



# CONSUMER'S GUIDE to Water Ionizers

Perfect Water Systems Ltd  
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# **CONSUMER'S GUIDE**

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## TABLE OF CONTENTS

<b>WHY USE THIS GUIDE?</b> .....	5
Getting started.....	6
<b>UNDERSTANDING IONIZER TECHNOLOGY</b> .....	8
Filtration: Why it matters.....	8
Ionizer plates: The heart of an Ionizer.....	14
Power: SMPS vs. Transformer.....	16
<b>CHOOSING THE IONIZER THAT FITS YOUR LIFESTYLE</b> .....	20
Where are you going to put your ionizer?.....	20
Countertop vs. Under the Counter.....	21
Water ionizer maintenance.....	22
<b>PUTTING IT ALL TOGETHER - CHOOSING YOUR IONIZER</b> .....	24
<b>AFTER THE SALE</b> .....	25
Return policy.....	25
Warranty.....	25
<b>COMMON MISCONCEPTIONS</b> .....	26
<b>CONCLUSION</b> .....	28
<b>APPENDIX A - References</b> .....	29

## Why Use This Guide?

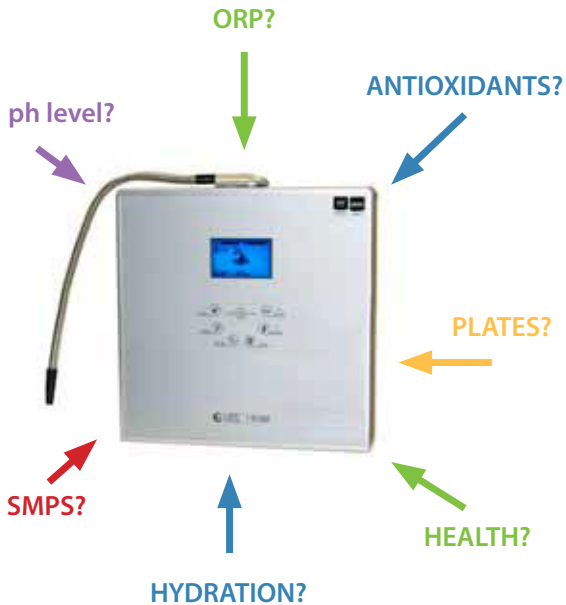
There are so many sources of information about ionizers, that it can be difficult to find useful unbiased information.

LIFE Ionizers™ created this e-book in an effort to provide accurate, unbiased information about their product line in order for the reader to make an informed decision about which ionizer is right for them.

This guide will help you understand the terms and the technology behind water ionizers so you can make an informed decision.

This guide will explain the technologies used in water ionizers, and look at the pros and cons of each. You will learn how industry certifications (such as Water Quality Association (WQA), NSF, etc.) can help you find a quality ionizer built by a reputable company.





There's a lot to learn before you buy!

## Getting Started

The first step in choosing an ionizer is to select those models that fit your needs and individual lifestyle. Taking this first step allows one to “narrow the field” of ionizers being considered for purchase.

Make a list of your goals, that list will guide your decision making process.

## Why do you want an ionizer?



- *Improved Health?*
- *Better Hydration?*
- *Increased Endurance?*
- *Safer Water?*
- *Anti-Aging?*

Some of the more popular reasons people buy water ionizers for are listed above. Your health should be a prime consideration. Improving health, detoxifying, an anti-aging program or increasing athletic endurance requires a powerful ionizer that is capable of making water with high pH and high negative antioxidant (Oxidation Reduction Potential --ORP) levels.

Your lifestyle is also an important factor. Do you want a countertop ionizer or one that goes under the kitchen sink? Does the ionizer you're looking at come in a color that fits with the rest of your appliances?

# Understanding Ionizer Technology

## Filtration: Why it matters



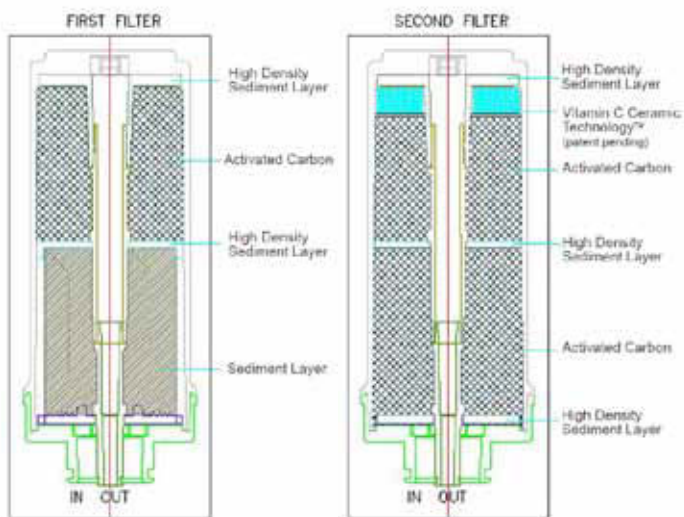
Filtering is the first step used to remove harmful contaminants in the water; the filter removes compounds like chlorine, trihalomethanes, phenols, sediment, odor and organic

waste. The quality of water going into an ionizer will have an impact on the quality of the water coming out of the ionizer. LIFE Ionizers™ provides a free analysis of a customer's local water supply in order to customize their ionizer's filters. Water quality varies widely from region to region, and proper pre-filtration is necessary to ensure the water going into the ionizer has the major contaminants removed before entering the Life Ionizer's two 9 stage internal filters. Water ionizers that are not properly configured for a customer's water will perform poorly, and may even be damaged by contaminants that their "one size fits all" filter did not remove.



## The Importance of Filtration

To properly ionize water, toxins and impurities must be removed, and the water must be left with “healthy” minerals so that it can accept an electrical charge so it gets ionized. The filter(s) in your ionizer are there to protect you. Water quality varies widely, making it difficult to predict the effectiveness of any standard filter.



**LIFE Ionizers™ multi-stage filters**

## Two Approaches to Filtration

**“One size fits all”** - A single filter is designed to have “layers” of filter media to handle all potential impurities that the filter may encounter *under any circumstances*. The problem with having many layers in a filter is that each layer will have to be thin in order to “fit” all those layers in the filter cartridge.

**Multiple filters** work better because they target a wider range of toxins. The difference between the two is similar to the difference between a general practitioner and a specialist. Both are doctors, but the general practitioner is only useful for basic needs like a check up, where the specialist is the doctor you go see when you need help with a specific problem. LIFE Ionizers™ uses multiple filtration and a pre-filter system in order to make sure your water is clean, safe and healthy to drink.



*Custom Pre-Filter*

*Included FREE with every  
LIFE Ionizers™ purchase*

*Designed specifically for  
your water*

*Makes sure you get the best  
performance from your ionizer*

**LIFE Ionizers™ Custom Pre-Filter**

## **Vitamin C Ceramic Block® Filter Technology**

The exceptional performance of the filters in a LIFE ionizer® is the result of their Vitamin C Ceramic Block® (patent pending) filter technology. Vitamin C has a long history of being used in sensitive applications to filter water where the introduction of impurities would have disastrous consequences, such as laboratory research and medical dialysis. LIFE Ionizers™ is the only ionizer that has vitamin C technology.

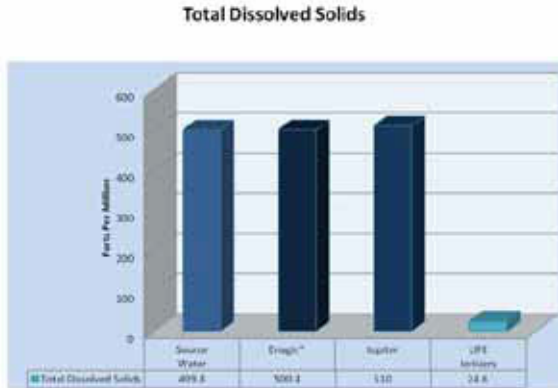
## **Water Ionizer Filtration Comparison**

LIFE Ionizers™ contracted with the independent ETR Certified Labs® to evaluate water samples that had been taken from ionizers made by Enagic®, Jupiter and LIFE Ionizers™. A sample of the tap water used for the testing was also analyzed to establish a baseline. At the time of testing each ionizer was the top of the line model made by each manufacturer.

### ***What the Lab Found: Total Dissolved Solids***

**Total Dissolved Solids (TDS)** is a measurement of how much “stuff” is dissolved in water. TDS measures both organic materials like bacteria and inorganic materials such as heavy metals that can be found in water. The chart below shows the TDS of the tap water tested and the EPA limits for TDS in tap water. The water used in this test was in pretty bad shape, EPA limits for dissolved solids are 500mg/L, and the test sample used was only .2mg/L below the legal limit.

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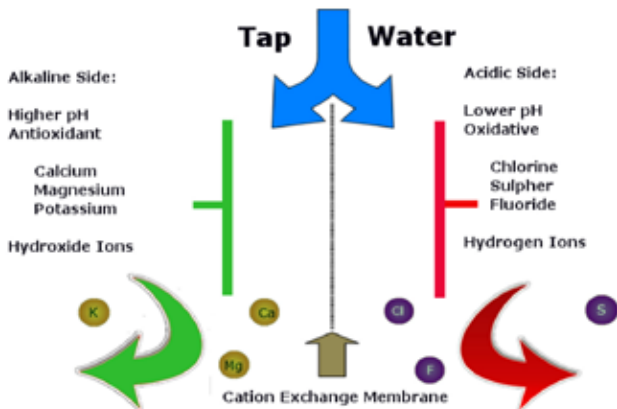


The troubling thing about this chart is that the LIFE Ionizer® was the **only** ionizer that meaningfully reduced the contaminants found in the sample tap water!

The reason the LIFE system was so much more effective than the others is because of the custom pre-filter, and the multiple internal filters used by LIFE.

**Keep in mind:** Poor quality filter performance will result in hard water damage, which can effect your machine and its performance!

## Ionization Process



After filtration, the filtered water passes into the electro-dialysis chamber. Electrodialysis is similar to electrolysis, with an added membrane that separates the water being processed into two halves.

When water ionizers process tap water, they remove toxins and impurities from water, and then electrically charge (or ionize) the water to turn it into healthy ionized alkaline mineral water. The Electrodialysis process used by ionizers uses a *Cation Exchange Membrane* – a special membrane that allows mineral ions to pass through only one way - and electrically charged plates to divide water into two types, alkaline and acidic. The *Cation Exchange Membrane* keeps the two types of water separate by allowing minerals to cross over it one way, but not allowing them to cross back.

On the alkaline side, the minerals combine with hydroxyl ions, which are created when water molecules are split by the ionizer's electrical charge. The negatively charged minerals and hydroxyl ions give alkaline water its antioxidant power.

The minerals on the acidic side combined with the hydrogen ions become oxidative. Water ionizers discharge the *oxidative* water separately so you don't drink it.

### **Ionizer Plates: The heart of an ionizer**

Water ionization occurs when the water travels over an ionizer's electrically charged plates. The 9000 series has nine plates that are made of titanium, and coated with platinum.



**Flat plate (right) vs. Mesh (left)**

## Ionizer Plates

The ability of an ionizer's plates to ionize water is controlled by three factors:

1. The quality of the incoming water.
2. The surface area of the plates.
3. The amount of electrical power available to the plates.

**Plate size** - Some ionizer companies – such as Enagic® Kangen® - point to the size of the plates in their ionizer as a selling point, insinuating that “more is better”. This statement was true about 5 years ago, but the development of newer Technologies such as MESH plates and SMPS power supplies has resulted in smaller, more efficient plates.

**MESH plates** have more linear edge surface area than flat plates. Because of this, more of the water is exposed to the electrolysis process which increases the antioxidant power of ionized water. This results in higher pH values and **higher antioxidant** –ORP readings compared to flat plates.

**Ionizer Plate Quality** - The plates in an ionizer are the very expensive heart of the machine (platinum and titanium are rare and expensive). The quality of the plates in an ionizer is largely dictated by the amount of platinum they are coated with.

**Dipped vs. Sprayed** - Manufacturers coat the titanium plates with platinum using one of two methods; they either spray the plates, or dip the plates in platinum. Dipping produces the thickest coat of platinum, with the best plates being double dipped:

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- **Jupiter/IonWays®** spray their platinum onto their plates which produces a coat that is only 0.25 microns thick (millionths of an inch!).
- **Life Ionizers™** double dip their plates and achieves a thickness of 0.75 microns, which is guaranteed to be the thickest platinum plate in the residential market.

**Plate quality affects warranty:** The way to determine if the ionizer you are looking at has high quality plates is to see how long the manufacturer warranties them for. For example, LIFE Ionizers™ provides a lifetime warranty on the **9000 series plates**. Most other companies only offer a five year warranty on their plates.

## Power: SMPS vs. Transformer

**Switched Mode Power Supply** - Most water ionizers made today are powered with a Switched Mode Power System (SMPS). This new technology is used to power sensitive electrical devices such as PC computers, plasma and HD TVs.

**Transformers** – A few older water ionizers are still powered by transformer-based power supply. Transformer based power supplies waste a lot of energy in the form of heat, which also shortens the life of the ionizer! For example, an Enagic® Kangen® SD-501 uses the energy less efficiently than a LIFE 9000 – that is why the LIFE optimizes the pH and ORP so much better!



## **Advantages of SMPS Power Supplies**

**Adjustable amperage settings** - The power sent to ionizer's plates must be properly matched to the hardness of the water being ionized in order for an ionizer to reach its best pH and –ORP levels. Modern SMPS powered ionizers will provide several different amperage settings which can be used to compensate for variations in water quality.

**Energy Savings** – SMPS power supplies control power by switching on and off rapidly. This method of power control is very efficient. Transformers control power by dissipating excess energy in the form of heat. The heat they generate is wasted energy.

**Reliability** - The last advantage of SMPS technology that will be discussed here is that SMPS power supplies generate less heat. Heat is considered to be the #1 killer of sensitive electronics, thus SMPS powered ionizers are designed to last a lot longer than transformer powered units.



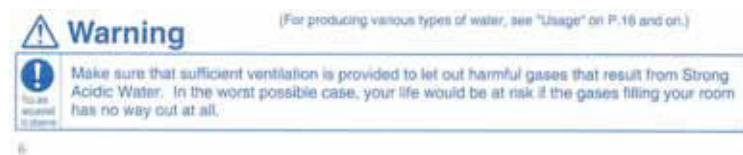
## **Dangerous Chemicals: A Disadvantage of Transformer Power**

**Danger, DO NOT Drink!** - Older water ionizers such as Enagic® Kangen® rely on chemical additives to make antioxidant water. Buyers should be aware that chemical additives are not necessary to achieve satisfactory pH and –ORP levels in modern ionizers, but there are some ionizers still sold that use older technology and require additives to be used to reach peak performance. The Enagic® Kangen® LevelLuk SD-501® is one example.

The Enagic® Kangen® has two ports for adding chemicals that must be purchased from Enagic® in order for their system to produce alkaline or acid water.

To produce acid water, the SD-501 uses a solution of Sodium Chloride and Sodium hypochlorite (bleach). Enagic® warns users in its user's manual not to use their machine to produce acid water using the solution in poorly-ventilated areas because their machine will emit poisonous gases while doing so. The warning suggests that you may die if the gases produced by their machine are not properly ventilated.

## Kangen® Poison Gas Warning



# Choosing the Ionizer that Fits Your Lifestyle

## Where you are going to put your ionizer?

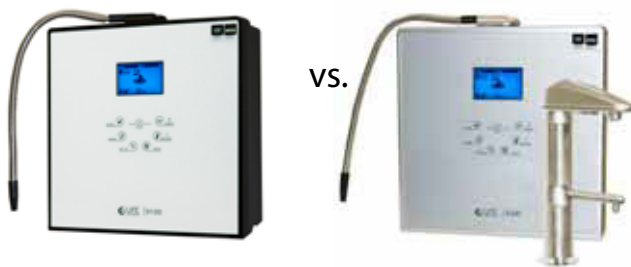
**Countertop** - If you are buying a countertop model, keep in mind that the ionizer has to be close to the sink, and that it will take up about as much room as a coffee maker will on average. The best way to ensure that your new ionizer will fit is to measure the space ahead of time. You will also need to consider where any pre-filters your ionizer uses are going to go.

**Under the Counter** - For under the counter installations, make sure that there is space under the counter for the ionizer and its filters. Since the ionizer will be hidden, it will not take up precious counter space.

Make sure the ionizer controls are part of the faucet control, and that they are easy to use and displays are easy to read. There is no point in buying an under the counter ionizer that forces you to go under the counter to use it.



## Countertop vs. Under the Counter

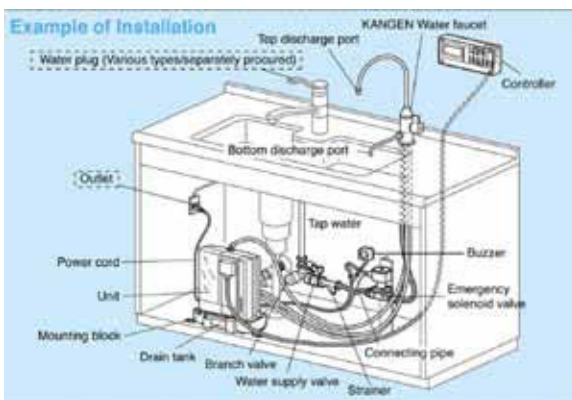


Some ionizers work better under the counter than others. Companies that offer a wide range of models to choose from will have models designed specifically to work under the counter, such as the LIFE 9000 series. There are three very important things to look for in an under the counter ionizer.

- Access to Controls – Can you run the ionizer from the countertop?
- Appearance of Controls – Do the countertop controls look nice?
- Is the ionizer a convertible unit that you can unplug and use as a counter top when you are traveling?

**Jupiter Ionizers** - It makes no sense to buy a under the counter ionizer that makes you go under the counter to use. Some of the conversion kits for Jupiter/Ionways make you do just that. The faucet controls the flow of water only, it does not provide any way to turn the ionizer on or to choose the type of water you want. While Jupiter provides more convenient controls, those options add substantially to the price of their ionizers.

**Enagic® Kangen®** - The controls for an under the counter ionizer should not detract from the appearance of the counter it is installed under. Unfortunately, Kangen® Enagic's® SD 501U, has controls that look terrible!



The controls are mounted in a separate unit on the wall. Buyers concerned about the appearance of their installed ionizer will find that splitting the controls and the faucet detracts from the appearance of the final installation.

## Water Ionizer Maintenance

**Ionizer Self Cleaning** - All ionizers reviewed here and any worth considering will feature self-cleaning functions which will help keep the ionizer working at its best. Ionizers self-clean by reversing the polarity of the current normally supplied to the ionizer's plates. The reversed current causes the plates to repel the mineral scale that has built up with use.

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**LIFE Ionizers™ works with hard water** - Buyers with hard water need to know that the effectiveness of the self-cleaning mode varies by manufacturer and some companies will void their warranty if their machines are used with hard water. LIFE Ionizers™ uses “reverse action dual cleaning (RADC™) technology as well as having a unique anti-scale system that compensates for the problems caused by hard water.

**Filter Replacement** - The filters used in your ionizer need to be replaced at regular intervals. Most ionizers require that the filters be replaced about every six months for the primary, and 12 months for the secondary (if equipped). The cost of replacement filters varies from \$59 to \$120 for machines tested for this guide.

**LIFE filters last longer** - The only exception to the six month rule is LIFE Ionizers™; their use of custom pre-filtration extends the life of their ionizer's internal filters to 8 months by removing many impurities before they can enter the ionizer and contaminate its filters. Life replacement filters also run only \$49 each.



## Putting it all Together - Choosing Your Ionizer

**Know Your Budget** - Your ionizer budget should include the cost of the ionizer and its installation. Once it is set up, you will have ongoing costs to replace filters in your ionizer.

**Know Your Water** - Evaluate your local water quality – For example, find out if you have hard water before it voids your warranty! Only Life Ionizer companies will evaluate your water quality for Free for you to ensure the right pre-filtration.

**LIFE checks your water quality for free** - Water evaluation is included with the purchase of LIFE Ionizers™, and the information is used to custom configure a pre-filter to fix problems found in your tap water. LIFE Ionizers™ is the only company to provide custom pre-filtration free with every ionizer purchase.

**Know the company you are doing business with** - You are going to depend on the company that built your ionizer in the future when you have questions, and need replacement components such as filters for your ionizer.

**Certifications** - Look at the industry certifications the company has earned. Some certifications such as National Safety Foundation (NSF) insure the safety of products; others like WQA, ANSI and ISO ensure the company is operated efficiently according to standards that are used by Fortune 500® companies.



## After the Sale

**Return Policy** - After you buy it, your ionizer arrives in a big cardboard box often along with another box if you order a pre-filter, now what? All of the ionizer makers reviewed in this guide will provide support to you during installation and set up. Most ionizer companies offer a 30 to 60 day return policy with the exception of Enagic®, which only accepts returns for three days. Make sure you know how long you are eligible to return an ionizer before you buy it!

**Warranty** – If the company that made the ionizer doesn't believe in it, why should you? Top of the line ionizers should have top of the line warranties. Most companies only warranty their top of the line systems for 5 years. Jupiter and Enagic offers a 5 year warranty on parts and labor. Jupiter offers a longer warranty on parts but after a short period they charge you labor fees. KYK warranties their parts and labor for 5 years and their plates for life. LIFE Ionizers™ is the only company that provides a lifetime warranty on parts and labor on their top of the line models.



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## Common Misconceptions

### **Kangen® water is different from other ionized water and is somehow better.**

“Kangen®” water is a registered trademark of Enagic®. Kangen® water is using the same principles used by all ionizer manufacturers. Kangen® water basically means that it is ionized alkaline water. The Life 9000 series is designed to be better than Kangen® water because it has a high antioxidant level at a drinkable pH, which no other machine can do.

### **Many “cheap” ionizers are manufactured in Taiwan, China or Malaysia**

Quality ionizers are made in either Korea or Japan, some ionizers are assembled elsewhere, but there is no “made in U.S.A” ionizers sold today. The best way to ensure you are buying a quality ionizer is to look at the industry certifications an ionizer has earned. Look out especially for the ones certified by the Water Quality Association (WQA).

### **Pure water cannot be ionized because it does not conduct electricity.**

Ionized water is not “pure” water! Ionized water has some mineral content present which is necessary in order for the water to be ionized. The mineral content in water is what conducts the flow of electricity coming from the ionizer’s plates through the water.

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**Ionizers sold through MLM are a better value because their high cost mean they are better quality.**

Not true! Companies that sell through MLM have 8 or more levels of distributors to pay for each sale plus the manufacturer makes a big profit to cover their MLM expenses. It's best to buy directly through a manufacturer or one of their authorized resellers. The true cost of an ionizer sold through MLM is the cost of the ionizer plus about 50% of the commission paid by the company to the MLM distributor, which makes MLM ionizers significantly more expensive than ionizers sold through traditional means, but without any additional value.

**Chemical additives are needed to produce alkaline or acid water.**

Chemical additives are a popular way to achieve good results in ionizers with older technology. Newer ionizers using MESH plates and SMPS power supplies are capable of producing alkaline or acid water *without using chemicals*.

## Conclusion

While there are many considerations to choosing a quality water ionizer, the time spent comparing them is time well spent. Ionizers that feature modern technology, quality construction and good company backing will reward their owners with years of good service and abundant health. A poorly chosen ionizer will quickly become nothing more than a useless and expensive piece of junk. Whichever ionizer you choose, we here at LIFE Ionizers™ wish you success and many years of a full, healthy life. We appreciate the time you spent to read this guide, and we hope it has been valuable to you. We hope this guide has answered your questions about alkaline water ionizers. If you would like more information, please call our water ionizer experts at: (888) 688-8889.



## Appendix A

LIFE Ionizers™ - <http://www.lifeionizers.com/>

ETR Certified Laboratories® Filtration testing - <http://www.lifeionizers.com/blog/water-ionizers/research/lab-study-on-water-filtration/>

ETR Certified Laboratories® Webpage - <http://www.etr labs.com/>

Enagic Filter Sulfite Warning® - <http://www.soyouwanna.com/kangen-water-2220.html>

Enagic Website - <http://www.enagic.com/>  
[Enagic® LevelLuk® SD 501 Specifications](#) - [Enagic® LevelLuk® SD 501 TYH-401NF User's manual](#)

Kangen Poison Gas Warning - [http://www.youtube.com/watch?v=KyAzXrrHDKE&feature=player\\_embedded](http://www.youtube.com/watch?v=KyAzXrrHDKE&feature=player_embedded)

Physician's Desktop Reference - <http://www.pdrhealth.com/home/home.aspx>

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## HOW TO USE THIS GUIDE

The Consumer's Guide to Water Ionizers is written to help the health conscious consumer make an informed choice when shopping for a water ionizer. The guide examines the technology used in water ionizers from the point of view of an ionizer owner.

Two types of advice are given in this book. Buyer's advice includes information on getting the right filtration system for your water, and choosing the technology and features that fit your lifestyle. Ownership considerations that are discussed include cleaning, maintenance, and filter replacement are intended to familiarize you with the things you need to do to keep your ionizer working and what the costs of ownership are.

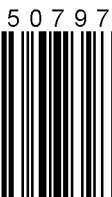
If you are new to shopping for a water ionizer, you will want to start from the beginning of the book to learn about how ionizers work and become familiar with the technologies used in ionizers. If you are already familiar with water ionizer technology, you may wish to start at chapter 3: How to compare ionizers. Either way, you can quickly find the information you need in order to make a smart investment.

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