



diagenode

Innovating Epigenetic Solutions

Single Cycle Valve

for Bioruptor®

Cat. No. B02020004

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Contents

Introduction	4
Warnings	4
Guarantee	4
Intended use of the equipment	4
Equipment Components	5
Equipment installation for Bioruptor® Pico	7
Location requirements	7
Installation	7
Equipment installation for Bioruptor® Plus	10
Location requirements	10
Installation	10
Instruction for use	13
Technical assistance	14

Every word in italic refers to part of either the Bioruptor®, *Water cooler* or Single Cycle Valve.

Introduction

Warnings

These instructions cannot claim to cover all details of possible equipment variations, nor in particular can they provide for every possible example of installation or operation.

Trouble-free and safe operation of the unit is dependent on proper transport and installation by qualified personnel.

Guarantee

Limited one year global warranty.

Diagenode guarantees its products against possible manufacturing defects in material and workmanship. Diagenode products are rigorously tested to ensure that the products you trust meet stringent standards. Consequently, if a problem occurs with a Diagenode product and the problem is caused by manufacturing defects in material and workmanship, Diagenode will, in its discretion, either fix or replace the product in accordance with the warranty terms and conditions stated herein. The warranty applies only to **the first purchaser of the product for a period of one year starting from the date this product was delivered.**

In case of repair or replacement on a product under warranty, expenses will be at Diagenode's charge, including any costs required to return the repaired or replacement product to you.

This warranty covers only manufacturing defects and does not cover any damage caused by misuse (non-respect of recommendations described in this manual), neglect, accidents, abrasion, exposure to extreme temperatures, solvents, acids.

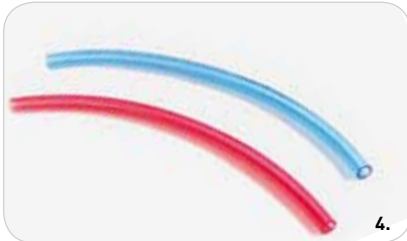
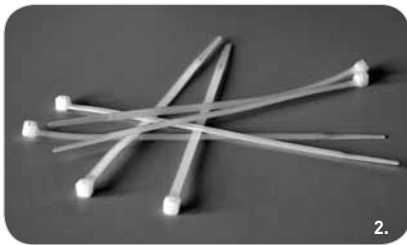
Intended use of the equipment

The **Single Cycle Valve for Bioruptor®** as well as all components from this parcel, including plastic tubings and strips must be used as a junction between the *Water cooler* and a *Bioruptor®*.

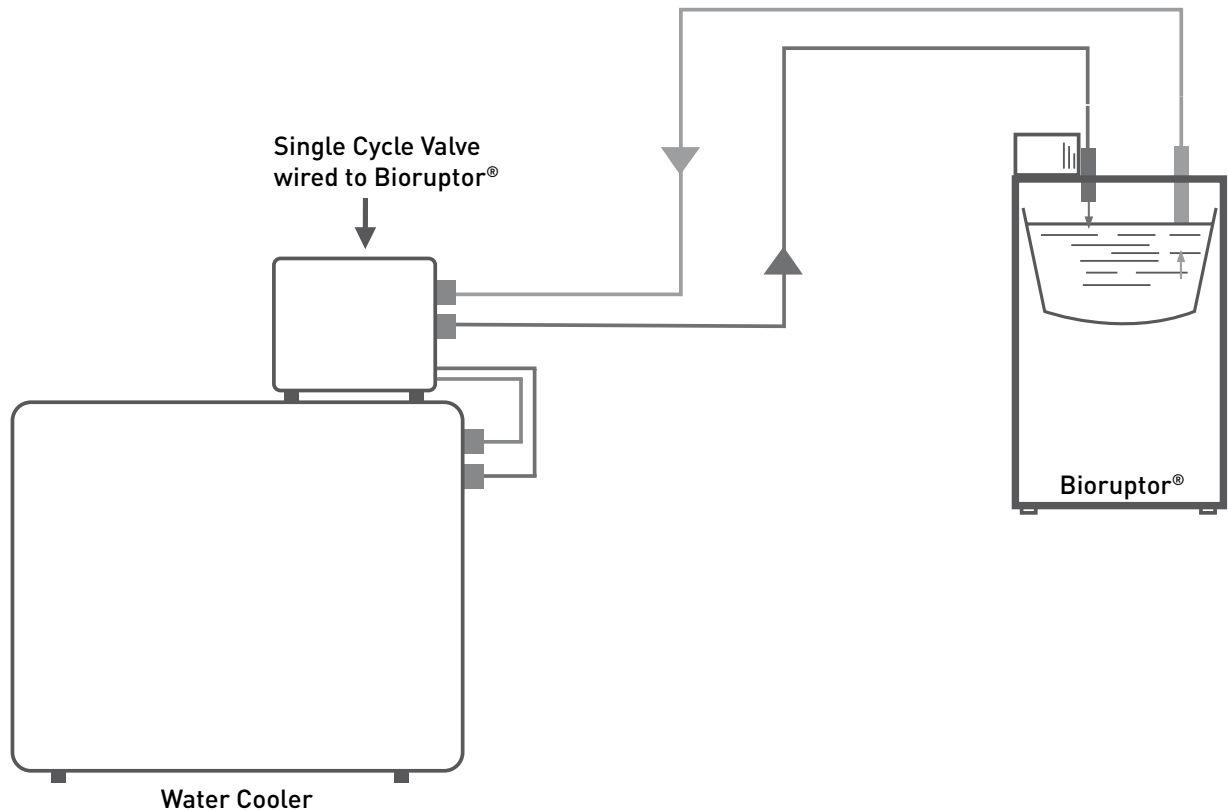
This equipment is designed to be used in the above described application only. Any medical application is out of scope.

Equipment Components

	Component	Quantity
1	Single Cycle Valve	1
2	Tie Wraps	10
3	Tubing blue and red (long)	2
4	Tubing blue and red (short)	2
5	Cable	1
6	Plastic Junction (for Bioruptor® Plus only)	2
7	Cutting Device	1



Global scheme



Environmental Conditions

Devices are designed to be safe under the following conditions:

- Indoor use
- Altitude up to 2 000 m
- Operating external temperature 0 °C to 40 °C
- Fluid temperature 4°C to 50°C
- Maximum relative humidity 80 % for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at 40 °C, without condensation
- MAINS supply voltage from 100V AC to 230V AC with fluctuations up to ± 10 % of the nominal voltage
- Transient overvoltages typically present on the MAINS supply
- Degree of protection: IP20
- POLLUTION DEGREE 2 (Normally only non-conductive POLLUTION occurs. Occasionally, however, a temporary conductivity caused by condensation is expected)

Warning:



Never use in atmosphere with flammable gas.
 Never use in any location where there is a possibility of extreme dust.
 Environment exempt from sunlight is required.

Equipment installation for Bioruptor® Pico

Before starting the installation, turn the main switches off and make sure that the unit is not plugged into an electrical outlet.

1. Open the boxes and unpack all components.



Water cooler
(BioAcc-cool)



Bioruptor® Pico
(B01060001)



Single Cycle Valve
(B02020004)

2. Place the Bioruptor® on a bench.

Important Note: Please make sure that the Bioruptor® Pico is always placed on a level surface.



3. Place the Water cooler below the Bioruptor®.

Location Requirements: The Water cooler must be located below the Bioruptor® Pico (minimum elevation difference 400 mm or 15,74 inch).



4. Place the Single Cycle Valve on top of the Water cooler as shown in the image.



5. Insert the short red and blue tubing into the outlets of the Water cooler and the lower red and blue nozzle connectors (❄️) of the single cycle valve box as shown in the image. Respect the red and blue color codes.



6. Connect the Bioruptor® Pico to the Water cooler with the long red and blue tubing by inserting them into the upper red and blue nozzle connectors (📶) of the single cycle valve box as shown in the image. Respect the red and blue color codes. (Optional: Cut the length you need for the output and input flow. Make sure there is enough slack.)



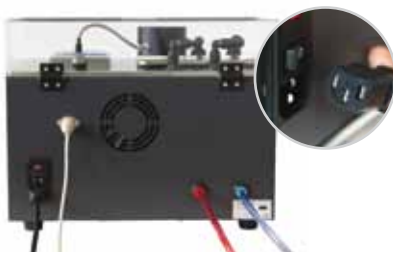
Important Note: If you need to cut a part of the tubing, always use the provided Cutting Device. Never use scissors because pieces of tubing with bad cuts generate leaks at junctions. Only properly cut tubes can be inserted in the connectors.

Note: Red connector and red tubing will carry water from the sonication bath to the Water cooler. Blue connector and blue tubing will carry water from the Water cooler to the sonication bath).

7. Plug the Single Cycle Valve cable into the outlet on the back side of the Single Cycle Valve Box and on the Bioruptor® Pico.



8. Plug the power cord into the outlet and switch on the power switch on the back side of the sonication unit.



9. Plug the power cord into the outlet of the Water cooler.





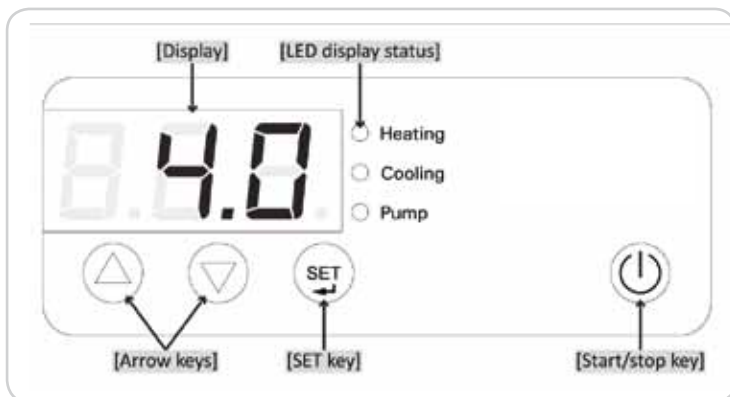
10. Press main switch on the front side of the Water cooler.



11. Fill the tank of the Water cooler with 3.5 liter and the sonication bath of the Bioruptor® up to the red line of the sticker (700 or 730 ml; depending on the model) with **distilled water only** (do not use deionized water!).



11. Temperature can be set to 4°C by pushing the SET key  and the arrow key  of the control panel at the same time..



12. Press Start/Stop key to control the temperature.

Note: See *Water cooler* manual for additional information

Now you are ready to start !

Equipment installation for Bioruptor® Plus

Before starting the installation, turn the main switches off and make sure that the unit is not plugged into an electrical outlet.

1. Open the boxes and unpack all components.



2. Place the 2 black plastic connectors on the motorized lid. Both connectors can be placed into one or the other hole of the motorized lid. Screw the plastic nut over the motorized lid. The short white pieces of tubing have to be inserted in the plastic connectors.



3. Place the Bioruptor® on a bench and position the sonication bath in front of the soundproof box upon the final site. Connect the Bioruptor® sonication bath to the *Water Cooler* with the red and blue tubes by inserting them in the appropriate connectors. **[Optional:** Cut the length you need for the output and input flow. Make sure there is enough slack.) The red and blue tubes must go through the soundproof box holes before being connected to the motorized lid (see picture).



Important Note: Please make sure that the Bioruptor® Plus is always placed on a level surface.

4. Place the Water cooler below the Bioruptor®.

Location Requirements: The Water cooler must be located below the Bioruptor® Plus (minimum elevation difference 400 mm or 15,74 inch).

5. Place the Single Cycle Valve on top of the Water cooler as shown in the image.



6. Insert the short red and blue tubing into the outlets of the Water cooler and the lower red and blue nozzle connectors (❄️) of the single cycle valve box as shown in the image. Respect the red and blue color codes.



7. Connect the Bioruptor® Plus to the Water cooler with the long red and blue tubing by inserting them into the upper red and blue nozzle connectors (📶) of the single cycle valve box as shown in the image. Respect the red and blue color codes. (Optional: Cut the length you need for the output and input flow. Make sure there is enough slack.)



Important Note: If you need to cut a part of the tubing, always use the provided Cutting Device. Never use scissors because pieces of tubing with bad cuts generate leaks at junctions. Only properly cut tubes can be inserted in the connectors.

Note: Red connector and red tubing will carry water from the sonication bath to the Water cooler. Blue connector and blue tubing will carry water from the Water cooler to the sonication bath).

8. Plug the Single Cycle Valve cable into the outlet on the back side of the Single Cycle Valve Box and on the Bioruptor® Plus.



9. Connect the power supply adapter to the control unit with the power cable. (Power supply adapter is only needed outside the U.S.)



10. Plug the power cord into the outlet of the Water cooler.





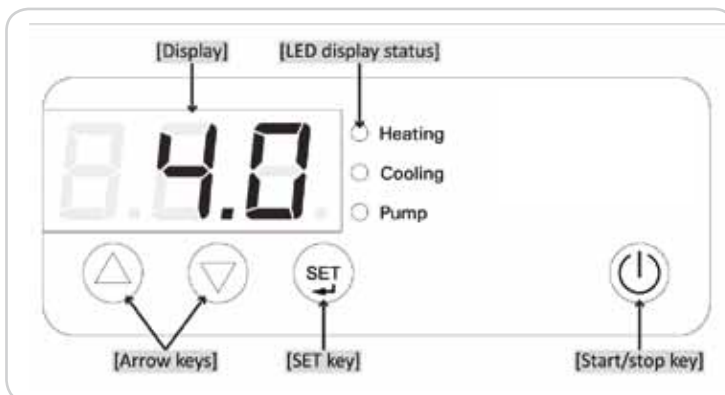
11. Press main switch on the front side of the Water cooler.



12. Fill the tank of the Water cooler with 3.5 liter and the sonication bath of the Bioruptor® up to the red line of the sticker (700 or 730 ml; depending on the model) with **distilled water only** (do not use deionized water!).



13. Temperature can be set to 4°C by pushing the SET key  and the arrow key  of the control panel at the same time..



14. Press Start/Stop key to control the temperature.

Note: See *Water cooler* manual for additional information

Now you are ready to start !

Instruction for use

The valve is automatically controlled by the Bioruptor®. No special management is requested.

As soon as the Bioruptor® and the Water cooler are turned on, the water flow starts. The Bioruptor® automatically closes the valve while sonication treatment is on. This design protects the sonication treatment from any interference that would be generated by the water flow.

Sonication bath and Water cooler

Water level and quality

- The sonication bath and the Water cooler must be filled with **distilled water only!** The water level of the sonication bath should always reach the red line (sticker on the wall of the tank; replacement stickers can be obtained from Diagenode).
- To obtain the best sonication performance, the water in the sonication bath and the Water cooler have to be changed **at least once per week!** (Please use the provided plastic pump as shown in the images below to release the water from the Water cooler and sonication bath).

Water temperature

- The water in the sonication bath must be kept at 4°C. Ultrasonic waves produced by the Bioruptor® generate heat. A drop off in sonication efficiency will occur above 8°C. To ensure preservation of the samples and to prevent damage to the instrument it is necessary to start the sonication process with cold water and to keep it at 4°C during the sonication process.

Never set the temperature below 4°C for the Water cooler since this will damage the machine severely!

Technical Assistance & Ordering Information

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For a complete listing of Diagenode's international distributors, visit: <http://www.diagenode.com/pages/distributors.html>
For the rest of the world, please contact Diagenode s.a.

Ordering information

Description	Cat. No.
Cooling System	
Single Cycle Valve	B02020004
Water cooler	BioAcc-cool
Bioruptor® Pico	
Bioruptor® Pico sonication device for 0.65 ml tubes	B01060001
Bioruptor® Plus	
Bioruptor® Plus sonication device with 1.5 & 15 ml tube holder	UCD-300 TO

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For rest of the world, please contact Diagenode s.a.