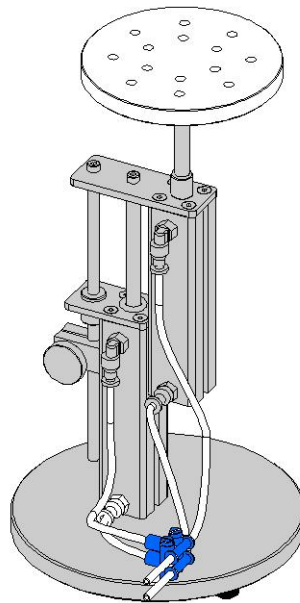


Hardware User's Manual

Atlantis automatic island

Water maze



References:

LE820300 (76-0026)

Publication:

PB-MF-MAN-012-REV1.0

Limitation of Liability








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Some symbols may have more than one interpretation by professionals unaccustomed to their usage.

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1. SYMBOLS TABLE

Recognising the symbols used in the manual will help to understand their meaning:

DESCRIPTION	SYMBOL
Warning about operations that must not be done because they can damage the equipment	
Warning about operations that must be done, otherwise the user can be exposed to a hazard.	
Protection terminal ground connection.	
Warning about a hot surface which temperature may exceed 65°C	
Warning about a metal surface that can supply electrical shock when it's touched.	
Decontamination of equipments prior to disposal at the end of their operative life	
Waste Electrical and Electronic Equipment Directive (WEEE)	

2. GOOD LABORATORY PRACTICE

Check all units periodically and after periods of storage to ensure they are still fit for purpose. Investigate all failures which may indicate a need for service or repair.

Good laboratory practice recommends that the unit be periodically serviced to ensure the unit is suitable for purpose. You must follow preventive maintenance instructions. In case equipment has to be serviced you can arrange this through your distributor. Prior to Inspection, Servicing, Repair or Return of Laboratory Equipment the unit must be cleaned and decontaminated.

Decontamination prior to equipment disposal



In use this product may have been in contact with bio hazardous materials and might therefore carry infectious material. Before disposal the unit and accessories should all be thoroughly decontaminated according to your local environmental safety laws.

3. UNPACKING AND EQUIPMENT INSTALLATION



WARNING: Failure to follow the instructions in this section may cause equipment faults or injury to the user.


- A. No special equipment is required for lifting but you should consult your local regulations for safe handling and lifting of the equipment.
- B. Inspect the instrument for any signs of damage caused during transit. If any damage is discovered, do not use the instrument and report the problem to your supplier.
- C. Ensure all transport locks are removed before use. The original packing has been especially designed to protect the instrument during transportation. It is therefore recommended to keep the original carton with its foam parts and accessories box for re-use in case of future shipments. Warranty claims are void if improper packing results in damage during transport.
- D. Place the equipment on a flat surface and leave at least 10 cm of free space between the rear panel of the device and the wall. Never place the equipment in zones with vibration or direct sunlight.
- E. Once the equipment is installed in the final place, the main power switch must be easily accessible.
- F. Only use power cords that have been supplied with the equipment. In case that you have to replace them, the spare ones must have the same specs that the original ones.



- G. Make sure that the AC voltage in the electrical network is the same as the voltage selected in the equipment. **Never connect the equipment to a power outlet with voltage outside these limits.**



WARNING

For electrical safety reasons you only can connect equipment to power outlets provided with earth connections .

This equipment can be used in installations with category II over-voltage according to the General Safety Rules.

The manufacturer accepts no responsibility for improper use of the equipment or the consequences of use other than that for which it has been designed.

PC Control



Some of these instruments are designed to be controlled from a PC. To preserve the integrity of the equipment it is essential that the attached PC itself conforms to basic safety and EMC standards and is set up in accordance with the manufacturers' instructions. If in doubt consult the information that came with your PC. In common with all computer operation the following safety precautions are advised.

- WARNING**
- To reduce the chance of eye strain, set up the PC display with the correct viewing position, free from glare and with appropriate brightness and contrast settings
 - To reduce the chance of physical strain, set up the PC display, keyboard and mouse with correct ergonomic positioning, according to your local safety guidelines.

4. MAINTENANCE



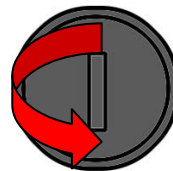
WARNING: Failure to follow the instructions in this section may cause equipment fault.

- **PRESS KEYS SOFTLY** – Lightly pressing the keys is sufficient to activate them.
- Equipments do not require being disinfected, but cleaned for removing urine, faeces and odour. To do so, we recommend using a wet cloth or paper with soap (which has no strong odour). **NEVER USE ABRASIVE PRODUCTS OR DISSOLVENTS.**
- **NEVER** pour water or liquids on the equipment.
- Once you have finished using the equipment turn it off with the main switch. Clean and check the equipment so that it is in optimal condition for its next use.
- The user is only authorised to replace fuses with the specified type when necessary.

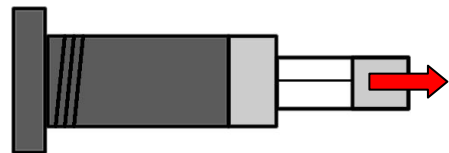
FUSE REPLACEMENT

In case that the equipment does not turn on when you turn the main switch on, you should change the faulty fuse by one of the same specifications (see chapter 13)

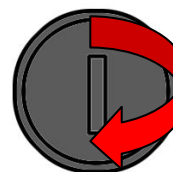
- 1 With the help of a flat screw driver, unscrew the fuse lid



- 2 Once the lid is free extract it from the fuse holder and remove the faulty fuse by pulling from it.



- 3 Place the new fuse in the fuse lid
- 4 Screw again the fuse lid in the fuse holder



- 5 If the fuses blow again, unplug the equipment and contact technical service.

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6. INTRODUCTION

The LE820300 Atlantis automatic island/platform is an accessory of the Panlab circular pools that is mainly used in a variant of the Water Maze test. This platform is activated pneumatically through a compressor supplied with the platform; the air flow of this compressor determines the rising speed of the platform.

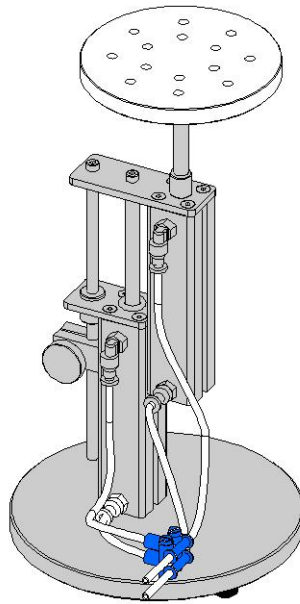


Figure 1. Atlantis Automatic Island

The control of the Atlantis can be achieved manually or through the SMART video tracking software.



WARNING: For memory studies in the water maze test, the water is usually white coloured. You must not use latex or any other products that can damage either the Atlantis mechanism or the Swimming Pool Control. These damages would not covered by the warranty.

7. EQUIPMENT DESCRIPTION

7.1. COMPRESSOR

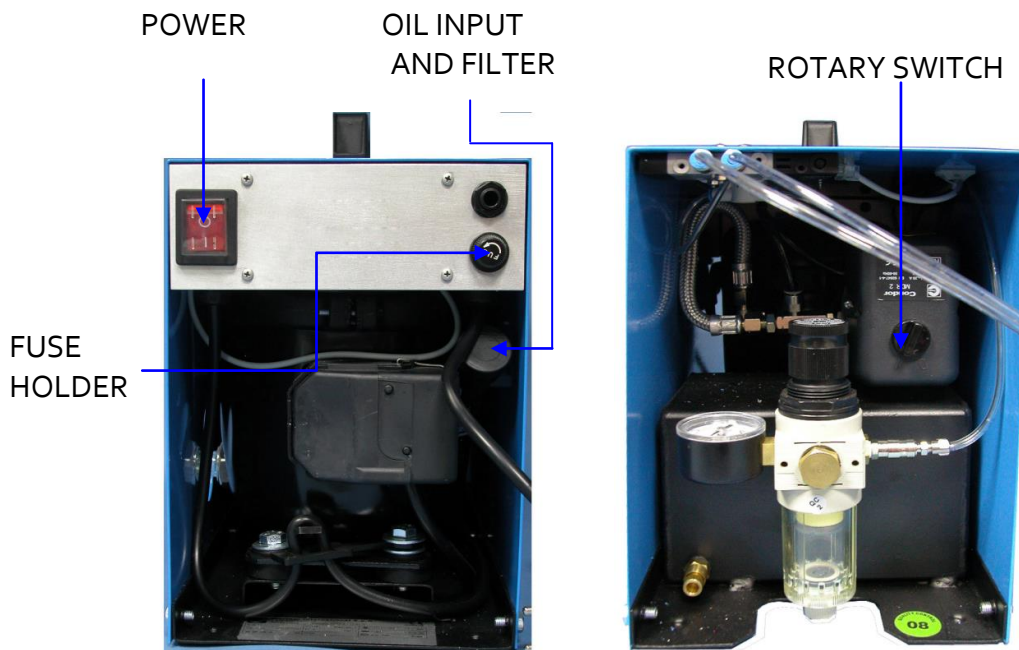


Figure 2. Compressor front and rear panel

- **POWER:** Switch to power on and off the equipment.
- **OIL INPUT AND FILTER:** Used to fill the compressor's oil tank.
- **ROTARY SWITCH:** Switch that enables or disables the air flow

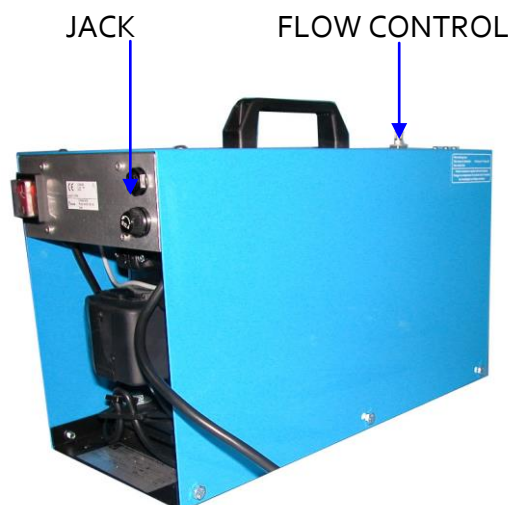


Figure 3. Compressor side view

- **JACK:** Female 6.3mm jack connector used to connect the push button box or the **SMART** cable depending of the control mode.
- **FLOW CONTROL:** It regulates the air flow and in consequence controls the rising speed of the platform.
- **FUSE HOLDER:** Contains a fuse that protects either the compressor or the switch mode power supply.

7.2. ATLANTIS ISLAND

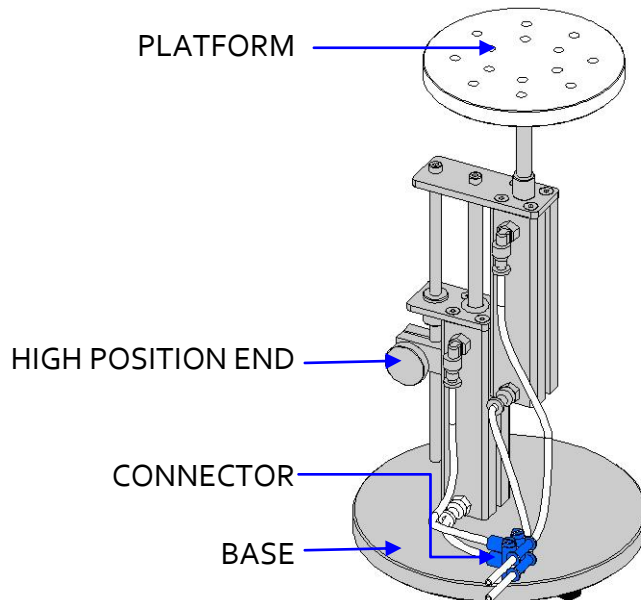


Figure 4. Atlantis Island.

- **PLATFORM:** Plastic circular platform that can be raised or hidden.
- **HIGH POSITION END:** It is used in order to regulate the highest position of the platform.
- **CONNECTOR:** Pneumatic connectors used to connect the **Atlantis** Island with the compressor.
- **BASE:** Base of the **Atlantis** Island.

8. CONNECTING THE EQUIPMENT

8.1. AIR CONNECTIONS

The required connections are described in Figure 5.

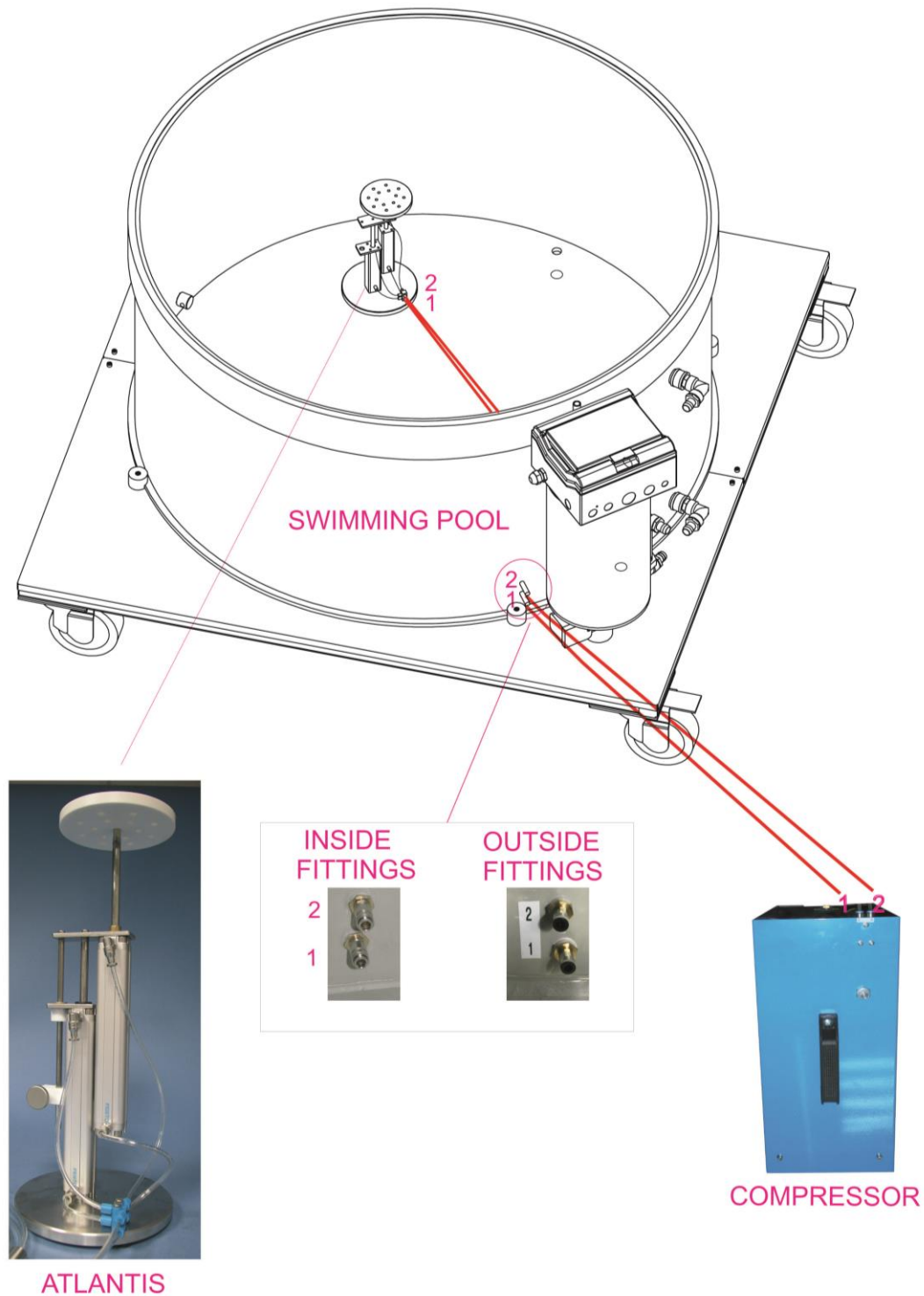


Figure 5. Assembly of the Atlantis to the swimming pool

In the following schematics the side of the swimming pool is bounded with dimensions bored and tapped to install the Input/Exit fittings for the flow of air coming from the compressor / Atlantis.

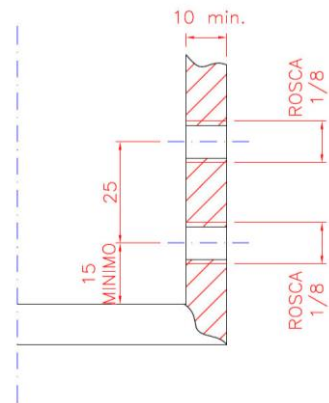


Figure 6. Air flow cylinders

8.2. ELECTRICAL CONNECTIONS

Depending on the working mode used, be it manual or automatic (**SMART** video tracking software), a different connection will be used for the **JACK (6)** connector.

8.2.1. MANUAL MODE

When working in this mode a button box will be available for connecting it to the **JACK (6)**. This button will activate the island whenever it is pressed only if the procedure explained in section 9.1 has been followed through.

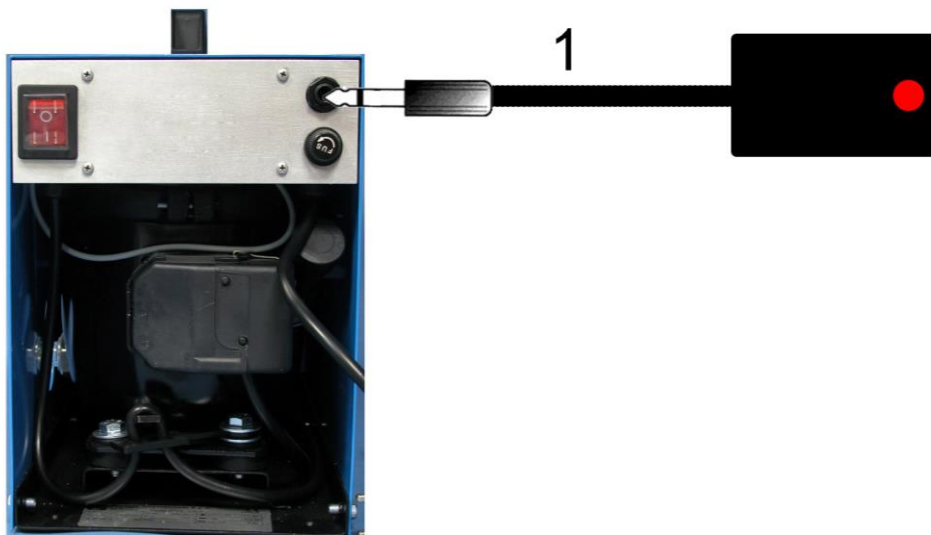


Figure 7. Connecting the button box to the jack connector.

8.2.2. AUTOMATIC MODE

Whenever the island is to be controlled through the SMART video tracking software, the SMART isolated RS232 output cable should be connected to the JACK (6) and the other end will be connected to computer serial port.

Whether the computer doesn't have any RS232 port, the USB to RS232 converter supplied with the system needs to be connected between the RS232 cable and the USB port of the computer (see the SMART user's manual for the installation of the drivers of the USB to converter).



Figure 8. Connecting the SMART cable to the jack connector.

9. WORKING WITH THE COMPRESSOR

9.1. REALISING AN EXPERIMENT

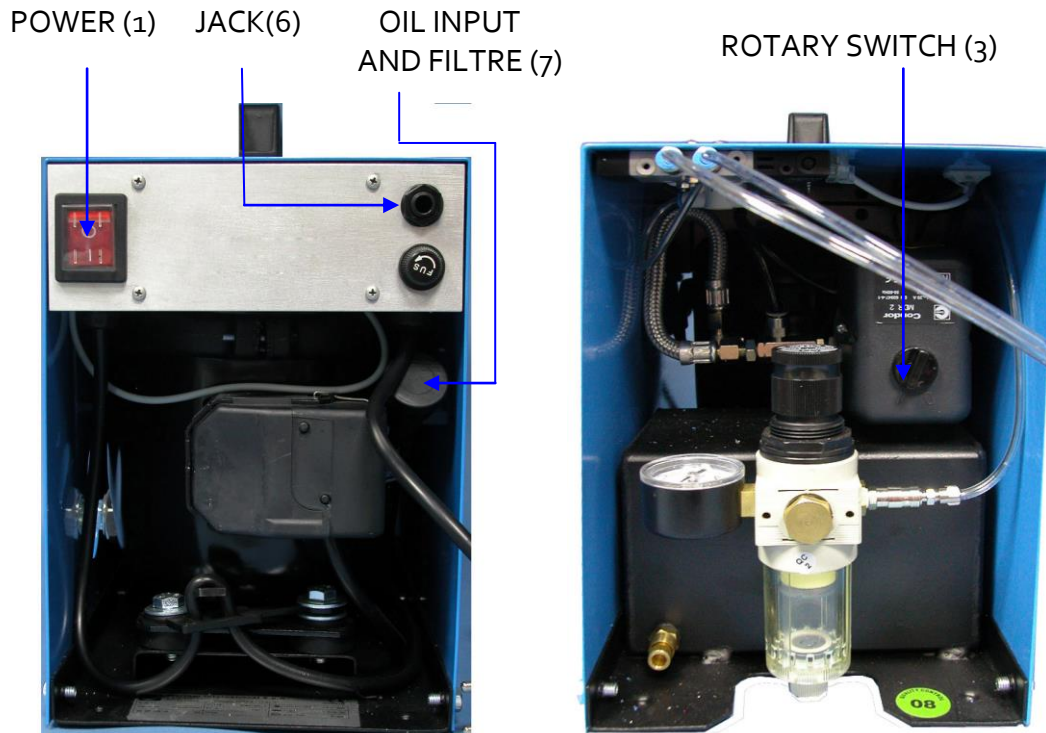


Figure 9. Compressor front and rear panel



WARNING: Before activating the compressor the oil tank should be filled, otherwise permanent damages could happen.

To activate the compressor turn on the **POWER (1)** switch and then set the **ROTARY SWITCH (3)** in the **I** position. Once the pressure reaches the selected value the compressor will stop, afterwards set the **rotary switch (3)** in the **o** position. Whenever the pressure decreases it must be set again to the **I** position.



WARNING: There will be enough pressure to work for some time, is not advisable to maintain continuously the **ROTARY SWITCH** in the **I** position, as it shortens the operative life of the compressor.

Once the experiment is finished turn off the compressor with the **POWER (1)** switch.

The rising speed of the island can be controlled with the **FLOW CONTROL (4)** key, the more flow you set the faster the island will move.

You can activate the island either manual control or SMART control. To activate island manually just connect the button box to the **JACK (6)**. If you want to use SMART

control then connect the isolated output cable to the **JACK (6)** and the other end of the cable to the computer COM port, or if it's not present to the USB/RS-232 converter supplied with the equipment.

9.2. SELECTING THE ISLAND IDLE POSITION

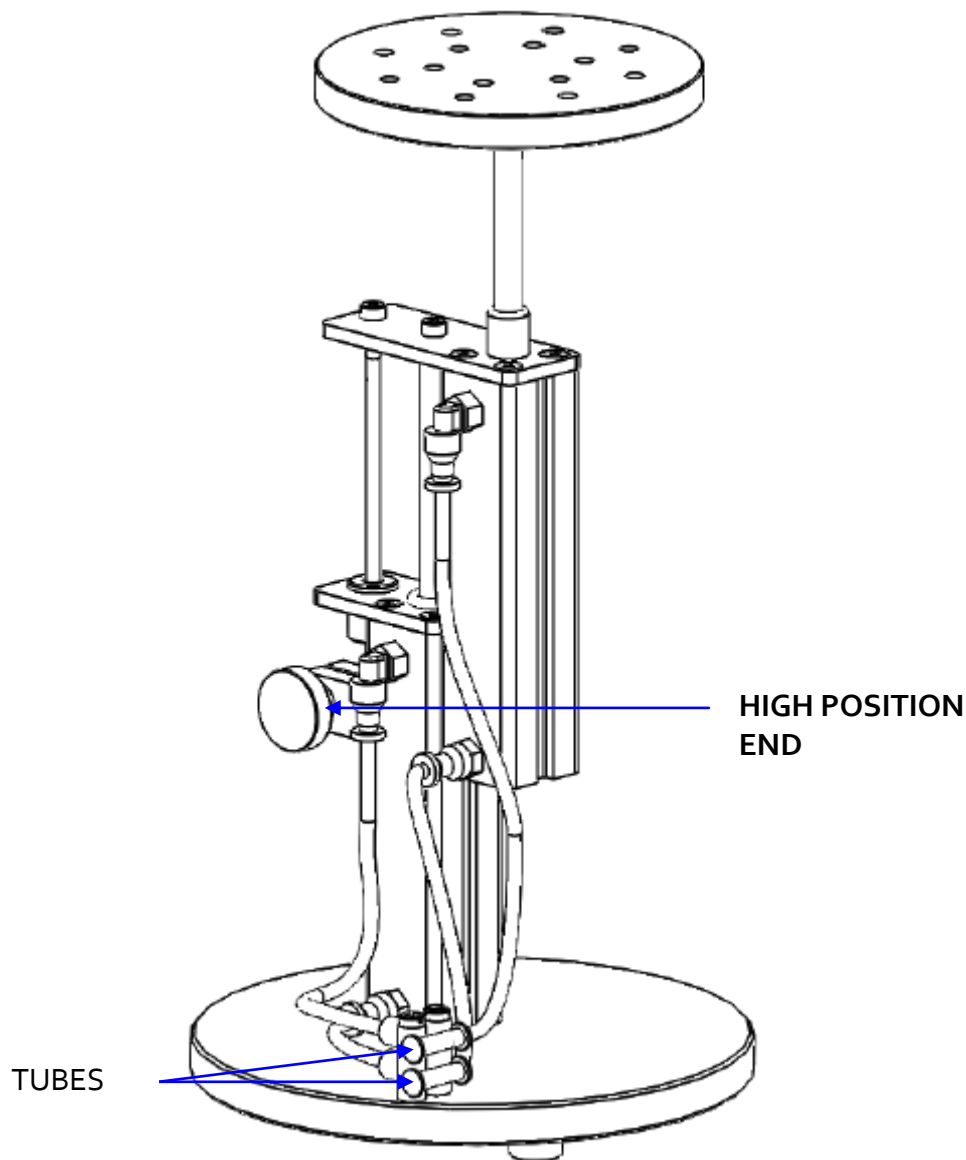


Figure 10. Atlantis tube connection

The idle state of the platform depends on how the air flow connections are made.

9.2.1. IDLE STATE IN THE LOWER POSITION:

To have the platform in the lower position when in idle state, the TUBE (2) has to be connected in the upper position of the connector and the TUBE(1) in the lower

position of the connector, so that when the electro-valve is activated (manually or through the SMART software) the platform moves up until it reaches the position previously set through the **HIGH POSITION END**. Once the electro-valve is off the platform will return to its idle low position.

9.2.2. IDLE STATE IN THE UPPER POSITION:

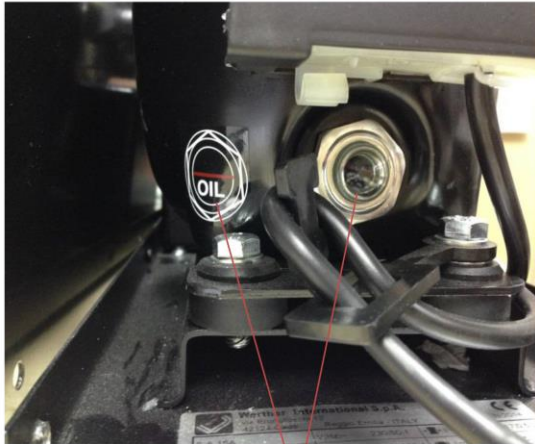
For changing the behaviour explained before, swap the tubes connections that go from the electro-valve to the platform. In other words connect the TUBE (2) in the lower position of the connector and TUBE (1) in the upper position of the connector. In this case when the electro-valve is activated the platform will go down and when it is turned off the platform will return to the upper position.

9.3. AFTER CONCLUDING AN EXPERIMENT

Once the experiment has finishes:

- Turn the compressor off.
- Remove the island out from the water without unplugging the pipes, otherwise the water will enter by the pipes to the compressor and will damage it.
- With a wet cloth clean the Island.
- Dry the Island with a dry cloth.

10. COMPRESSOR'S OIL TANK



Oil level



Once the compressor is in place, you must remove the cap and place the air input filter supplied with the equipment.

Oil cap. Before the compressor is turned on, you must fill the oil tank up to the level marked. The oil will be supplied with the equipment.



Figure 11. Compressor's oil tank.



WARNING: Don't forget to fill the oil tank before turning the compressor on by first time. Otherwise the compressor can be seriously damaged.

11. TROUBLESHOOTING

This table features instructions to solve the most frequent problems.

PROBLEM	SOLUTION
The equipment does not start up.	<ul style="list-style-type: none"> • Check the condition of the fuse.
There are bubbles in the swimming pool	<ul style="list-style-type: none"> • Check the state of the pipes inside the water • Check that the pipes inside the water fit correctly with the tube connectors.
When you activate manually the island it does not move	<ul style="list-style-type: none"> • Check that the switch is on. • Check that there is enough pressure in the compressor (see chapter 9.1). • Check that the push button is connected to the jack female connector. • Check that the pipes are correctly connected.
When you activate the island with Smart software it does not move	<ul style="list-style-type: none"> • Check that the switch is on. • Check that there is enough pressure in the compressor (see chapter 9.1). • Check that the Smart RS232 cable is connected to the jack female connector. • Check that Smart RS232 cable is connected to the computer COM port. • Check that the pipes are correctly connected. • If you use the USB to RS232 converter check that it is properly installed. • Check in the Smart software you have selected correctly the COM port.
The Island moves in the opposite direction.	<ul style="list-style-type: none"> • Read the chapter 9.2

12. PREVENTIVE MAINTENANCE

	EXPERIMENT	MONTHLY
CHECK OIL LEVEL		<input checked="" type="checkbox"/>
CHECK PNEUMATIC CONNECTIONS	<input checked="" type="checkbox"/>	
CLEAN AND DRY THE ISLAND WHEN THE EXPERIMENT IS ENDED	<input checked="" type="checkbox"/>	

13. TECHNICAL SPECIFICATIONS

POWER SUPPLY Input voltage: Frequency: Fuse: Maximum Power:	230 VAC 50 /60 Hz 1 fuse 5x20mm 8A 250V Fast <250W
ENVIRONMENTAL CONDITIONS Operating temperature: Operating Relative Humidity: Storage temperature:	10°C to +40°C 0% to 85% RH, non-condensing 0°C to +50°C, non-condensing
COMPRESSOR SPECIFICATIONS Voltage: Maximum Power: Maximum Pressure: Tank Volume: Noise: Size: Weight:	230V /50 Hz 0.19 KW – 1,4 A. 8 Bar, 116 Psi 6 l. 40 dB at 1 m 410x175x240 mm 17 Kg.
ISLAND SPECIFICATIONS Total size: Island Size: Island Min height: Island Max height: Max working pressure: Weight:	160x160x240 mm Ø-110x10 mm White 240 mm 540 mm 3 Bar 3 Kg

(GB) Note on environmental protection:



After the implementation of the European Directive 2002/96/EU in the national legal system, the following applies:

Electrical and electronic devices may not be disposed of with domestic waste. Consumers are obliged by law to return electrical and electronic devices at the end of their service lives to the public collecting points set up for this purpose or point of sale. Details to this are defined by the national law of the respective country. This symbol on the product, the instruction manual or the package indicates that a product is subject to these regulations. By recycling, reusing the materials or other forms of utilising old devices, you are making an important contribution to protecting our environment.

(E) Nota sobre la protección medioambiental:



Después de la puesta en marcha de la directiva Europea 2002/96/EU en el sistema legislativo nacional, Se aplicara lo siguiente:

Los aparatos eléctricos y electrónicos, así como pilas y baterías, no se deben tirar a la basura doméstica. El usuario está legalmente obligado a llevar los aparatos eléctricos y electrónicos, así como pilas y baterías, al final de su vida útil a los puntos de recogida municipales o devolverlos al lugar donde los adquirió. Los detalles quedaran definidos por la ley de cada país. El símbolo en el producto, en las instrucciones de uso o en el embalaje hace referencia a ello. Gracias al reciclaje, a la reutilización de materiales i a otras formas de reciclaje de aparatos usados, usted contribuirá de forma importante a la protección de nuestro medio ambiente.

(F) Remarques concernant la protection de l'environnement :



Conformément à la directive européenne 2002/96/CE, et afin d'atteindre un certain nombre d'objectifs en matière de protection de l'environnement, les règles suivantes doivent être appliquées.

Elles concernent les déchets d'équipement électriques et électroniques. Le pictogramme "picto" présent sur le produit, son manuel d'utilisation ou son emballage indique que le produit est soumis à cette réglementation. Le consommateur doit retourner le produit usager aux points de collecte prévus à cet effet. Il peut aussi le remettre à un revendeur. En permettant enfin le recyclage des produits, le consommateur contribuera à la protection de notre environnement. C'est un acte écologique.

(D) Hinweis zum Umweltschutz:



Ab dem Zeitpunkt der Umsetzung der europäischen Richtlinie 2002/96/EU in nationales Recht gilt folgendes:

Elektrische und elektronische Geräte dürfen nicht mit dem Hausmüll entsorgt werden. Der Verbraucher ist gesetzlich verpflichtet, elektrische und elektronische Geräte am Ende ihrer Lebensdauer an den dafür eingerichteten, öffentlichen Sammelstellen oder an die Verkaufsstelle zurückzugeben. Einzelheiten dazu regelt das jeweilige Landesrecht. Das Symbol auf dem Produkt, der Gebrauchsanleitung oder der Verpackung weist auf diese Bestimmungen hin. Mit der Wiederverwertung, der stofflichen Verwertung oder anderer Formen der Verwertung von Altgeräten leisten Sie einen wichtigen Beitrag zum Schutz unserer Umwelt.

(I) Informazioni per protezione ambientale:



Dopo l'implementazione della Direttiva Europea 2002/96/EU nel sistema legale nazionale, ci sono le seguenti applicazioni:

I dispositivi elettrici ed elettronici non devono essere considerati rifiuti domestici. I consumatori sono obbligati dalla legge a restituire i dispositivi elettrici ed elettronici alla fine della loro vita utile ai punti di raccolta collerici preposti per questo scopo o nei punti vendita. Dettagli di quanto riportato sono definiti dalle leggi nazionali di ogni stato. Questo simbolo sul prodotto, sul manuale d'istruzioni o sull'imballo indicano che questo prodotto è soggetto a queste regole. Dal riciclo, e re-utilizzo del material o altre forme di utilizzo di dispositivi obsoleti, voi renderete un importante contributo alla protezione dell'ambiente.

(P) Nota em Protecção Ambiental:



Após a implementação da directiva comunitária 2002/96/EU no sistema legal nacional, o seguinte aplica-se:

Todos os aparelhos eléctricos e electrónicos não podem ser despejados juntamente com o lixo doméstico. Consumidores estão obrigados por lei a colocar os aparelhos eléctricos e electrónicos sem uso em locais públicos específicos para este efeito ou no ponto de venda. Os detalhes para este processo são definidos por lei pelos respectivos países. Este símbolo no produto, o manual de instruções ou a embalagem indicam que o produto está sujeito a estes regulamentos. Reciclando, reutilizando os materiais dos seus velhos aparelhos, esta a fazer uma enorme contribuição para a protecção do ambiente.