

Dual Cycle Valve

for Bioruptor® Water Cooler (Bioruptor® Twin)

Cat. No. B02020003 (VB-101-0001)

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Every word in *italic* refers to part of either the Bioruptor® Twin or Bioruptor® Water Cooler or Dual 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.

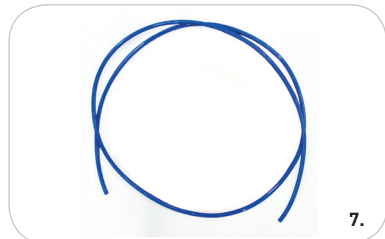
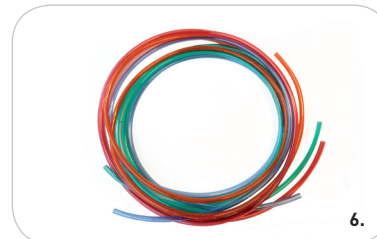
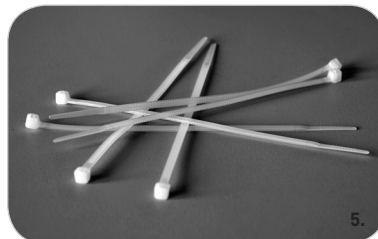
Intended use of the equipment

The **Dual Cycle Valve for Bioruptor® Twin** as well as all components from this parcel, including plastic tubings and strips must be used as a junction between the *Bioruptor® Water Cooler* and a *Bioruptor® Twin (UCD-400)*.

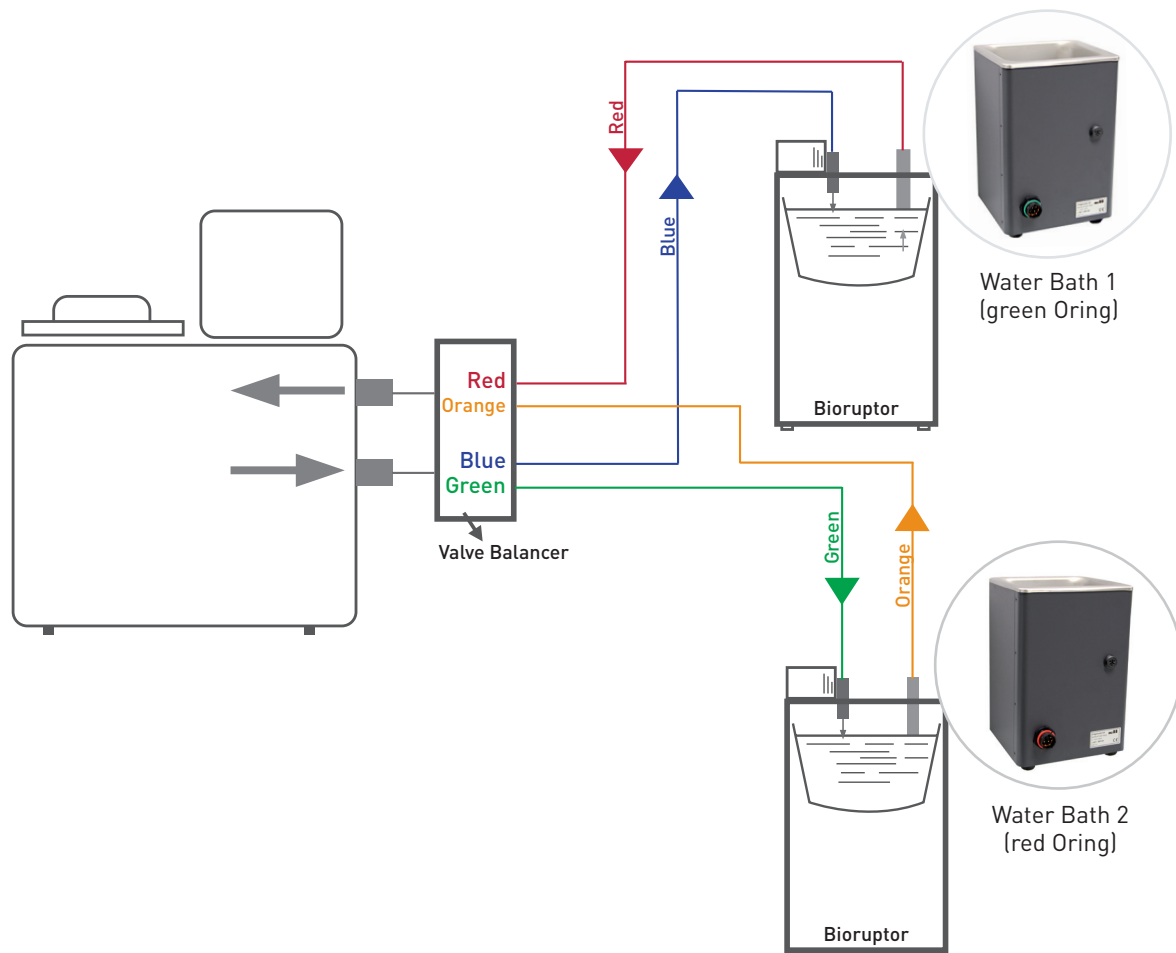
This equipment is designed to be used in the above described application only. Any medical application is out of scope.

Equipment Components

	Component	Quantity
1	Black Plastic Connector for motor lid	4
2	Valve Balancer	1
3	Male Nozzle Connector	2
4	Connection Cable	1
5	Tie Wraps	10
6	Translucide Tubing blue and red & green and orange	4 x 2 m
7	Opac Tubing blue	2 x 1.5 m
8	Spare Tubing	2
9	Cutting Device	1
10	Open-end wrench N° 14	1
11	Plumbing Teflon	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

Before starting installation work, turn the main switch off (beyond power connection) and secure the unit against being re-energized.



Location Requirements:

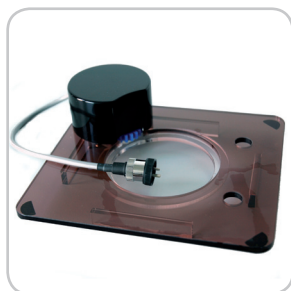
Location Requirements: The Bioruptor® Water Cooler must be located underneath the Bioruptor® water bath. Never install this equipment in a place where Environmental Conditions mentioned above are infringed.



1. Place the 4 black plastic connectors on the motorized lids. The connectors can be placed into one or the other hole of the motorized lids.

Screw the plastic nut over the motorized lid. The short red/orange and blue/green pieces of tubing have to be inserted in the plastic connectors.

Please be aware that red and blue tubings are for one motorized lid, whereas orange and green tubings are for the other motorized lid.

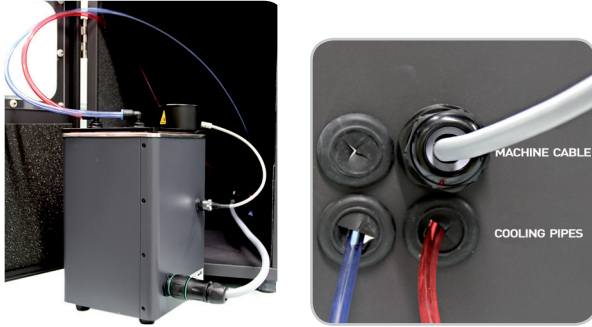


IMPORTANT NOTE:

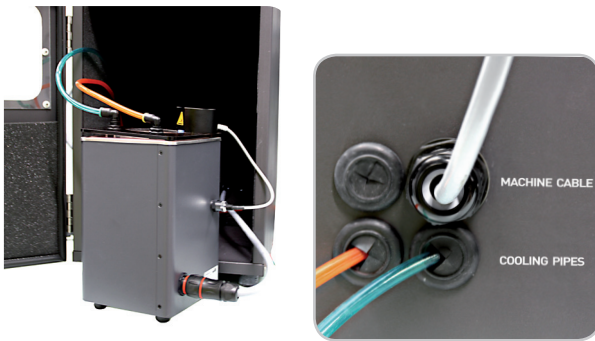


If you need to cut a part of the tubing, always use the provided Cutting Device. Never use scissors because pieces of tubing with bad cuts generate leaks at junctions. Only properly cut tubes can be inserted in the connectors.

The length determines the water level in the sonication bath. After installation, if the water level is not correct, use the Spare Tubing and cut it at the right length (The suction pipe (red pipe) must be set at the same level as the water level sticker is).



Bath one (green O-ring) : Red & Blue tubing



Bath two (red O-ring) : Orange & Green tubing



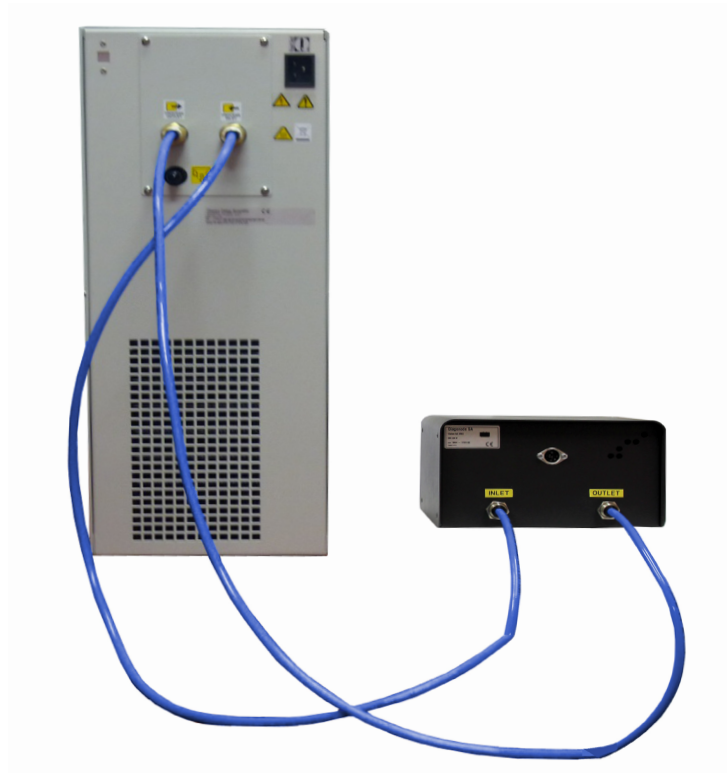
Front side Valve Balancer

Note: Red and orange connectors and red and orange tubings will ensure the waterflow from the water bath to the Bioruptor® Water Cooler. Blue and green connectors and blue and green tubings will ensure the waterflow from the Bioruptor® Water Cooler to the water bath.

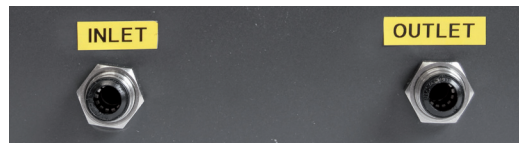
2. Position the Bioruptor® water baths in front of the soundproof boxes upon the final site. Connect the two Bioruptor® water baths to the Valve Balancer with the red, blue, orange & green tubes by inserting them in the appropriate connectors. Use the colour code on the valve balancer and the motor lid to assure the right directions of flows.

Optional: Cut the length you need for the output and input flow. Make sure there is enough slack. (see picture).

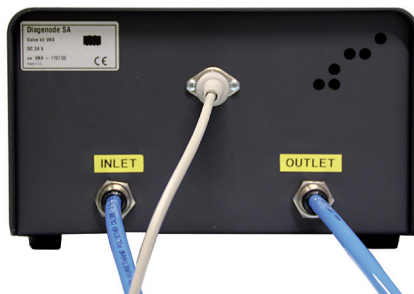
3. Compare the general scheme and the installation to check the flows.
4. Connect the Bioruptor® Water Cooler to the Valve Balancer with blue tubing by inserting them in the appropriate connectors.



5. Connect outlet to outlet and inlet to inlet.



6. Finally connect the valve balancer to the Bioruptor® control unit with the electrical cable.



Back side Valve Balancer



Back side Bioruptor® control unit

7. Fill the tank of the circulator with 4.5 litres of water. Distilled water should be used in order to minimize the proliferation of bacteria.
Press Power button on the back side of the device.
Press Power button on the front side of the device.
Temperature can be set by pushing and turning the knob on the first side of the device.

Instruction for use

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

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

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 for Bioruptor® Water Cooler (Bioruptor® Plus & NGS)	VB-100-0001
Dual Cycle Valve for Bioruptor® Water Cooler (Bioruptor® Twin)	VB-101-0001
Bioruptor® Water Cooler including continuous valve for Bioruptor®	BioAcc-cool
Bioruptor®	
Bioruptor® Standard	UCD-200 TM (1.5 ml) UCD-200 TO (1.5 ml & 15 ml) UCD-200 TS (0.5/0.65 ml)
Bioruptor® Plus	UCD-300 TM (1.5 ml) UCD-300 TO (1.5 ml & 15 ml) UCD-300 TS (0.5/0.65 ml)
Bioruptor® Twin	UCD-400 TM (1.5 ml) UCD-400 TO (1.5 ml & 15 ml)
Bioruptor® XL	UCD-500 TM (1.5 ml) UCD-500 TO (1.5 ml & 15 ml)
Bioruptor® NGS	UCD-600 TS (0.5/0.65 ml)



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