

**C E** 0474  
EN 250



**EROGATORI**

**SEAC SUB**

**REGULATORS**

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join in the passion

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## SEAC SUB REGULATORS

### INSTRUCTION MANUAL

#### WARNING

**Read this manual carefully before using this equipment!**

**The illustrations contained in this manual are for illustration use only and should not be regarded as a guide to dismantling or repairing your regulator.**

**Your regulator should only be serviced, repaired or dismantled by an authorised service agent.**

This is not a Diving Manual. Before using the regulator or any other SCUBA diving equipment, you should obtain training and certification from a certified diving instructor.

The use of a diving equipment by a non certified diver is dangerous and can lead to serious accidents or death.

This diving regulator has been certified according to the CEN Standard EN 250 which provides a long series of functional tests up to a maximum depth of 50 Mt. and at a temperature of 4° Celsius.

This diving regulator has been designed to be used with normal atmospheric air complying with the specifications of the CEN Standard EN 132. Do not use this or any other SEAC SUB product with other gases or oxygen enriched air mixtures (usually known as NITROX).

Failure to follow this recommendation could cause a serious accident or death, due to fire or explosions, or seriously damage your equipment.

If you have no experience in the use of this equipment we suggest that you familiarise yourself with its functions through training dives at shallow depth and in favourable conditions. Alternatively ask for a refresher course from a certified diving instructor.

This SEAC SUB regulator has been designed and manufactured to provide you with reliable performance over a long period of time.

**Improper use and maintenance of your regulator could seriously impair its performance.**

SEAC SUB will not accept any responsibility with respect to any problem due to failure to follow the recommendations provided by this manual.

In case of any problem please contact an authorised SEAC SUB dealer or in case of difficulty contact SEAC SUB. Note: All service or maintenance of your regulator should be performed by a SEAC SUB authorised service center.

SEAC SUB regulators have been developed via a research program conducted in close cooperation with professional divers. The innovative design will give you good performance and reliability over a large number of dives whilst allowing for cost effective maintenance.

#### SORIUS 1000 REGULATOR - FIRST STAGE

The SEAC SUB SORIUS 1000 1st stage entry model, benefits from its lightness and ease of maintenance. Its performance, (although not as high as other SEAC SUB first stages) surpasses the existing standard specifications and allows you to perform and enjoy any sports dive.

It's working concept is based on a piston sliding in a turned bore, manufactured from a single block brass body which is protected by three layers of electro-galvanic metal coating having a thickness of 12 to 15 microns (copper 7 micron, nickel 5 micron, chrome 1 micron). The internal component parts are in chrome/nickel coated brass, the springs in stainless steel and the seals are made of nitril rubber.

Four low pressure ports, provided with 3/8" thread, supply an intermediate pressure of about 10.2 bars; the high pressure port is provided with a 7/16" thread and a flow reduction hole of 0.20 mm diam. This high pressure port is used to connect a diving pressure gauge by means of a hose provided with a 7/16" male connection.

## **WARNING**

**Use only standardised thread pressure gauge. Do not use any type of adapter between the 1st stage and the high pressure hose connection.**

The SORIOUS 1000 regulator is designed with a 300 bars working pressure. When it is used with pressures over 200 bars it is advisable to use the optional threaded DIN connection to the tank valve instead of the standard INT. yoke connection.

### **SORIOUS AND SORIOUS ADJ REGULATORS FIRST STAGE**

This first stage combines very high performance with an extremely compact and functional shape.

The SORIOUS is a balanced diaphragm regulator which gives you an intermediate pressure which is always constant regardless of tank pressure or depth.

The diaphragm completely separates the "heart" of the regulator from the external environment and provides high reliability over a large number of dives.

It is manufactured from a single block brass body which is copper, nickel and chrome coated. The internal component parts are in chrome/nickel coated brass, the springs in stainless steel and the seals are made in nitril rubbers.

Four low pressure ports, with 3/8" thread, supply a constant intermediate pressure of 9.8 bars; the high pressure port has a 7/16" thread and a flow reduction hole of 0.20 mm diam. These high pressure ports are used to connect a diving pressure gauge by means of a hose provided with a 7/16" male connection.

## **WARNING**

**Use only standardised thread pressure gauge. Do not use any type of adapter between the 1st stage and the high pressure hose connection.**

The SORIOUS regulator is designed with a 300 bars working pressure. When it is used with pressures over 200 bars it is advisable to use the optional threaded DIN connection to the

tank valve instead of the standard INT. yoke connection.

### **SORIOUS and SORIOUS 1000 REGULATORS - 2nd STAGE**

The main body is made from synthetic resin which is highly resistant to impacts, abrasions, ultraviolet rays and chemical agents. Incorporating silicone membranes and valve seat with internal component parts in chrome plated brass and stainless steel. The mouth-piece is manufactured from medical grade silicone rubber.

The second stage is a "downstream" type valve with an air flow channel exploiting a "Venturi effect". The result is an air flow delivery which is perfectly controlled by the diver's breathing action. Note: a normal breathing action produces a light air flow while a higher breathing action, (due to heavy work or deep diving), produces a high air flow which is supported by the Venturi effect.

This system allows for low consumption of air by reducing air waste as it is designed to perfectly fit the divers air demand.

The "downstream" valve also provides maximum safety as it is also able to work in case of 1st stage overpressure, by releasing the excessive pressure, and allowing the diver to breathe.

The low pressure hose is of the standard type (length mm 760 - thread 3/8").

### **OCTOPUS SORIOUS**

## **WARNING**

**Always check that the first stage to which the SORIOUS OCTO is connected is a SEAC SUB product; if it is not so, verify that the intermediate pressure set is comprised between 9 and 10.5 bars.**

**Failure to respect this recommendation may impair the 2nd stage performance and cause serious accidents.**

The main body is made from synthetic resin

which is highly resistant to impacts, abrasions, ultraviolet rays and chemical agents. Incorporating silicone membranes and valve seat with internal component parts in chrome plated brass and stainless steel. The mouth-piece is manufactured from medical grade silicone rubber.

The second stage is a "downstream" type valve with an air flow channel exploiting a "Venturi effect". The result is an air flow delivery which is perfectly controlled by the diver's breathing action. Note: a normal breathing action produces a light air flow while a higher breathing action, (due to heavy work or deep diving), produces a high air flow which is supported by the Venturi effect.

This system allows for low consumption of air by reducing air waste as it is designed to perfectly fit the divers air demand.

The "downstream" valve also provides maximum safety as it is also able to work in case of 1st stage overpressure, by releasing the excessive pressure, and allowing the diver to breathe.

The low pressure hose is of the standard type (length mm 1000 - thread 3/8").

#### SORIUS ADJ REGULATOR - 2nd STAGE

The main body is made from synthetic resin which is highly resistant to impacts, abrasions, ultraviolet rays and chemical agents. Incorporating silicone membranes and valve seat with internal component parts in chrome plated brass and stainless steel. The mouth-piece is manufactured from medical grade silicone rubber.

The second stage is a "downstream" type valve with an air flow channel exploiting a "Venturi effect". The result is an air flow delivery which is perfectly controlled by the diver's breathing action. Note: a normal breathing action produces a light air flow while a higher breathing action, (due to heavy work or deep diving), produces a high air flow which is supported by the Venturi effect.

This system allows for low consumption of air by reducing air waste as it is designed to perfectly fit the divers air demand.

The "downstream" valve also provides maximum safety as it is also able to work in case of 1st stage overpressure, by releasing the excessive pressure, and allowing the diver to breathe.

By rotation of the external "pre dive" control knob it is possible to adjust the "Venturi effect" and therefore the air flow. A complete clockwise rotation causes a higher breathing effort (position "pre-dive"); a complete counterclockwise rotation correspond to a lower breathing (position "dive"). It is recommended to rotate the external knob to the "pre-dive" position to reduce the risk of uncontrolled air discharge when the regulator is in pressure but not in use.

#### **WARNING**

**It is advisable to rotate the external knob to the "pre-dive" position when the regulator is not in use or during your pre-dive intervals at the water surface, and to rotate the knob to the "dive" position before you commence your breathing activity and descend.**

The low pressure hose is of the standard type (length mm 760 - thread 3/8").

#### **BEFORE EACH DIVE**

Your regulator should always be protected while carrying it. Avoid heavy contact with your weight belt or other sharp or heavy objects.

To correctly connect the regulator to the tank valve we recommend the following procedure:

- Check the O-Ring on the tank valve as it must be in good condition. It is advisable to always have a spare O-Ring available for replacement purposes in the event of the fitted O-Ring showing any signs of wear I/e cuts, abrasions or porosity.

- Open the tank valve in order to remove any foreign matter from the nozzle.

- Remove the dust cap from the yoke and check the filter of your regulator.

- Place the 1st stage on the valve and firmly tighten the yoke screw, ensuring that the positioning of the first stage allows the correct alignment of the second stage, octopus and other

accessory hoses. Ensure that the second stage and octopus are pointing down and away from yourself and anybody standing close by, checking that the second stage hose goes towards right (exhalation outlets of the second stage positioned downward). Open your tank valve slowly to avoid a sudden and strong flow of air into the regulator.

**Be sure that the tank valve is completely open before starting the dive.**

-Press the purge button two or three times to remove any dust or foreign matter that may have accumulated in the second stage. Then check the operation of your second stage by breathing through it.

- On entering the water when the regulator is not in your mouth it is advisable to fill it with water to reduce the risk of sudden discharge of air. This is done by gently shaking and rotating the second stage while it is submerged.

- When using a second regulator or octopus, it is advisable to fit a mouthpiece cover/retainer/plug. This should prevent foreign matter from entering the regulator and reduce the risk of uncontrolled air discharge. This accessory is available from you dealer.

**AFTER EACH DIVE - PERIODICAL MAINTENANCE**

Even though your regulator is manufactured with high quality materials specifically tested in sea water it is necessary to apply care to avoid corrosion and deposits due to salt water. We have listed below step by step instruction

for the care of your regulator after diving.

-As soon as the tank is on the boat or you have left the water, close the tank valve, release the air left into the regulator by depressing the second stage purge button and disconnect the regulator by releasing the yoke screw.

-Lay down the tank to avoid it falling and damaging equipment or injuring people.

-Clean and dry the 1st stage filter and its seat using a light compressed air blow.

-Repeat the same operation on the filter dust cover, place it on the filter and tighten the yoke screw.

-As soon as possible, carefully rinse each part of the regulator with fresh water. During this operation do not remove the dust cover from the filter of the 1st stage and in order to avoid water penetration inside the regulator do not depress the second stage purge button.

-If you are not going to use the regulator for a few weeks attach the regulator to a tank and, by depressing the purge button on the second stage, let the air flow for ten seconds. This will eject any water thereby helping to eliminate problems of deposit and bad odour.

-Let the regulator dry avoiding direct sun light and dust, hanging it from the yoke in order to avoid bending occurring in the low pressure hose.

-At the end of EVERY season, or in any case after a long period of storage, it is advisable to have the regulator inspected and serviced by a certified service centre. We suggest that you contact an authorised SEAC SUB dealer who will be happy to arrange for the maintenance of your regulator.



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**PARTI DI RICAMBIO**

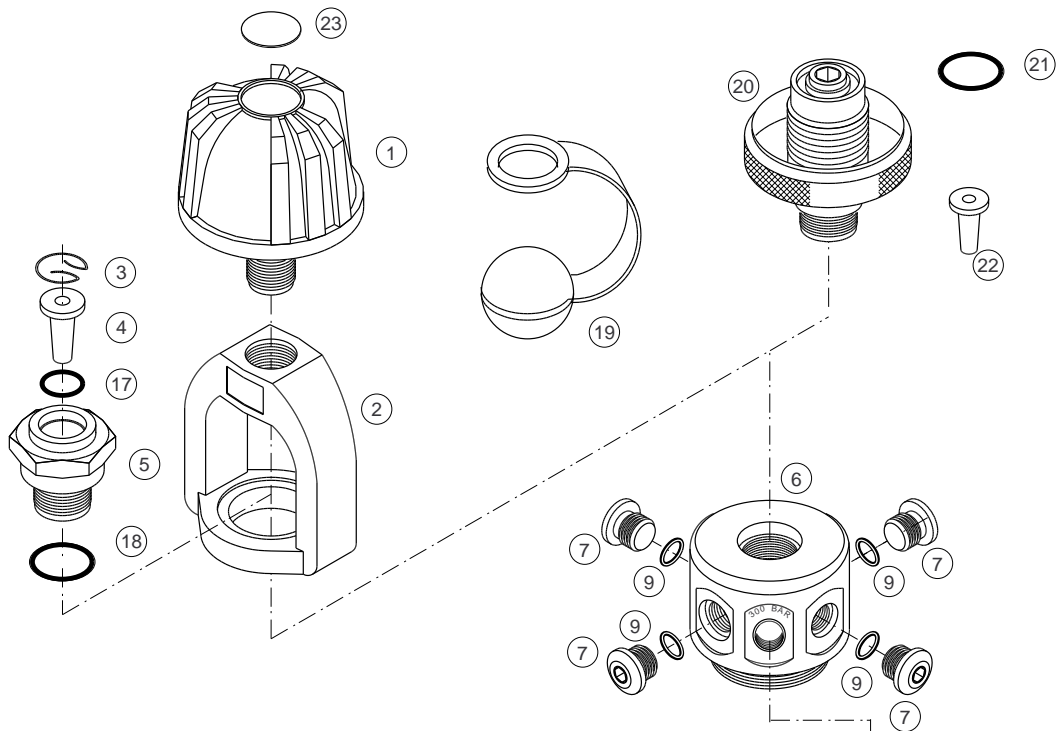
**SPARE PARTS**

**COMPOSANTS**

**REPUESTOS**

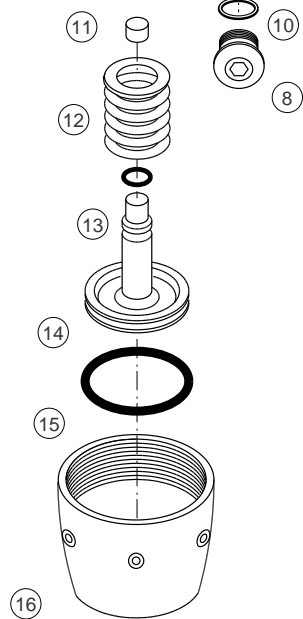
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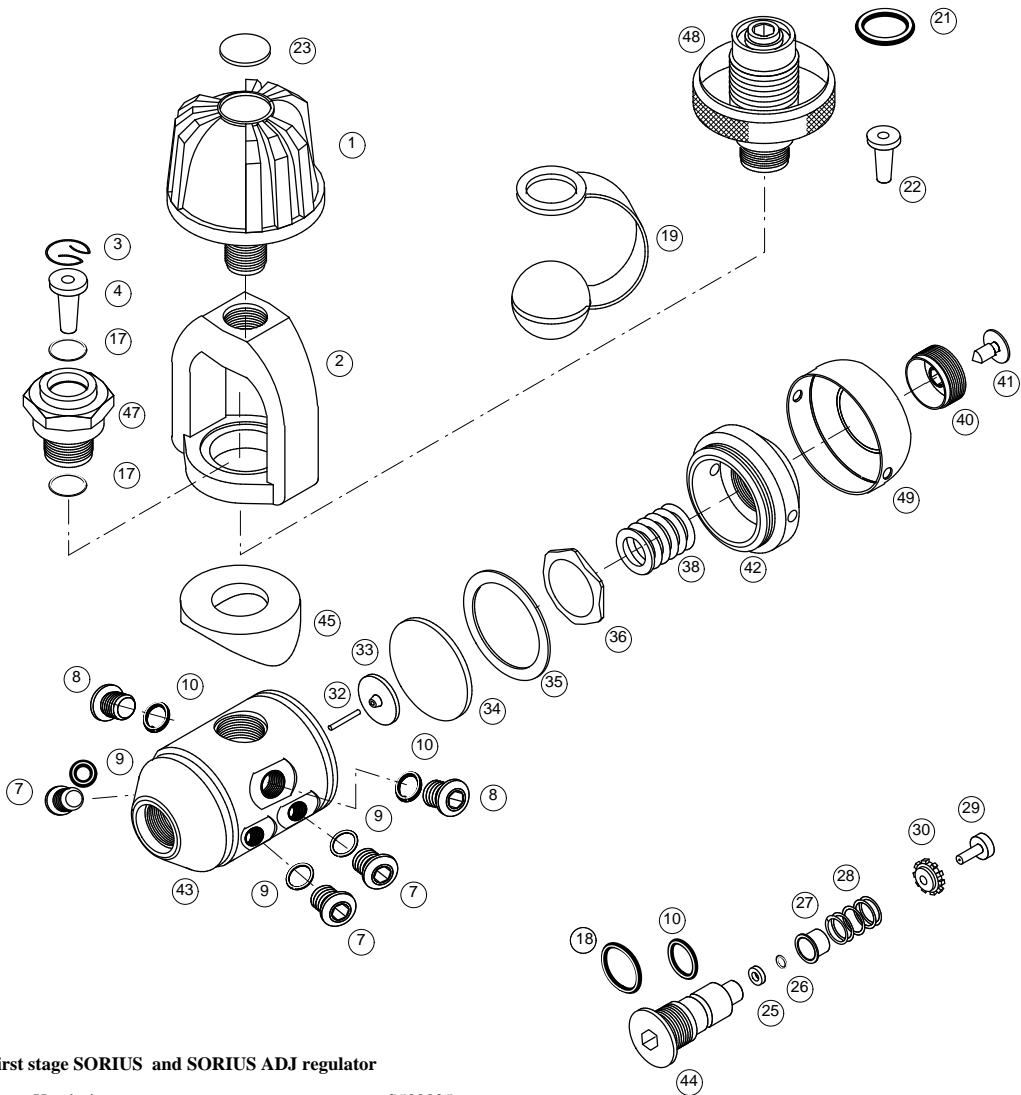
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**First stage SORIUS 1000 regulator**

|                                 |         |
|---------------------------------|---------|
| 1) Handgrip                     | S500025 |
| 2) Yoke                         | S500028 |
| 3) Snap ring                    | S500029 |
| 4) Cone-shaped filter           | S500030 |
| 5) SORIUS 1000 yoke nut         | S500031 |
| 6) First stage SORIUS 1000 body | S710009 |
| 7) LP port plug                 | S500042 |
| 8) HP port plug                 | S500054 |
| 9) O-Ring 2031                  | S101017 |
| 10) O-Ring 108                  | S510022 |
| 11) Piston seat                 | S540005 |
| 12) SORIUS 1000 main spring     | S540006 |
| 13) O-Ring 2018                 | S540007 |
| 14) SORIUS 1000 piston          | S540008 |
| 15) O-Ring 2100                 | S540009 |
| 16) SORIUS 1000 cap             | S710008 |
| 17) O-Ring 2037                 | S510021 |
| 18) O-Ring 2056                 | S101024 |
| 19) Dust cap                    | S500024 |
| 20) SORIUS 1000 Kit DIN 200 bar | S500056 |
| 21) O-Ring 115                  | S101023 |
| 22) DIN cone-shaped filter      | S500051 |
| 23) Handgrip label              | S500027 |

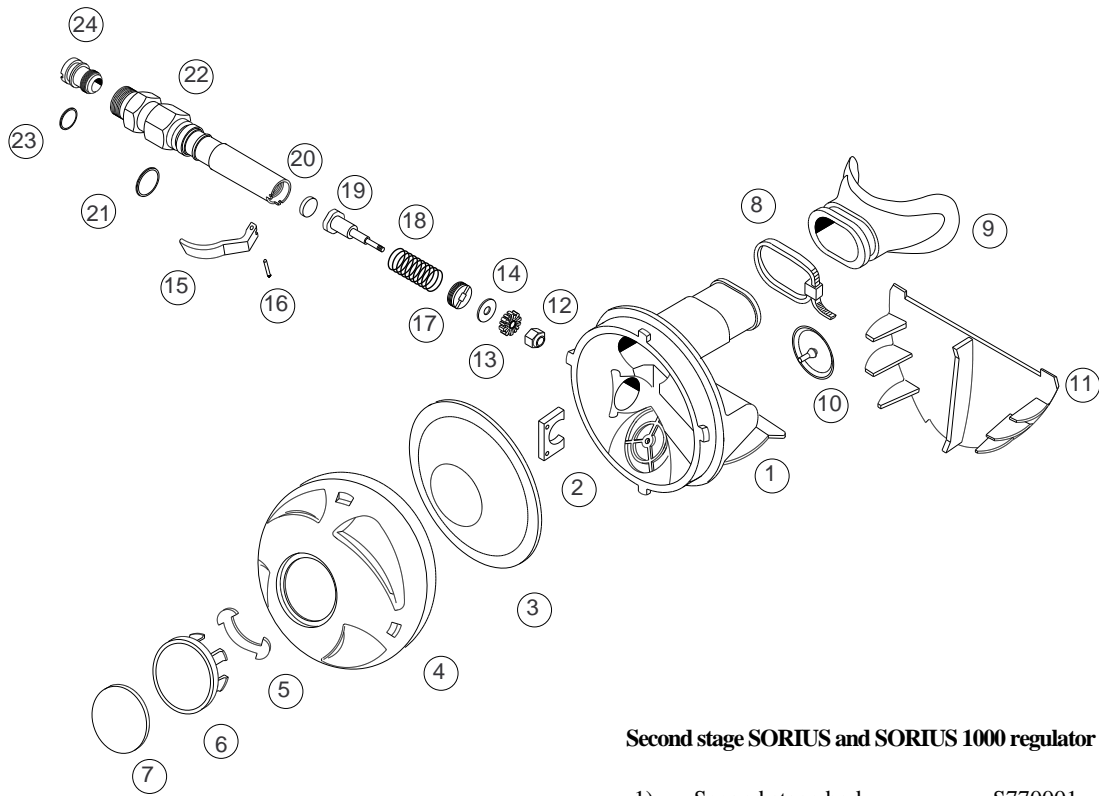




**First stage SORIUS and SORIUS ADJ regulator**

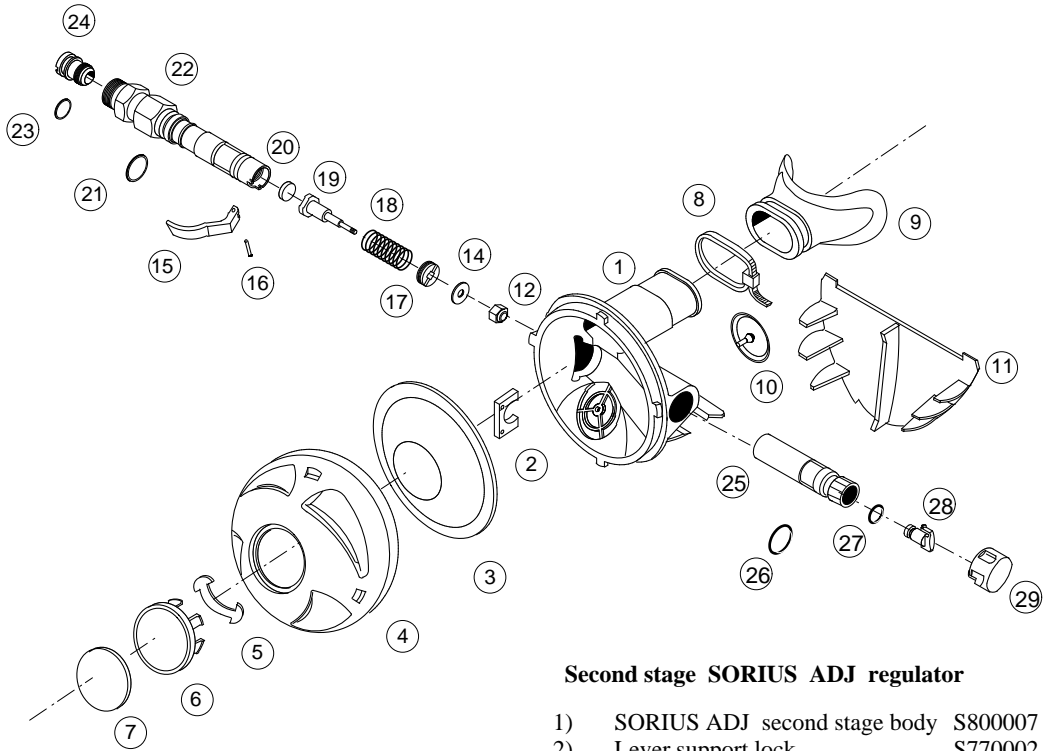
|     |                           |           |     |                                     |         |
|-----|---------------------------|-----------|-----|-------------------------------------|---------|
| 1)  | Handgrip                  | S500025   |     |                                     |         |
| 2)  | Yoke                      | S500028   |     |                                     |         |
| 3)  | Snap ring                 | S500029   |     |                                     |         |
| 4)  | Cone-shaped filter        | S500030   |     |                                     |         |
| 7)  | LP port plug              | S500042   |     |                                     |         |
| 8)  | HP port plug              | S500054   |     |                                     |         |
| 9)  | O-Ring 2031               | S101017   |     |                                     |         |
| 10) | O-Ring 108                | S510022   |     |                                     |         |
| 17) | O-Ring 2037               | S510021   |     |                                     |         |
| 18) | O-Ring 2056               | S101024   |     |                                     |         |
| 19) | Dust cap                  | S500024   |     |                                     |         |
| 21) | O-Ring 115                | S101023   |     |                                     |         |
| 22) | DIN cone-shaped filter    | S500051   |     |                                     |         |
| 23) | Handgrip label            | S500027   |     |                                     |         |
| 25) | Antiextruder ring BK 2012 | S500034   |     |                                     |         |
| 26) | O-Ring 2012               | S150004   |     |                                     |         |
| 27) | O-Ring lock bush          | S500035   |     |                                     |         |
| 28) | Return spring             | S500036   |     |                                     |         |
| 29) | Small balancing piston    | S500037   |     |                                     |         |
| 30) | Small piston bush         | S500037/B |     |                                     |         |
| 32) | Slide stem                | S500038/B |     |                                     |         |
| 33) | Slide stem seat           | S500038   |     |                                     |         |
|     |                           |           | 34) | First stage diaphragm               | S500039 |
|     |                           |           | 35) | Diaphragm retainer ring             | S500040 |
|     |                           |           | 36) | Spring nut plate                    | S500041 |
|     |                           |           | 38) | Setting spring                      | S500044 |
|     |                           |           | 40) | Pressure adjusting ring             | S500046 |
|     |                           |           | 41) | Seal                                | S720004 |
|     |                           |           | 42) | SORIUS/SORIUS ADJ cap               | S730004 |
|     |                           |           | 43) | First stage SORIUS/SORIUS ADJ body  | S730008 |
|     |                           |           | 44) | SORIUS/SORIUS ADJ balancing chamber | S730005 |
|     |                           |           | 45) | Saddle                              | S510018 |
|     |                           |           | 47) | SORIUS/SORIUS ADJ yoke nut          | S510014 |
|     |                           |           | 48) | SORIUS/SORIUS ADJ Kit DIN 200 bar   | S510034 |
|     |                           |           |     | SORIUS/SORIUS ADJ Kit DIN 300 bar   | S510035 |
|     |                           |           | 49) | First stage SORIUS/SORIUS ADJ ring  | S730003 |





**Second stage SORIUS and SORIUS 1000 regulator**

|     |                          |          |
|-----|--------------------------|----------|
| 1)  | Second stage body        | S770001  |
| 2)  | Lever support lock       | S770002  |
| 3)  | Second stage diaphragm   | S770003  |
| 4)  | Cover SORIUS             | S770004N |
| 4)  | Cover SORIUS 1000        | S760002  |
| 5)  | Purge button flat spring | S770005  |
| 6)  | Purge button             | S770006  |
| 7)  | Label                    | S770007  |
| 8)  | Mouthpiece strap         | S500023  |
| 9)  | Mouthpiece               | 236      |
| 10) | Exhaust valve            | S500009  |
| 11) | Exhaust tee              | S770008  |
| 12) | Elastic stop nut         | S500019  |
| 13) | Adjusting ring           | S770009  |
| 14) | Washer                   | S770010  |
| 15) | Lever                    | S770011  |
| 16) | Lever pin                | S770012  |
| 17) | Spring retainer ring     | S770013  |
| 18) | Stem spring              | S500018  |
| 19) | Demand valve stem        | S770014  |
| 20) | Stem seat                | S500017  |
| 21) | O-Ring 2043              | S101030  |
| 22) | Lever support            | S770015  |
| 23) | O-Ring 2025              | S500021  |
| 24) | Orifice                  | S500016  |



**Second stage SORIUS ADJ regulator**

- |     |                              |         |
|-----|------------------------------|---------|
| 1)  | SORIUS ADJ second stage body | S800007 |
| 2)  | Lever support lock           | S770002 |
| 3)  | Second stage diaphragm       | S770003 |
| 4)  | SORIUS ADJ cover             | S800002 |
| 5)  | Purge button flat spring     | S770005 |
| 6)  | Purge button                 | S770006 |
| 7)  | Label                        | S770007 |
| 8)  | Mouthpiece strap             | S500023 |
| 9)  | Mouthpiece                   | 236     |
| 10) | Exhaust valve                | S500009 |
| 11) | Exhaust tee                  | S770008 |
| 12) | Elastic stop nut             | S500019 |
| 14) | Washer                       | S770010 |
| 15) | Lever                        | S770011 |
| 16) | Lever pin                    | S770012 |
| 17) | Spring retainer ring         | S770013 |
| 18) | Stem spring                  | S500018 |
| 19) | Demand valve stem            | S770014 |
| 20) | Stem seat                    | S500017 |
| 21) | O - Ring 2043                | S101030 |
| 22) | SORIUS ADJ Lever support     | S800008 |
| 23) | O - Ring 2025                | S500021 |
| 24) | Orifice                      | S500016 |
| 25) | Flow baffle                  | S800005 |
| 26) | O - Ring 2050                | S800003 |
| 27) | O - Ring 2021                | S800004 |
| 28) | Flow baffle plug             | S800006 |
| 29) | Flow baffle knob             | S800009 |