



**MFC**International

by RESPIREX

ENGINEERED INFLATABLE PRODUCT SOLUTIONS

# Electric Air Pump

Product Manual



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**WARNING:** Carefully read this manual before operating the Electric Air Pump.

**NOTICE:** The manufacturer takes no responsibility for the consequences of actions not complying with the instructions given in this manual.

| Technical Data                          | Electric Air Pump                    |
|-----------------------------------------|--------------------------------------|
| Product Code                            | 180002                               |
| Standard Voltage Input                  | DC 12V                               |
| Current                                 | 10A to 30A max                       |
| Max. Power Dissipation                  | 300W                                 |
| Max. Inlet Air                          | 350L per min                         |
| Max. Pressure Reading                   | 80KPa (11.6 psi)                     |
| Max. Working Pressure                   | 60KPa (8.5 psi)                      |
| Pressure Increments                     | Per 1KPa / 0.15 psi                  |
| Max. Continuous Working Time (Non-Stop) | 30 minutes (15 minutes at 2nd stage) |
| Max. Operation Voltage                  | DC 14V                               |
| Min. Operation Voltage                  | DC 11V                               |
| Pack Weight                             | 6.2 kg                               |
| Pack Size                               | 43 x 45 x 37 cm                      |
| Warranty                                | 2 Years (see below)                  |

## Warranty

For recreational using, the electrical control boards, motor, charger are guaranteed for 2 years. Battery, air hose, valve adaptors and carrying bag are guaranteed for 6 months.

Warranty for commercial use is limited to six months from purchase date, and 30 days warranty for battery.

Warranty only covers the defective factory parts under normal operating conditions. You can contact the seller to get authorization before return it. Dealer has the right to refuse the warranty claim if the product shows excessive wear, abuse or misuse.

**To guard against injury, basic safety precautions should be observed:**

- To avoid possible electrical shock or fire, special care should be taken when using near the water or metal. Don't use the pump close to your fuel tank or an open flame.
- Please make sure the pump with correct pressure setting for your chamber before pumping at every time. This pump can hold the last pressure setting after disconnect the power. Factory default setting is 25Kpa (3.6 PSI) when the pump is new.
- Make sure the connection is correct when hook up to the battery.
- Keep the pump away from children. Store the pump in a dry & cool area away from water, sun and heat.

**You may need to know:**

- Carefully examine the air pump & your inflatable product before you start. Please make sure your pump or battery fully charged before using.
- Pump has double stages and the sound of each stage is different. 2nd stage will produce noisy sound since the dual cylinders pumping.
- Before connecting the pump of the battery, please make sure the battery voltage is 12V, and the max loading of power source can support 30A current.
- Please return the unit to the manufacturer or the place of purchase for service or replacement. Repairs may only be performed by an authorized service technician.
- Please KEEP this instruction manual. The manufacturer is not responsible for damage caused as a result of improper use or failure to observe these instructions.

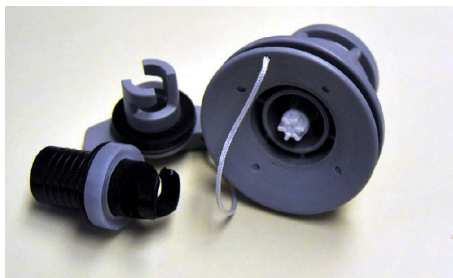
### Don't let the pump overheat:

- You can use your original valve adaptor other than the coming valve adaptors if it is better.
- Test run is necessary before your first time using. Don't leave the pump running unattended even considering its auto stop feature! You can stop the pump at any time by using the power button.
- Do not use it for more than 30 minutes continuously. And the 2nd (cylinder) stage continued working time is limited to 15 minutes. Long periods of use can cause overheating and damage the inflator.
- Smaller valve fittings can limit the airflow speed, the pump could be easier to get overheat, Your attention is very important and the pump continued working time must be reduced.
- Low quality power source will slow down a lot pump running at high pressure 2nd stage, it can cause the pump over heat quickly and give the damage. We do not suggest to use a non certified battery to operate.
- If the air hose (pump side) temperature is over 80°C (176°F), please stop using the pump to let it cool down.
- If the environment temperature is high, the max pump continued working time may be reduced.
- This pump is built in the air filter, please first check the air filter if the air flow is unusual.

## Compatible List

### Air Valves

- This pump is suitable for the products that are using the HR (Halkey-Roberts), Bravo or similar type air valve. This kind of air valve has a turning pin in the middle to control the valve's open & closed position. There are universal valve adaptors supplied with the pump to fit it.
- Bravo type air valves have a pin in the middle for pushing instead of turning to control its open & closed position. Our universal valve adaptors will fit Bravo air valves.
- Please keep the air valve in the closed position when inflating the chamber.



**Universal HR Type Air Valve**



**Bravo HR Type Air Valve**

- This pump also comes with other 8 universal valve adaptors. If you can't find the right valve adaptor for your inflatable product, please use your original valve adaptor.



## Boston Air Valve or Leaffield C7 Air Valve

- Some air valves have a built-in diaphragm to stop air from escaping when inflating. The Boston type & Leaffield C7 air valve use a built-in rubber diaphragm or diaphragm & spring, they will cause excessive back pressure.
- When inflating chambers with this style of valve, you must monitor the pump closely. This style of valve causes the pump to overheat prematurely because of the back pressure caused by the valve diaphragm.
- This back pressure will give the pump's sensor a false reading and cause the 2nd stage to start early. This will cause the pump working for longer and harder.
- Our universal valve adaptors may fit almost all type of Boston valves. And we can provide the original valve adaptors for C7 air valve.



**Boston Air Valve**



**Leaffield C7 Air Valve**



**Universal Valve Adaptors**

## Get your pump and battery ready

- Choose the proper fitting for the air valve of your inflatable product. Put the valve at the inflation position. Attach the correct valve adaptor to the inflation hose that comes with your pump. Attach the other end to the pump (smooth round outlet on the pump).
- Connect the pump's terminals to the battery paying close attention to the polarity. Make sure the clips are on the same colour electrode and properly connected. Otherwise the pump won't turn on or run properly.
- If you have the model with the built-in battery, please make sure the battery has been charged. A new fully charged battery should last 30 minutes or more for regular use. If the battery is low, please charge the pump by using the charger comes with the package.

## Using the pump - Inflation

- Turn on the POWER switch and enter the maximum desired pressure by using the set pressure (UP) buttons, the set pressure will be shown on the right hand side of LCD screen. Use the last button to switch the pressure display mode between KPa and PSI.
- (10KPa = 100mbr = 1.45 PSI). Factory default working pressure is set as 25KPa (3.6 PSI). This pressure is suitable for most inflatable boats.
- Min set pressure is 1 PSI (8Kpa), if you only need lower pressure than 1 PSI, you can keep monitoring the screen pressure reading and stop the pump manually.
- Press the POWER button to start. During inflation, the left hand side of LCD screen should show the pressure that the inflator has reached. As soon as the entered pressure has been reached, the inflator turns off automatically. And the inflator can be turned off at any time by pressing the POWER button again. Take off the air hose from the chamber once the pump stops pumping. It is possible to stop the inflator at any time by pressing the (OFF) switch.
- The inflator operates in two stages which can be identified by the noise of the turbine at the beginning followed by the piston. The inflator switches from turbine to piston automatically. If the chamber pressure is over 7KPa / 1 PSI, the pump will start the 2nd stage only. If the set pressure is lower than the chamber's pressure, the pump won't turn on.



- Protect the inflator from sand & water by keeping it in the provided carrying bag when not in use. If sand or water gets into the inflator and over the air filter holding limit, the air pump will be damaged and no warranty covered.



### Using the pump - Deflating

- If you can use the pump to inflate the chamber, you can use it to deflate the same chamber too.
- Attach the yellow hose onto the deflation side of the inflator (round outlet with notches). Attach the other end to the chamber you wish to deflate.
- You don't have to set any pressure, just press the START button. The turbine fan will work for the deflation operation. The 2nd stage will never get started since the pressure monitoring feature no function.
- When you have most of the air out of the chamber, turn the pump off and disconnect the hose from that chamber. You must turn off the pump manually since it won't auto stop.

**WARNING:** Never leave the pump unattended when using this feature as you may cause extreme damage to your inflatable and the pump.



## About Battery & Charger

- The pump has a built-in battery & travel charger. The type of this battery is 12V gel battery, lead acid type, battery capacity 7AH. The battery will have up to 500 Cycles & up to 8 years battery life time if you can follow this maintenance manual.
- Always keep the pump battery fully charged before putting at storage or after every use.
- The charger is 110/240V travel type with double charging procedures. When you plug in the charge and connect with the pump, a red light showing on the charger can indicate the battery charging. The max charging current is 1A from the charger.
- After the battery 95% charged, the charger will turn to a battery recovery procedure with a special current. The light still shows RED and the entire charging period will be up to 72 hours.
- When the battery recovery charging done, the charger light will turn green and automatically shut off.
- Always take off all the power connection when the battery fully charged. Make sure the pump had been TURN OFF before storing it. Don't leave the charger on the wall when no using.
- Tips: A pump over-night charging should be good enough for your 2nd day using.

## Pump Storage

- Check the pressure setting before you remove or turn off the air pump. If you used to change the pressure setting, the pump will remember this new setting when starting up next time.
- Disconnect the power or turn off the power switch of the air pump. Clean all dirt, sand, etc from the pump. If the pump gets wet, let it dry in the air before packing it into the carrying bag.
- Best to store your pump in a temperature range 5 °C - 20°C (40°F - 68°F).
- For a Lead Acid type battery, you should fully charge the battery before storing. Leaving the battery in a poorly charged state for extended periods of time (1 month or more) will damage the battery.

- If you fully charged the pump just prior to storing it, there should be no need to recharge it for months.
- If you see a Low Battery icon on the LCD screen, please recharge the battery within 24 hours. If the battery will not hold a charge any more, the battery may need to be replaced in most case.

### Additional works on valve adaptor and air filter

- We may install the HR/BRAVO type universal valve adaptor onto the yellow hose. You may switch to another air valve adaptor by twisting off the attached one. If you wish to permanently attach a valve adaptor, you may use electric tape on the air valve adaptor to make it fit tight.

## Repairs

### Repairs

As a general rule, repairs/damaged products will need to be assessed in two categories:

a) that which is repairable at the base, or b) serious damage that will need to be repaired by MFC International.

If in doubt as to the extent of the damage and the level of repairs necessary, please contact the MFC service department on +44 (0)1443 433 075.

**WARNING:** Repairs may only be carried out by the manufacturer, or people certified by MFC International Ltd.



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