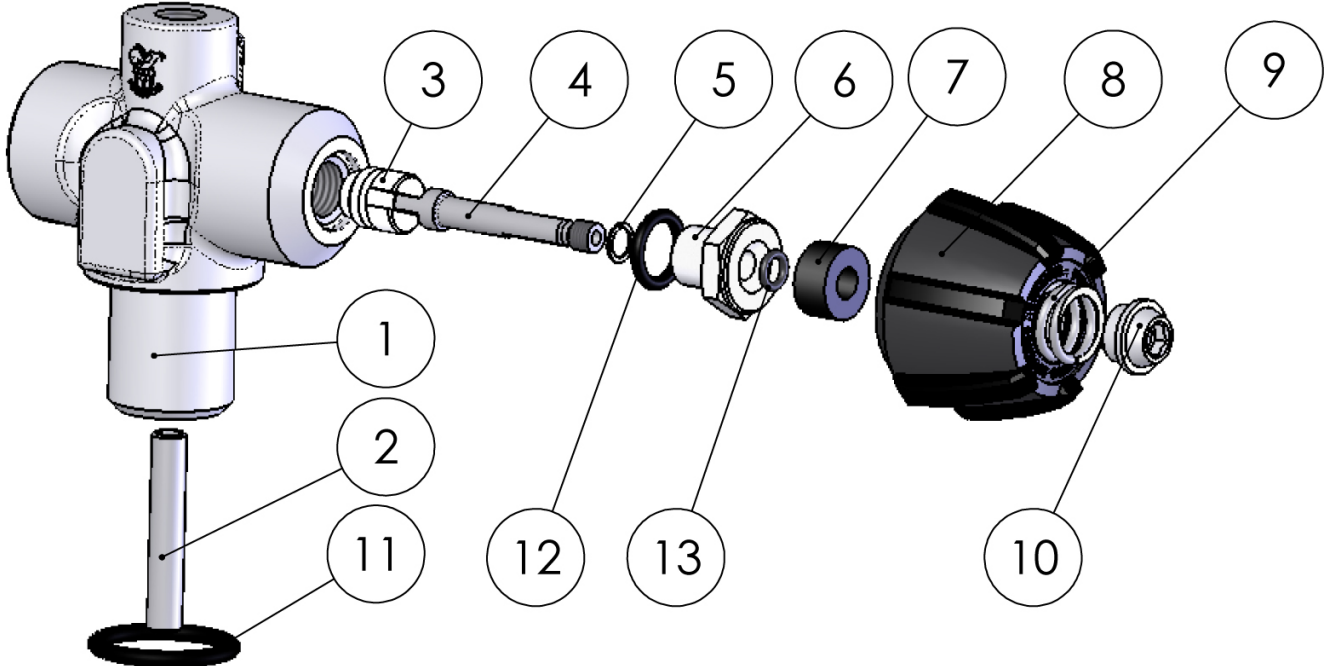
0410-101 Oxygen valve - 200 bar



Item	Part No	Description	Nmbr
1	6010-263	Tank valve housing	1
2	2572	Valve spindle	1
3	3063	Water protection pipe	1
4	2569	Sealing nut	1
5	1037	Valve cone	1
6	1002	Spring nut	1
7	2597	Washer	1
8	0011-003	O-ring viton	1
9	0011-037	O-ring viton	1
10	0016-382	O-ring viton	1
11	1006	Gasket	1
12	4414	Spring	1
13	4416-WE	Tank handle	1

17. parts lists

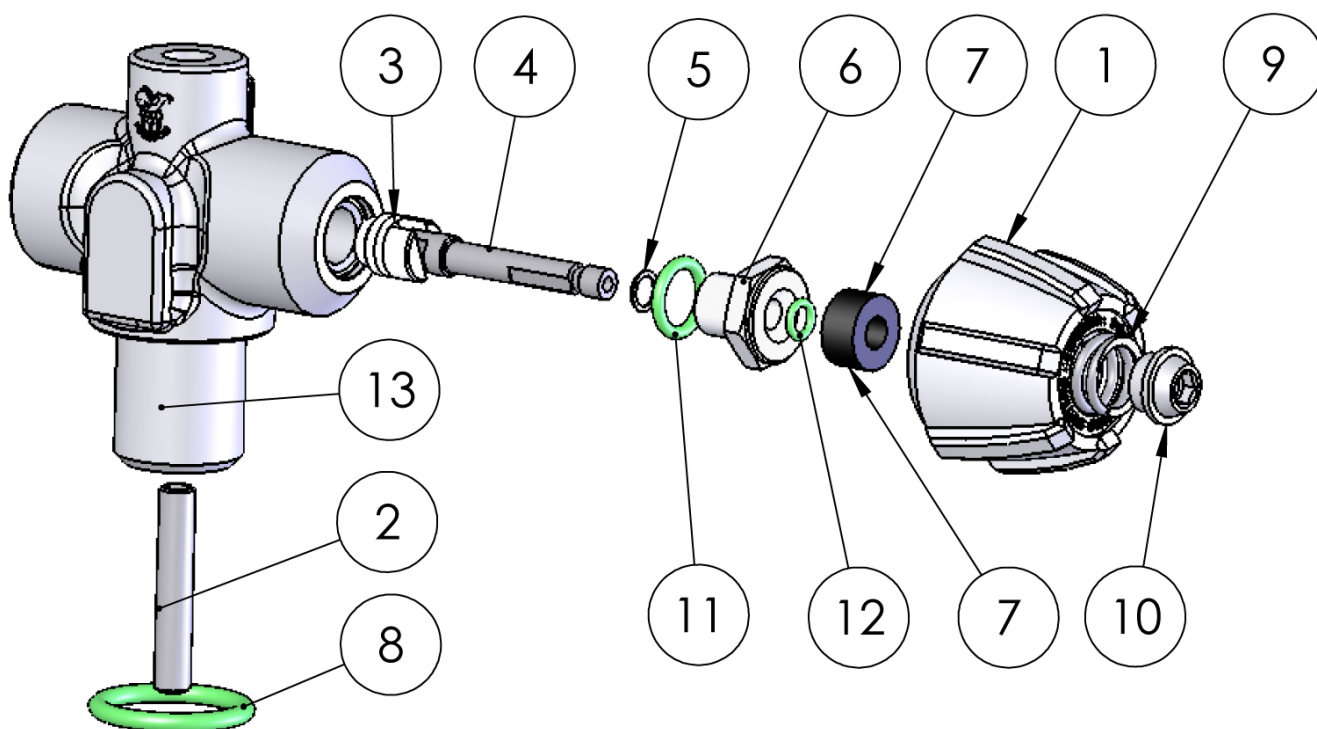
0410-155 Cylinder valve G5/8" single 90 - 200 bar



Item	Part No	Description	Nmbr
1	0000-643	Valve housing	1
2	3063	Water protection pipe	1
3	1037	Valve cone	1
4	2572	Spindle	1
5	1006	Gasket	1
6	2569	Sealing nut	1
7	2597	Spacer	1
8	4416	MPV Wheel, black	1
9	4414	MPV Spring	1
10	1002	Spring nut	1
11	0010-112	O-ring	1
12	0010-052	O-ring	1
13	0010-006	O-ring	1

13. Valves

0410-156 Cylinder valve M26 single 90 - 200 bar O2



Item	Part No	Description	Nmbr
1	4416-WE	MPV Wheel, White	1
2	3063	Water protection pipe	1
3	1037	Valve cone	1
4	2572	Spindle	1
5	1006	Gasket	1
6	2569	Sealing nut	1
7	2597	Spacer	1
8	0016-382	O-ring, Viton	1
9	4414	MPV Spring	1
10	1002	Spring nut	1
11	0011-037	O-ring, viton	1
12	0011-003	O-ring, viton	1
13	0000-644	Valve housing 90 M26	1

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