



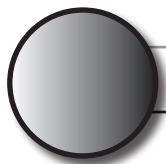
**Instructions for installation and use**  
(to be kept in a safe place)

English : page .....15

**Congratulations, for your purchased of Nature<sup>2</sup> Fusion, our semi-automatic water treatment system.**

**Zodiac's Nature<sup>2</sup> Fusion is the association of a mineral purifier and a chlorine tablet distributor (also known as a «chlorinator») which frees you from the hassle related to water treatment. You can now fully enjoy your pool at your leisure.**

**We recommend that you read this manual carefully before installing and using your Nature<sup>2</sup> Fusion system.**

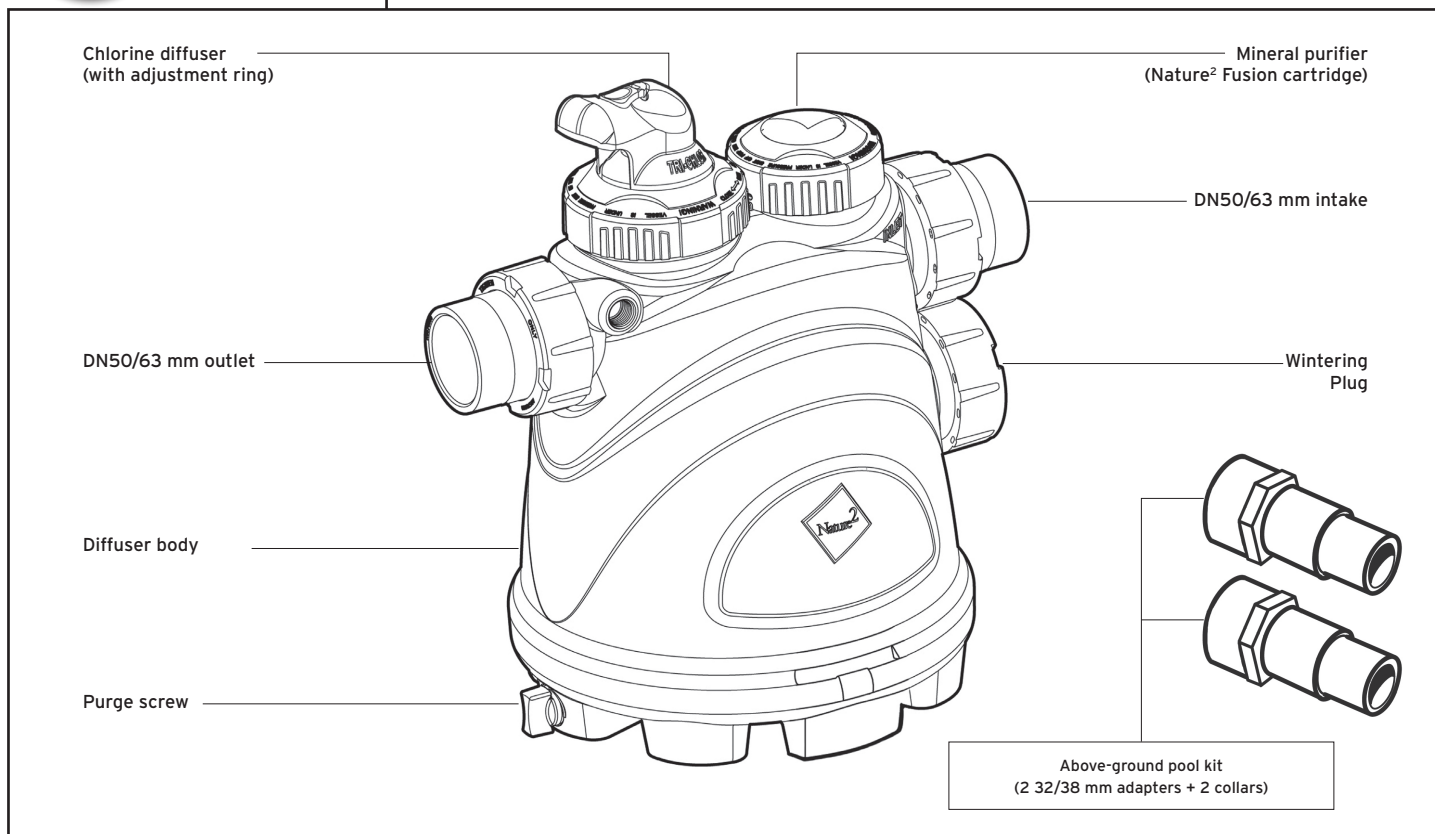


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# 1

## Description of the appliance



**Remark:** For installations using 1½ " pipes (United Kingdom), use 2 specific joints (supplied separately, do not use those shipped with the appliance).

### Technical specifications:

	Nature² Fusion			
treatment capacity (depending on the cartridge)	20 ► 170 m³			
Nature² Fusion Cartridges	15	25	35	45
Treated volumes (*)	20 ► 40 m³	40 ► 90 m³	90 ► 130 m³	130 ► 170 m³
Chlorinator capacity (slow stabilised chlorine: Trichloro)	10 250 g tablets			
Maximum working pressure	3.4 bar (50 psi)			
Maximum permitted flow	25 m³/hr (compulsory bypass for greater values)			
Minimum flow (in the diffuser)	6.5 m³/hr			
Size (l x h x w)	42 cm x 42 cm x 31 cm			
Appliance weight	5.0 kg			

(\*): Above-ground pools with flexible hoses: use the supplied 32/38 mm connection kit.

## **Nature<sup>2</sup> Fusion operating principles:**

When the filtering system is operational the filtered water (eventually heated) flows through the Nature<sup>2</sup> Fusion system.

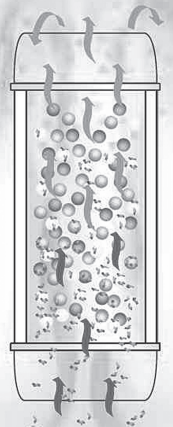
► The Nature<sup>2</sup> Fusion system combines 2 technologies:

- **A Nature<sup>2</sup> Fusion cartridge** (delivered separately) **using the active mineral ceramic Nature<sup>2</sup> technology** for autonomous treatment throughout the season with a maximum of 6 months use.

The ceramic beads contained in the Nature<sup>2</sup> Fusion cartridge have a copper and silver coating. The silver combats bacteria and viruses, the copper is an algicide. The freeing of these active ingredients is controlled by the ceramic which maintains constant residual levels in order to ensure a perfect disinfection of the pool using minimum quantities. The ceramic beads also have a strong clarifying power on the water because of their micro-porous nature.

- **A chlorine diffuser** (or «chlorinator») which is used to keep a reserve of slow dissolving chlorine tablets. It can stock up to 10 250 g tablets of slow chlorine which give the system a treatment autonomy that can reach 2 months (for a 75 m<sup>3</sup> pool).

Once the water has been treated by the Nature<sup>2</sup> Fusion cartridge the chlorinator continuously produces the amount of chlorine needed to carry out an additional disinfection and the oxidation of the bacteria (using the 6 setting adjustment ring).



Using the Nature<sup>2</sup> Fusion system all that is needed is a concentration of 0.5 to 1 ppm (or mg/L) of free chlorine to obtain a total and permanent disinfection.

## **2**

## **Conditions of use**

**Nature<sup>2</sup> Fusion** can be combined with any filtering equipment (sand, cartridge or diatomic filter) and does not alter their operation in any way.

**Nature<sup>2</sup> Fusion** is shipped for a default installation in an in-ground pool (Rigid PVC piping). The black joints are adapted for DN50/63 mm pipes.

If the **Nature<sup>2</sup> Fusion** system is installed in an above-ground pool fitted with flexible 32 or 38 mm pipes, **use the above-ground pool connection kit which has a pair of adapters for gluing into the joints and two fixing collars** (see chapter 4 «Installation»).



**WARNING: CHEMICAL USE HAZARD:** The Nature<sup>2</sup> Fusion is designed to use only Trichloro-S-Triazinetrione tablets - slow dissolving type. Never mix or use with other types of chlorine or chemicals. Explosion or fire may result.

**Remark:** The minimum flow through the Nature<sup>2</sup> Fusion purifier must be 6.5 m<sup>3</sup>/hr, whatever the type of pool.

Nature<sup>2</sup> Fusion can be used optimally and without risks in all pool structures with all types of surfaces (if the pool water = public utility network):

- Liners and reinforced PVC (presence of treated felt beneath)
- Painted concrete
- Tiling
- Polyester shells or treatments

The manufacturer will not be liable if unsuitable well water is used to fill the pool.

### **Water balance:**

In order to have Nature<sup>2</sup> Fusion operate in optimal conditions and to avoid problems in the pool it is essential to regularly measure water balance levels.

Parameters	Recommended values	Test frequency
pH	7,2 - 7,4	Weekly
Free chlorine	0.5 - 1.0 ppm (or mg/L)	Weekly
Total alkalinity	8 - 15 °f 80 - 150 ppm	Monthly
Calcium Hardness	10 - 30 °f 100 - 300 ppm	Quarterly
Stabiliser (cyanuric acid)	< 50 mg/L	Monthly
Total copper	< 0.10 mg/L	Quarterly
Metals (iron, zinc, manganese)	↓ 0,00 mg/L	Each season



#### **WARNING! Nature<sup>2</sup> Fusion technology is not compatible with:**

- Bromide and its derivatives.
- Chlorine free disinfectants: «PHMB» (biguanides).
- Products containing high levels of copper (algaecides or wintering products).
- Anti staining and metal remover products (when the cartridge is fitted).

# 3

## Preparing to install

Before starting the Nature<sup>2</sup> Fusion system remove all eventual debris and algae from the pool water and clean the filter.



**Important:** Only install the new Nature<sup>2</sup> Fusion cartridge once the pool water is clean and balanced. Please consult the values in the water balance table in chapter 2. In the event of any problems ask your Nature<sup>2</sup> reseller for advice.

Normal values	Problems	Consequences	Solutions
<b>PH normal level:</b> 7.2 to 7.4 (6.8 for polyester pools)	the pH is too low	- Deterioration of the pool surface. - Corrosion of the metal parts of the pump and plumbing.	Add pH plus
	The pH is too high	- Deterioration of the pool surface. - Water is not clear, presence of algae. -Deterioration of filtering equipment.	Add pH minus
<b>Total Hardness</b> normal level: 10 °f to 30 °f (100 to 300 ppm)	the TH is too low	- The water is less stable. -The water is corrosive («soft» water).	Add TH+
	The TH is too high	Scale deposits on the sides and bottom of the pool and in the equipment («hard» water).	Add a scale fixer
<b>Total alkalinity</b> normal level: 8 °f to 15 °f (80 to 150 ppm)	the alkalinity is too low	No buffer effect causing variations in the pH which can in turn cause a deterioration of the surface or filtering equipment.	Add ACR+ (alkaline corrector)
	The alkalinity is too high	- White deposits form on the pool surfaces. - The sides are rough or dull. - The water is not clear and becomes whitish.	Add acid to lower the level
<b>Stabiliser:</b> 20 to 75 mg/L (cyanuric acid)	Accumulation over time (included in the chlorine tablets)	The action of the chlorine is blocked despite a correct level on the analysis readings.	Renew part of the pool water ((1/4 to 1/3)

# 4

## Installation

The Nature<sup>2</sup> Fusion system must be installed **downstream from the filtering system and any eventual heating system** (heat pump, heat exchanger, electric warmer...).

- For pools fitted with a heating system where the Nature<sup>2</sup> Fusion system is to be installed downstream on the same bypass, leave a minimum distance of at least 1 metre between the two appliances. Install a check valve between the two appliances if the distance is less.

Nature<sup>2</sup> Fusion must be placed flat on the ground or on a horizontal and stable support.

- If the Nature<sup>2</sup> Fusion system is installed in a technical room, it should be ventilated and/or well aired.

It is recommended to install the Nature<sup>2</sup> Fusion system on a bypass (or in «parallel»). The maximum permitted flow in the diffuser is 25 m<sup>3</sup>/hr; installing the system on a bypass is **COMPULSORY** for flows exceeding this value (on the contrary an in-line installation is possible below the maximum permitted flow).

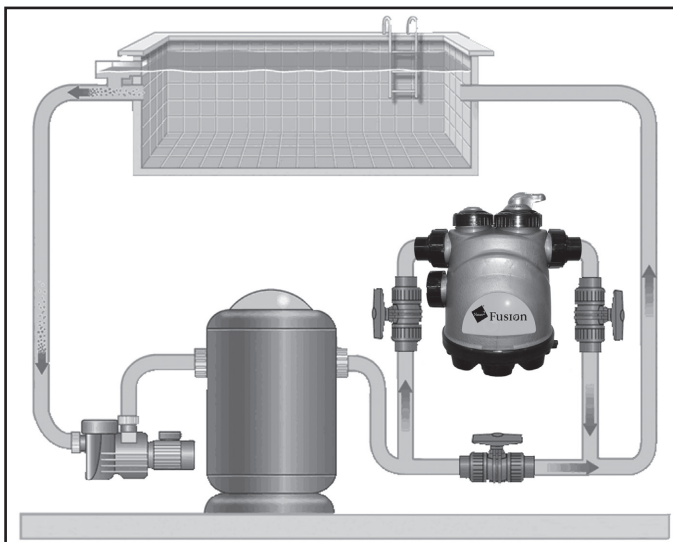
The minimum flow for correct operation of the appliance is of 6.5 m<sup>3</sup>/hr.

- Special case for above-ground pools:

If the Nature<sup>2</sup> Fusion system is installed on an above ground pool fitted with flexible ringed piping, use the supplied above ground connection kit. It has two adapters for 32 or 38 mm pipes that are to be glued into the DN50/63 mm diffuser joints.

For all gluing (rigid pipes for in ground pools and adapters for above ground pools) use «blue» PVC adhesive (sand the surfaces manually before applying adhesive to the parts to be assembled).

### Standard installation diagram:



**IMPORTANT!!** Nature<sup>2</sup> Fusion must be installed in the right direction: the water first passes through the Nature<sup>2</sup> Fusion cartridge and then through the chlorinator.

Make sure you follow the water flow direction as indicated on the body of the diffuser:

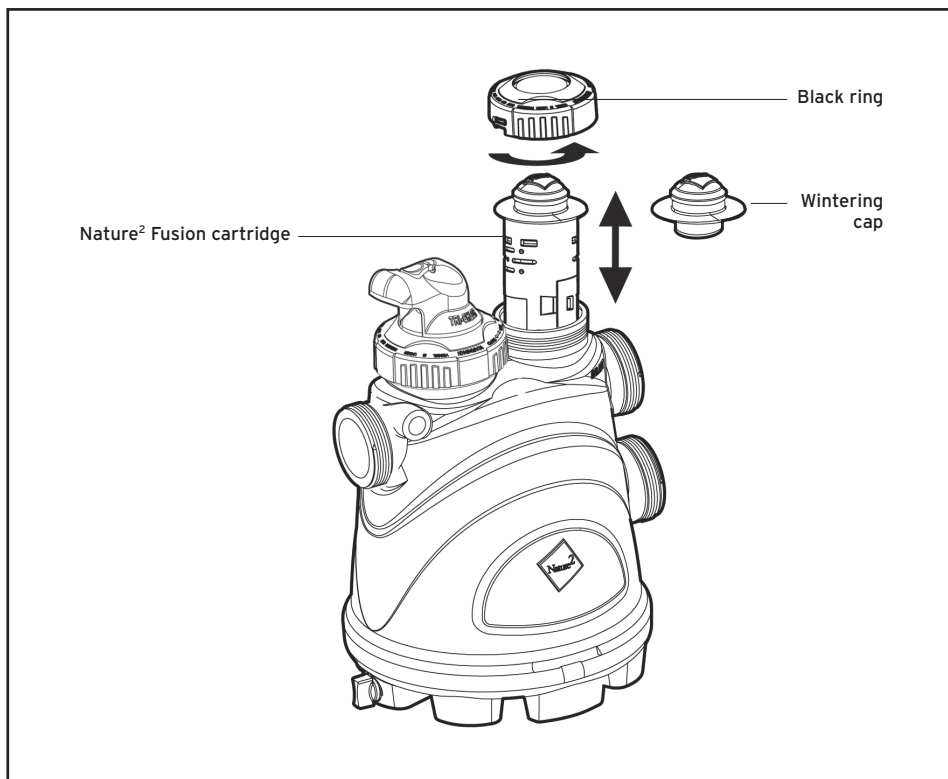
- **INLET** = water intake (Nature<sup>2</sup> Fusion cartridge side)
- **OUTLET** = water outlet (chlorinator side).

The Nature<sup>2</sup> Fusion system is delivered without the mineral treatment cartridge. The cartridge must be purchased separately (cartridge model selected depending on pool volume; refer to chapter 1 «Technical Specifications» table).

The Nature<sup>2</sup> Fusion cartridge must be replaced at the beginning of each season or every 6 months in pools that are used all year round (**maximum use 6 months** beginning on the cartridge installation date).

### Fitting the Nature<sup>2</sup> Fusion cartridge:

1. Stop the filtering pump.
2. Close all the safety valves that may be located between the filter and the pool.
3. Unscrew the black ring that maintains the cap (or the cartridge) in place.
  - > On a new appliance: remove the wintering cap.
  - > To replace a used cartridge: remove the existing cartridge.



4. Insert the new Nature<sup>2</sup> Fusion cartridge and replace the black ring (only manual tightening!).
5. Open the previously closed safety valves.
6. Restart the filtering pump.
7. Follow the activation procedure (see chapter 7 «Getting started»).





**WARNING!!:** When filling the chlorinator the following precautions should be taken:

- **1. Nature<sup>2</sup> Fusion was design to exclusively use stabilised slow dissolving chlorine tablets.** These are of the «Trichloro-S-Triazinetrione» type (or trichloroisocyanuric acid also called «Trichloro» or «ATCC»). Never mix these chlorine tablets with other types of chlorine or other chemicals; this may cause fire or an explosion.
- **2. Never mix several types of product in the appliance** (algaecides, shock chlorination treatments, multi-action products, granulated or liquid products...): contact between these products and the slow chlorine tablets may cause a dangerous chemical reaction.
- **3. Stop the filter pump and close all the appliance safety valves before opening the chlorinator.**
- **4. When adding chlorine tablets to the chlorinator it is recommended not to inhale the chlorine vapours coming from the appliance.** The room in which the appliance is installed must be ventilated. **Always wear appropriate safety equipment** (safety glasses, mask, gloves, and overalls).
- **5. Do not use petroleum based products to clean the joints; use clear water.**
- **6. Make sure to open all closed valves before restarting pump.** Failure to open all valves could result in a build up of gas which can result in a FIRE or EXPLOSION.



**IMPORTANT!!** The use of any products other than stabilised slow dissolving chlorine tablets of the «Trichloro» type (such as unstabilised chlorine tablets, granulated chlorine, liquid chlorine...) with the Nature<sup>2</sup> Fusion chlorinator is strictly prohibited.

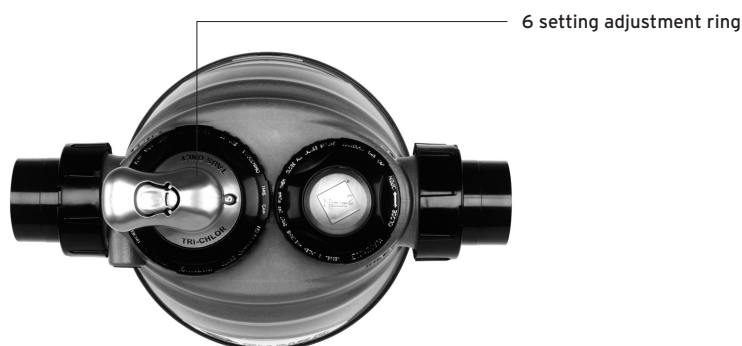
**Make sure to slowly add the Tri-Chlor tablets to the feeder to avoid splashing of chlorinated water.**

**The manufacturer will not be liable when this warning has not been respected.**

The chlorine diffuser (or «chlorinator») is used to keep a reserve of slow dissolving chlorine tablets. The pool water flows through the cylinder and takes in chlorine before returning to the pool. It can store up to 10 x 250 g slow chlorine tablets.

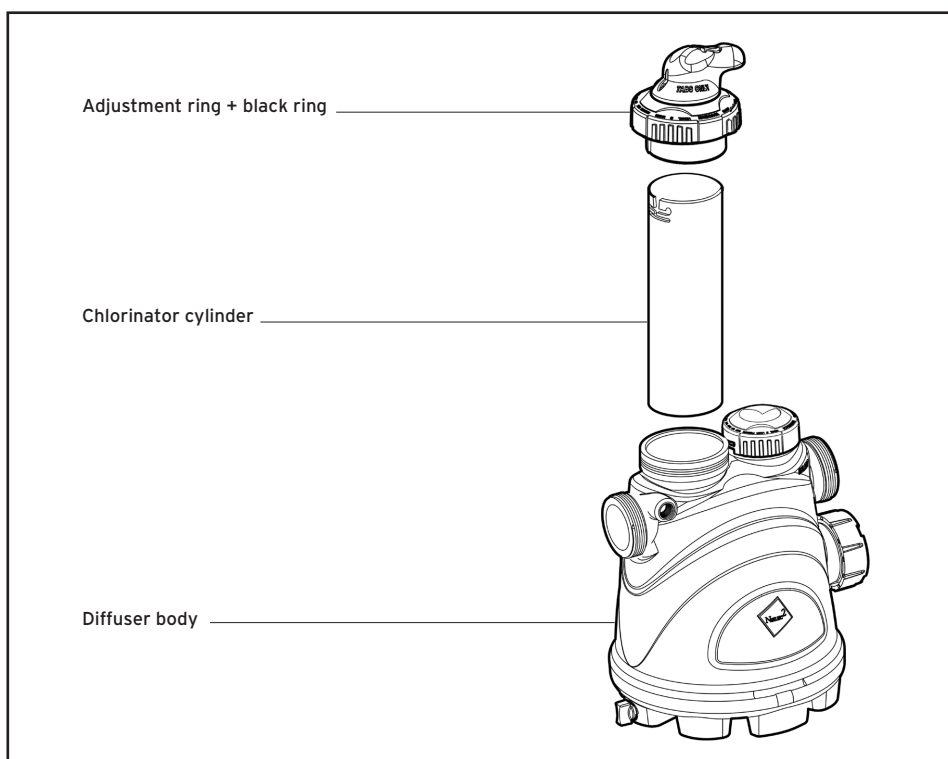
The need for disinfectant in the pool varies depending, amongst other things, on the number of bathers and the climate. For these cases there is an **adjustment ring** that can be used to adjust the pool chlorine levels. It is located on the top of the diffuser body, above the chlorinator. It has 6 settings in order to correctly adjust the required amount of chlorine. At first you will need to find the optimum setting in order to adjust the free chlorine levels correctly (0.5 to 1.0 ppm after carrying out the start-up procedure).

**Remark:** The 6 figures on the adjustment ring (from 0 = closed to 5 = maximum) do not indicate the pool chlorine level but only give an indication of the amount of chlorine used.



### **Procedure for adding chlorine tablets:**

1. Stop the filtering pump.
2. Close all the safety valves that may be located between the filter and the pool.
3. Unscrew the black ring maintaining the adjustment ring.
4. Gently remove the «adjustment ring + black ring» assembly by lifting using the grey handle on the adjustment ring. Warning, this assembly has 3 moving parts; do not try to separate them.
5. Remove the black cylinder by lifting it. Once the cylinder has been removed it is easy to fill it with chlorine tablets and/or clean it. Be careful of the water tightness seal (it must remain in place when reassembling).
6. Proceed in the reverse order to reassemble the different parts of the chlorinator. When refitting the «adjustment ring + black ring», turn the assembly until it falls into the specially designed notches. Then tighten the black ring manually.



## 7

## Commissioning

For Nature<sup>2</sup> Fusion to operate correctly it is essential to carry out a start-up treatment when a Nature<sup>2</sup> Fusion cartridge is installed.

### **Start-up procedure:**

1. To activate the Nature<sup>2</sup> Fusion cartridge optimally, proceed with a light shock-chlorination after the cartridge has been fitted. Only add shock chlorine in the skimmer(s) to obtain a free chlorine level between 3 and 4 ppm with 24hr continuous filtering for 3 days. Use the quantities indicated on the packaging to obtain the required concentration.
2. Adjust the chlorine dosage to the maximum on the Nature<sup>2</sup> Fusion system using the adjustment ring on the diffuser (position 5).
3. Operate the Nature<sup>2</sup> Fusion system on this maximum setting for 3 days in order to maintain the free chlorine level between 1 and 2 ppm during this time (filtering operating in normal «automatic» mode).
4. Following this activation period let the chlorine level drop to between 0.5 and 1.0 ppm (standard treatment). Adjust the level of free chlorine using the 6 setting adjustment ring (it would be useful to analyse the water every week).



**Remark:** This start-up treatment must be carried out each time the Nature<sup>2</sup> cartridge is replaced (preferably when starting up after wintering). It is designed to obtain the highest efficiency from the Nature<sup>2</sup> treatment as quickly as possible.

## 8

## Maintenance and wintering

Nature<sup>2</sup> Fusion does not need any special maintenance. However, if the pool is used all year round, it is strongly recommended that the appliance be purged and cleaned at least once every year in order to make sure there are no deposits inside the diffuser and chlorinator.

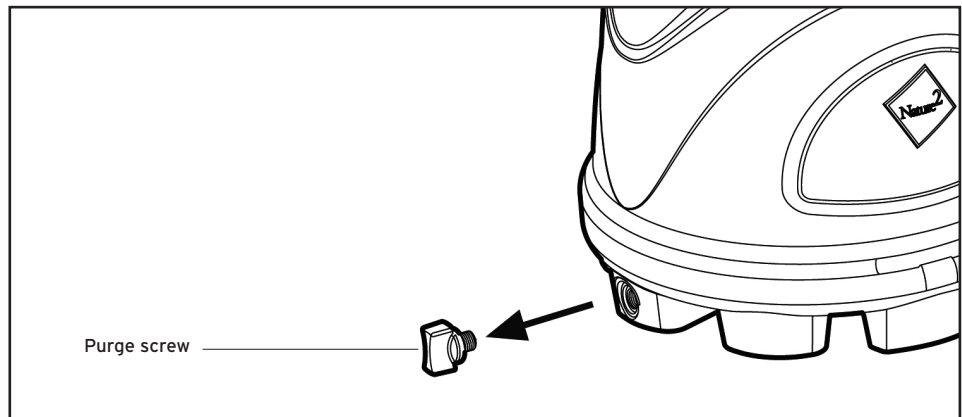
- Follow the wintering procedure described below to purge and clean the Nature<sup>2</sup> Fusion system.

If the pool is wintered (filtering and treatment stopped, reduced water level and piping purged...) it is essential to purge and clean the Nature<sup>2</sup> Fusion system in order to avoid risks of freezing.

### **Wintering procedure:**

1. Once the piping has been purged and the filtering stopped, remove and dispose of the Nature<sup>2</sup> Fusion cartridge after having unscrewed the black ring holding it in place (various waste, not an environmental hazard).

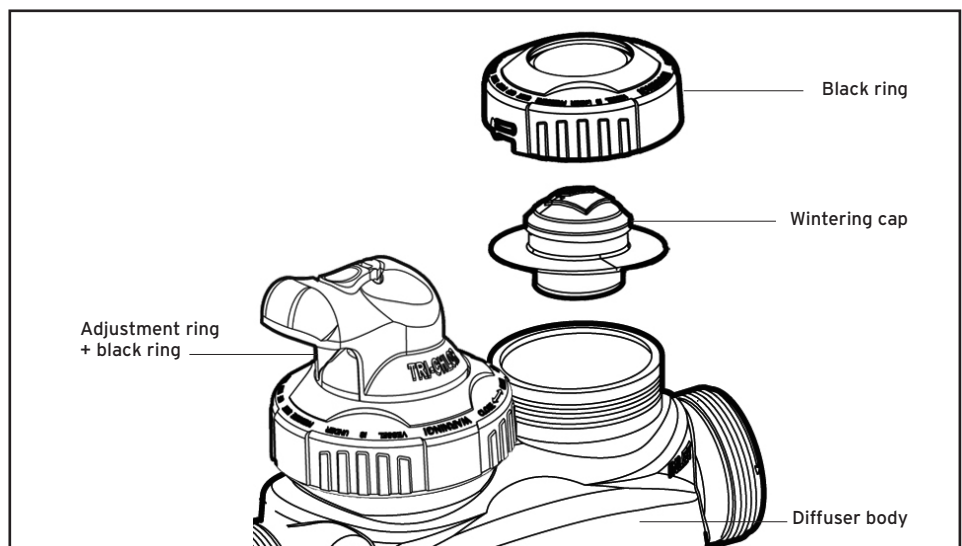
**2.** Remove the «adjustment ring + black ring» from the chlorinator after having unscrewed the black ring holding it in place. Next unscrew the purge screw located on the side at the base of the appliance in order to empty the Nature<sup>2</sup> Fusion diffuser reservoir. Be careful not to mislay the torque joint on the purge screw.



**3.** Remove and clean the black cylinder containing any eventual remaining tablets using clear water. Rinse the diffuser in clear water (purge screw still removed). Then replace the black cylinder in its housing.

**4.** Make sure there is no remaining water in the appliance before replacing the purge screw (manual tightening!).

**5.** Clean the joints using clean water if necessary and then close the Nature<sup>2</sup> Fusion system. Replace the chlorinator «adjustment ring + black ring» then use the supplied wintering cap to cover the Nature<sup>2</sup> Fusion cartridge housing using the black tightening ring.



This table is to assist you in case of any problems. Consult your Nature<sup>2</sup> reseller for further information on water balance.

Problem		Symptom	Solution
Cloudy water	Inefficient filtering	High pressure on the filter manometer.	1. Clean the filter and eventually replace the filtering material (sand...).
	Algae	Greenish cloudy water.	2. Operate the filtering system for 24 hours.
	Badly balanced water	3. Increase the daily filtering time.	Carry out a shock-chlorination and brush the pool sides.
Algae	Green algae	1. pH too high Water too hard. 2. Water too alkaline. 4. Dissolved solids (TDS) too high.	Balance the pool water (see «conditions of use» chapter).
	Black or mustard algae	1. Disinfectant levels insufficient or inactive. 2. Water circulation insufficient.	1. Check and adjust pH level. 2. Carry out a shock chlorination. 3. Brush the pool sides if necessary. 4. Check the level of stabiliser, renew part of the water if necessary.
Stains	Blue/Green Red/Brown Black	1. Disinfectant levels insufficient or inactive. 2. Water circulation insufficient.	1. Brush the infected areas. 2. Carry out a shock chlorination: 3. Brush and vacuum until complete disappearance.
	Tarnished metal parts	1. Adjust the pH and base values to the recommended levels. 2. Brush the stained areas vigorously. 3. Add a metal remover and turn on the filtering (cartridge removed). 4. After 24 hours carry out a shock chlorination	1. Clean using a cloth and a soft detergent. 2. Test the mineral levels of the water and use a remover if necessary. 3. Maintain the balance of the water.
Deposits	Deposits of scale on the surface	1. Unbalanced water. 2. High levels of minerals in the pool water.	Adjust the pH or base values to the recommended levels.
		pH and/or alkaline values too high.	1. Replace part of the pool water. 2. Use an anti-scaling product if the water is too hard (high TH).
Equipment	No flow in the purifier	Dissolved solids level (TDS) too high.	1. Bypass not adjusted. 2. Dirty filter (higher pressure than normal).
		1. Adjust the flow through the bypass. 2. Clean the filter (backwash).	Skimmer basket(s) full.
	Le purificateur fuit	Remove the leaves and other debris from the baskets.	The joints are missing or incorrectly fitted.
		Check that the joints are fitted in their housing (cartridge & chlorinator).	Defective piping.
		Find the leak in the piping.	

**A/ Conditions**

We have used all our technical experience to design and manufacture our equipment. The equipment has undergone quality assurance checking. We regularly improve or modify our models in order to include technical progress. These improvements cannot be added to previous models as part of the guarantee. If, despite all the care and know-how brought to the manufacture of our products, the guarantee should be used, it will only apply to the replacement of defective parts free of charge. Transport and labour costs remain at the cost of the end user.

**B/ Duration of the guarantee**

The Nature<sup>2</sup> Fusion diffuser has a 36 month guarantee (3 years) starting from the purchase date by the end user (date on the end user's invoice). The product will therefore be repaired or exchanged within the 36 months following its purchase on condition that the defect has been acknowledged by the manufacturer as not being caused by abnormal use or normal wear and tear.

**C/ Exclusion from the guarantee**

The Nature<sup>2</sup> Fusion cartridge is a consumable (not supplied, 6 month life span once in the water), it is only guaranteed for manufacturing defects detected on installing. The chlorine tablets used by the consumer are not guaranteed as they are consumable chemical products not manufactured by Zodiac. Zodiac Pool Care Europe cannot be held liable for any deterioration to the Nature<sup>2</sup> Fusion system and/or the pool technical room caused by the use of unadapted chemical products.

**D/ Object of the guarantee**

This appliance has been especially designed for the European, North African, Near and Far East markets and cannot be sold outside these zones. This appliance is therefore not guaranteed outside these zones. During the above defined guarantee period, all parts acknowledged as being defective will be repaired or exchanged by the manufacturer by a new part or a part that is operational.

In all cases transport and labour costs are at the cost of the user. If the appliance is returned to the workshop the transport costs to and from the workshop are at the user's cost, labour costs are at the manufacture's cost. The immobilisation and loss of use of an appliance caused by the necessity to repair cannot give rise to compensation. In all events the seller's legal guarantee continues to apply according to article 4 of the 24th March 1978 decree n° 78-464. The Code Civil article 1641 legal guarantee applies.

**E/ Damage during transport**

The appliances always travel at the user's risks and perils. The user must check that the appliance is in perfect condition before accepting delivery and must write any reserves on the transporter's waybill. Zodiac Pool Care Europe cannot be held liable for damage during transport.

**F/ Governing law and litigation**

This guarantee is governed by French law and all the European Directives and International Treaties applicable in France at the time of the complaint. In case of disagreement as to its interpretation or execution, the French courts will have exclusive jurisdiction.

Register your product on our website:

- You will be the first to be informed of new Zodiac products and special offers.
- You can help us to constantly improve our product quality.

[www.zodiac-poolcare.com](http://www.zodiac-poolcare.com)



**For any warranty issue, please contact your local dealer.**

**We recommend that you keep your purchase invoice carefully if you require assistance for your product.**



[www.zodiac-poolcare.com](http://www.zodiac-poolcare.com)

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Innovative pool products and services