

VORSPRUNG DURCH TECHNOLOGIE

made  
in  
Germany

Usage manual

# NEC-2000

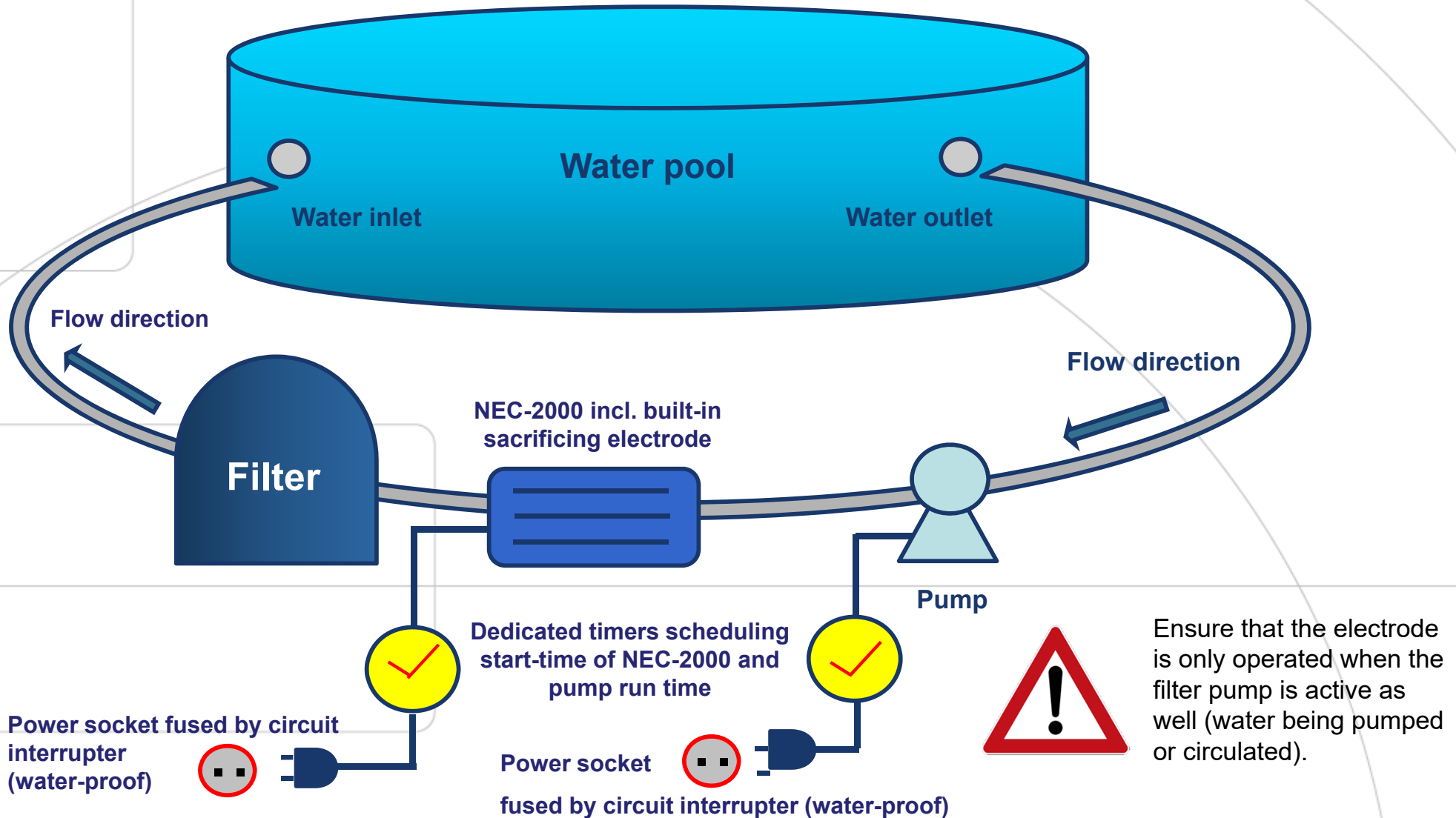
100% Chemical-free Water Treatment

[www.NECON.de](http://www.NECON.de)

## Installation along with filtration system

In swimming pool circulation, it is strongly recommended to place NEC-2000 unit between pump and filter.

Unit can be plumbed and flow-through in either direction, i.e. choice of inlet and outlet is not relevant.



## Operation

**The operation of the unit shall be adjusted so that the electrolysis value stays between 0,7-1,0 mg/l, by means of either**

- Shortening or extending the runtime by adjusting the "Time" BCD switch), and/or
- Increasing or decreasing the electrode performance (by adjusting the "Current" BCD switch).



### Programmable settings:

„Current“ (1-9) = Performance in 0,16A steps  
(max. 1,5 ampere)

„Time“ = Runtime of electrode  
 „1“ = 0,5 hours  
 (...)   
 „8“ = 4,0 hours  
 „9“ = continuous operation

The electrolysis value is measured using the supplied test kit (three-chamber tester; see following pages).

Adjustments of pH value is not required as typical pH values (as long as these fall within the testing range of 6.5-9.5 as specified by the German Drinking Water Directive) have no influence on the electrolysis efficiency.

Use of a timer, usually fitted between unit's mains cable and power source, assists in maintaining recurring electrolysis intervals.

## Technical Data

### Power supply:

Integrated wide-range power supply: 85-264 VAC,  
output max. 24 VDC

Frequency range : 50/60 Hertz

Connection to power source via supplied Euro power cable with IEC-60320-C7 ("figure of 8") plug to unit's built-in IEC-60320-C8 socket.

**Power rating:** max. 36 Watt depending on pre-set performance and water conductivity.

**Operating controls:** 2x BCD switches; cf. to the left of this page; ON/OFF push-button for runtime start and abortion; timer recommended (not included in scope of delivery).

**Flow cell:** Metal-cast with WRAS drinking water-certified coating.

**IP rating :** IP54 (splash-water protection)

**Dimensions:** 200 x 215 x 115 mm

**Empty weight:** 4.2 kg

**Electrode weight:** 2.3 kg (for 5 plates of 5 mm each)

**Connections:** 2x 2-inch BSP internal threads  
Includes adaptation to 32mm and 38mm hoses

**Max. intended pool size:** 40m<sup>3</sup>

## Operation Status Indicators



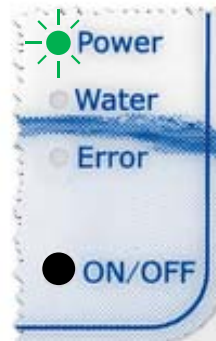
Electrolysis in operation (execution of pre-set runtime and performance parameters).

Pressing the ON/OFF push-button will terminate and restart operation.



Performance of electrolysis reduced.

Ensure that electrode is free of deposits, cf. "Maintenance" section.



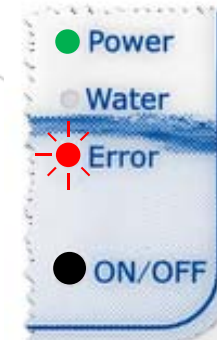
Program completed; for manual program repetition push the ON/OFF button.

Use timer for automatically scheduled repetitions.



Short-circuit

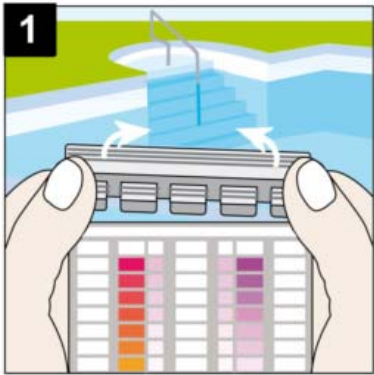
Check electrode for contact transition between cathode and anode, cf. section "Electrode maintenance".



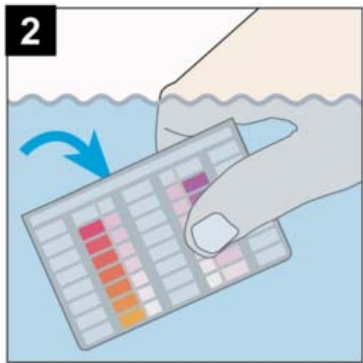
No electrolysis process detectable.

Electrode may not be submerged in water, or connection between control electronics and electrode interrupted.

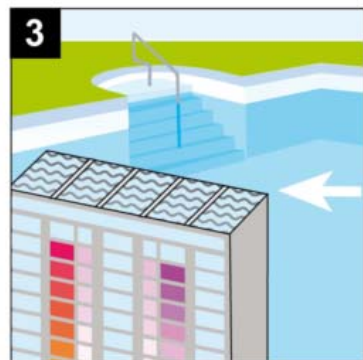
## Pool Tester – how to know the ion concentration in the water?



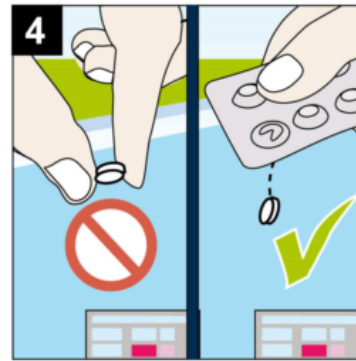
1. Remove top cover.



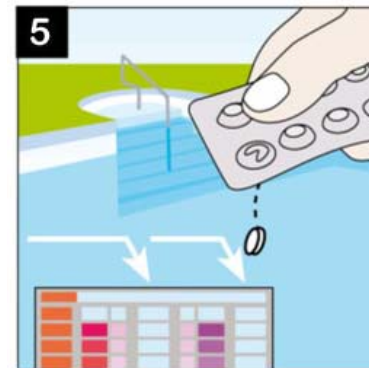
2. Fill in some pool water.



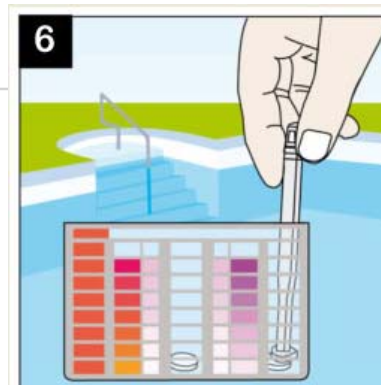
3. Make sure to fill tester with sample water up to the seam.



4. To ensure proper testing results, avoid skin contact when removing testing pills from the packaging!



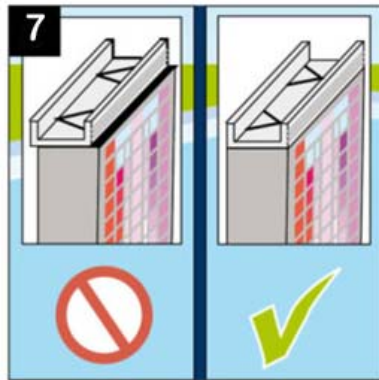
5. Put one „Copper 1“ pill into the Pool Tester's middle chamber, which is the segment that is usually relevant for measuring ions in the range to target (up to 1.0 mg per liter, cf. p. 5).



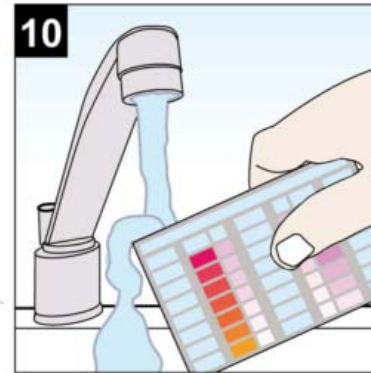
6. Crush the pill using the supplied pestle until all pieces are dissolved in the sample water. Sample illustration on the left depicts crushing pill in right-hand chamber (for testing above-average concentration).



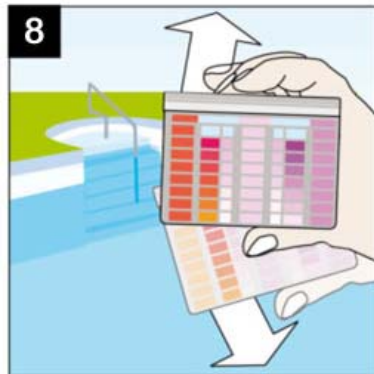
## Pool Tester – how to know the ion concentration in the water? (cont.)



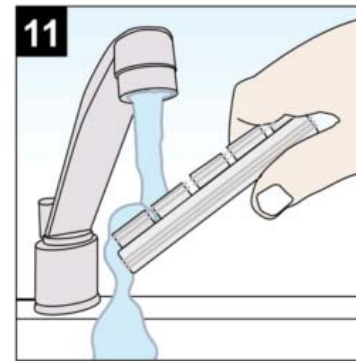
7. When reattaching the top cover make sure that the tips of the triangle markers point to the front of the Pool Tester.



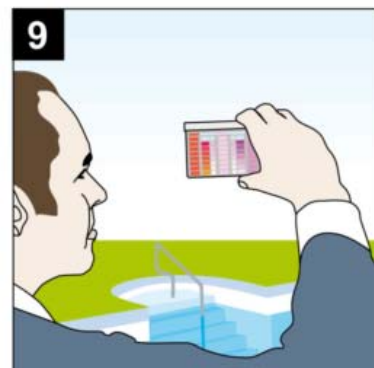
10. Afterwards, rinse all measuring chambers of the Pool Tester with fresh water.



8. Shake Pool-Tester for even distribution of the pill's ion reagent in the sample water.



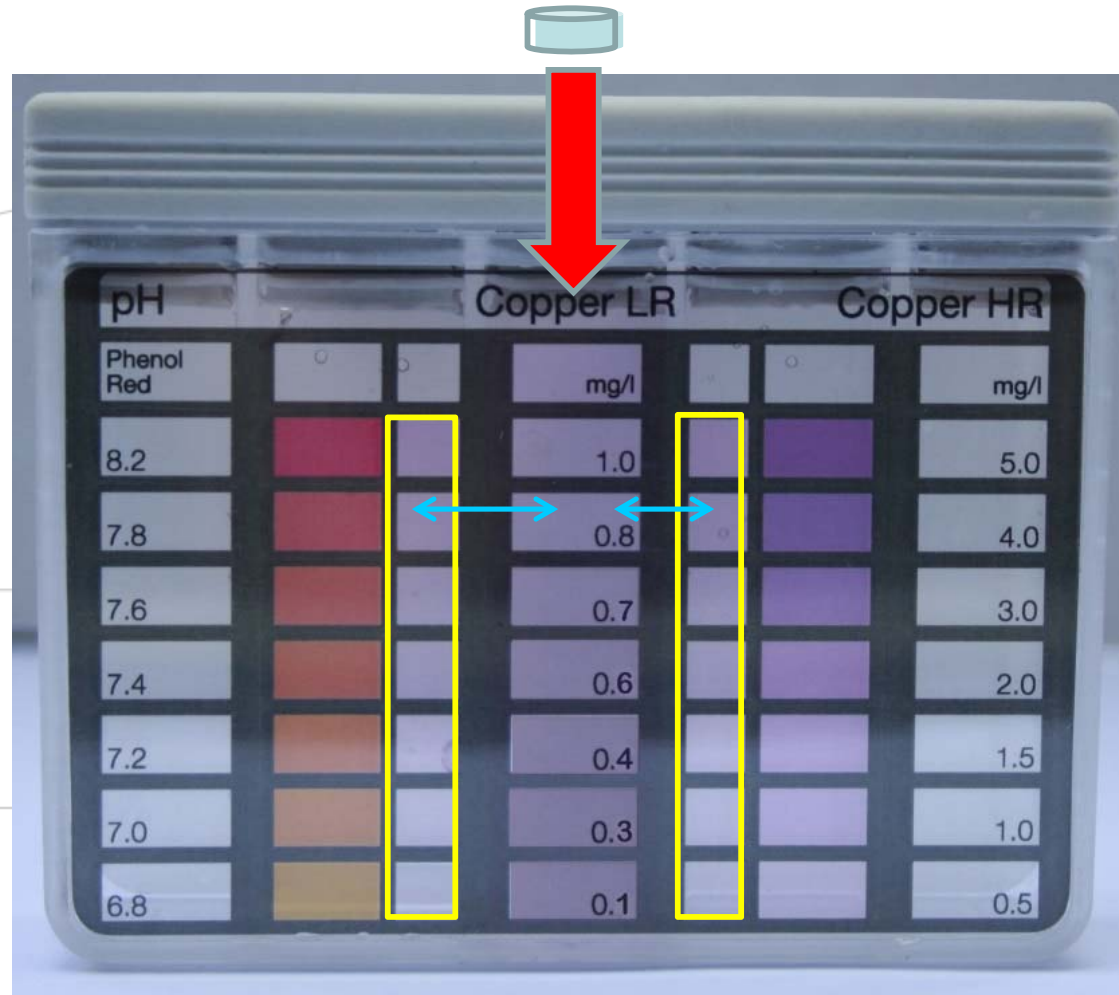
11. Remember to rinse the top cover as well!



9. Read the measurement result in bright daylight from the color scales printed on the front of the Pool Tester.

## Pool Tester – interpreting the results

Red arrow marks the middle chamber where the reagent pill should be dissolved into the sample water!



In this example, the sample water's ion level is in the area of 0.8 mg per liter (cf. blue arrows).

Thus the ion level is within the target range for pool water (cf. page 5).

Compare colorization of the sample water in the measurement chamber with the printed color scales to the left and the right of the chamber (marked yellow above).

## Operating log

Date Time	Cu Level	Runtimes Electrode / Pump	Amps Set/ Out	Remarks (eg. water conductivity, condition of electrode and water; completed maintenance services)



## Operating log

Date Time	Cu Level	Runtimes Electrode / Pump	Amps Set/ Out	Remarks (eg. water conductivity, condition of electrode and water; completed maintenance services)

## Electrode maintenance (cleaning deposits; renewal of worn-out electrode)

### Cleaning

Disconnect the device's mains plug, and if necessary, pause circulation pump.

Remove 6x M8 Torx screws [1] (may also use M6 Allen screwdriver) to lift the control head along with the electrode off the treatment cell.



When cleaning the electrode by immersing in (acidic) detergent, ensure that no liquid gets to the control head!

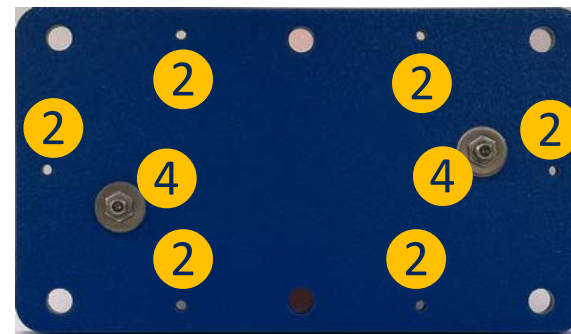
Ensure that there is -- except for the plastic (white-colored) plates separators -- no conductive contact between the cathode [5] and the anode [6] components of the electrode cartridge, that otherwise causes short-circuit on the electrode, preventing ions release to the water.

### Additional steps required for electrode renewal

Detach the consumable electrode from the treatment cell's lid, by removing the 2x M6 nuts below the electrode mounting brackets [3 in picture at end of this page].

### Mounting the replacement electrode

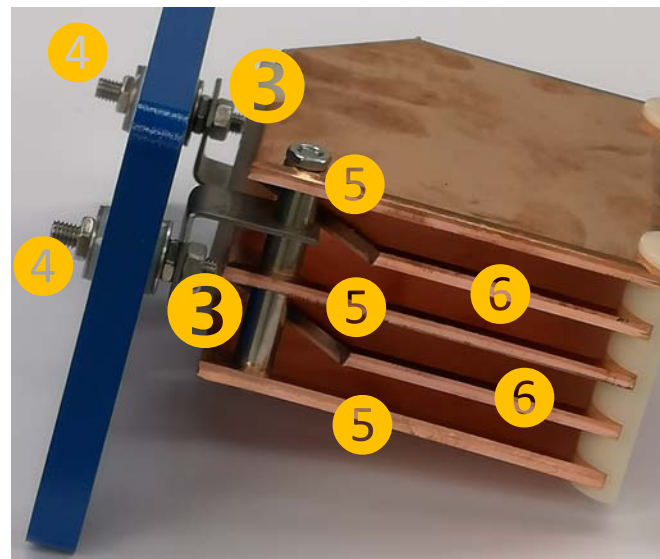
Start by detaching the control head from the lid of the treatment cell by using T10 screwdriver to remove the 6x 3x25 screws [2] from the lid for access to the Allen key bolts [4] at the upper side of the lid.



Removing the lid from the control head will yield access to the inside control electronics which **under no circumstances** may be worked on or otherwise affected.



Any such action, e.g. unfastening the secured screw fixings **WILL VOID THE PRODUCT WARRANTY**



Finish replacement of the electrode cartridge by clamping (!) the Allen bolts on the lid's upper side [4] using Allen key size #3, and affix the two mounting brackets of the electrode by refitting the M6 nuts [3].

## Limited Warranty, Repairs

### Cover Period

Necon GmbH, manufacturer of this unit guarantees this unit for a period of 2 years from purchase by the end user.

### Warranty

This warranty is effective only if the unit was not subjected to improper treatment, negligence, incorrect installation, abuse or use other than that specified. This warranty does not cover consumables or minor defects.

### Coverage

For the period of cover, given a product failure, Necon GmbH undertakes to examine the unit fully and should defect concur with the above, replace the unit or defective parts of the unit without cost or charge.

Additional claims, specifically claims for damage other than that has occurred on the unit itself are excluded.

In the event of a warranty service, the warranty cover period is not extended from the date of said repair or replacement.

This warranty is in addition to the statutory legal rights of the end user against his or her direct contracting party and does not in any way from them detract.

### Repairs

In cases of no entitlement for warranty services, client will receive a quotation in writing for repair and return of the product(s) in question, valid for 14 days starting from the date of the quotation.

If during this period the client does not remit a written order and payment for return of the unit, either repaired or not, the client's consent with abandonment of the product will be assumed.

### Transport

Initial and return shipping and transport costs, to include a description of the defect and proof of purchase, are the responsibility of the claimant.



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