Price Comparison Study – for technical researchers who're looking for facts & numbers

'Kangen Alkaline Water' Enagic's SD501 for $3,980 vs Competitor Machines for $2,000

By Lauri Tauscher

Short Credential List For Lauri Tauscher

National Merit Scholar

BSME Oregon State University 1984, summa cum laude(Bachelor of Science Mechanical Engineering, with highest honors)

Manufacturing Engineer for Tektronix 1984 – 1989 Responsible for (among other things) Cost/Benefit analysis of large capital equipment purchases ($500,000). Worked with electroplating technology to make circuit boards.

Regional Manager, Siegmund 1989 – 1991

Lab Manager/Engineer, IMMP 1991 – 1995

Mom, heavily into nutritional therapy to recover health of son 1995 – present.

SUMMARY

-The Enagic SD501 sells for $3,980. The Enagic Junior model is $2,380. There are MANY machines available on the internet for $1,500 to $2,000 that claim to be equivalent to the Enagic SD501.

-Why the big price difference?

-There are multiple internet websites claiming the price difference is solely due to Enagic's compensation plan for referral sales.

-Is this the truth?

-The Enagic SD501 contains 4 times the amount of titanium and platinum than any of the machines claiming to be equivalent.

-This makes the Enagic SD501 machine cost 4 times more to make, but it only costs twice as much.

-This means that the companies that are 'pointing' at Enagic and saying that they are 'overcharging' due to their compensation plan, that they themselves have a markup 3 times greater than Enagic's!

-Which do you think is the better "deal?"

-The reason Enagic uses seven 4.75" x 7" solid titanium plates, is that is what is necessary to transfer enough electricity into the water to accomplish fractionation (splitting the water into its acid and alkaline components), micro-structuring (making the water hexagonal), and Ionization (giving the water a strong negative ORP, oxidation reduction potential) in such a way as to create **STABLE** hexagonal water that is medically effective.

-A machine that uses a quarter of the titanium and platinum would **MELT** at the wattage (230 watts) used by the Enagic SD501. They are simply incapable of creating powerful, stable Kangen Water™ using the 80 watts or less that their machines output.

A MORE DETAILED ANAYLSIS

(This analysis was put together for **Daisy Ermatinger**, who purchased a Life Ionizer machine. So I often refer to the Life Ionizer machine, but I evaluated multiple other machines in the same $2,000 price range (which all come from the same Korean corner cutting budget manufacturers).

1) The technology involved in the electrolysis process used to ionize water is similar to technology I worked with at Tektronix electroplating circuit boards. Barry's brother, Bret, graduated the same year from OSU with a BS in Chemical Engineering. Bret and I worked together for Tektronix's Circuit Board Manufacturing Facility.

2) **Enagic Corporation is very upfront** about the percentage of the machine price that is allocated to marketing/profit – it's 65% (which makes the **cost of manufacturing 35%**).

3) Enagic Corporation uses 7 solid titanium plates heavily coated with platinum, 4.75" x 7". The process used to "coat" the titanium plates with platinum is a plating process (I will come back to this later). The platinum is "medical grade". This is one of the reasons why the Japanese government has licensed Enagic as a "medical device". It is the ONLY machine of its kind that is certified as a medical device. See http://www.enagic.com/ for photostats of this and other documents.

4) Life Ionizer Corporation uses a "new" technology incorporating a mesh plate design so they can use a smaller plate design and purportedly achieve the same contact surface area with the water to achieve the same ORP (Oxidation Reduction Potential) as Enagic. (In fact, when I spoke to a Life Ionizer representative, I asked about the plate size and he laughed, saying that was one of the questions everybody asks – his answer was he did not know, but that their contact surface area is the same as Enagic. Why would he immediately compare to Enagic, not another brand? I experienced the same phenomena with Jupiter, Athena, Akai, Tyent, Hydroanalytics – they ALL compare themselves to Enagic, knowing in their hearts it's the benchmark).

5) First, let's just look at the cost of the equipment, **because your concern is that the cost difference between the Enagic Leveluk SD501 at $3,980 and the Life Ionizer Life 7500 at $2,000 is the marketing concept used by them.**

6) **Enagic SD501 cost of manufacturing: 35% x $3,980 = $1,400.** With medical grade platinum in the range of $1,500/ounce and titanium also an expensive metal, the bulk of the cost of the machine is in these components.

7) Life Ionizer Estimate of Manufacturing Cost: Let's assume for the sake of argument that they are using medical grade titanium and platinum (they would only be required by law to use food grade which is in the range of $500/ounce for the platinum and if they used medical grade you could be sure they would tout it with a copy of their certificate as Enagic does on the website listed in paragraph 3 above). Let's also assume that they are attempting to plate the same thickness of platinum used by Enagic (which they're not – they micro-spray).

Life Ionizer uses seven 3" x 5" mesh plates which will require 22% of the material that Enagic's seven 4.75" x 7" solid plates will, resulting in a **manufacturing cost** of: **Life 7500 cost of manufacturing = 22% x $1400 [SD501 mfg cost] = $308**. [How did I get 22%? Enagic surface area = 4.75 " x 7" x 2 sides x 7 plates = 466 sq in; Life Ionizer surface area = 3" x 5" x 2 sides x 7 plates = 210 sq in; {210 sq in/2 (because it is mesh not solid)} = 105 sq in / into Enagic's 466 Sq in = 22%]. I did eventually get the size of the plates from Life Ionizer as well as all of the other manufacturers that I spoke with. They all fall into this same range.

The Life 7500 machine costs $2,000. **So their cost of manufacturing is 15% ($308/$2,000), making their marketing percentage 85%.** And then they say that the cost of the Enagic Machine is all due to the method of marketing? And they use this ploy to make you think that the higher price of Enagic is not because of the material costs? **Shame on them**!

Another, perhaps more revealing, way to look at these numbers is this: Enagic's markup is 185% ($3,980/$1,400). **Life Ionizer's markup is 567%** ($2,000/$308). That means that Life Ionizer's markup is 3 x Enagic's (567/185).

8) I remember Jordan Rubin (Garden of Life food supplements) saying that he would not sell his products through MLM because it would make them cost more. But his products cost as much as any of the equivalent products. Somebody somewhere is going to need to make money in the distribution of a good or product. I realize that Barry and I are an exception to this rule (as is Azure Standard) as we are willing to minimize our markups so that folks can get the foods they need as reasonably as possible while trying to maintain a supportable income for our farmers. But typical markups that we have seen in grocery stores and doctor's offices as well as furniture or any other commodity is a minimum 100% markup with 200% not uncommon, but 567% is excessive.

9) Life Ionizer and all of the other ionizer companies that point to Enagic's compensation plan as the reason for the high prices of the machine, when they ALL make money, and most of them, like Life Ionizer, have a much higher markup than Enagic. I did ask Life Ionizer what their markup is. The man I spoke to told me he does not know. Then he elaborated and said that if you purchase a 1,000 machines as a distributor, you'll get a 50% discount, which means, when they sell a $2,000 machine to a distributor for a $1,000, they're still making a healthy profit.

10) **Let's look at a spending limit of $2,000**. Enagic Corporation manufactures a Leveluk Junior Mark II that sells for $2,380. This model incorporates all of the integrity of manufacturing that the Leveluk SD501 does. It costs $840 to manufacture, making it "worth" 2.75 ($840/$308) times as much as the Life 7500 (see paragraph 7 above for Life 7500 cost of mfg.), which is priced the same (the Life Ionizer website lists the Life 7500 @ $2,400, with a special one time offer of $2,000).

11) And what do you get for the "markup"?

From Enagic you get educated folks willing to help all of us understand the benefits of true electrolysis and ionization and how Kangen Water™ can transform our health. Kangen distributors are dedicated because they've experienced specific health improvements from their own use of the machine and they want as many folks as possible to have access to healing Kangen Water™. *The only people who sell Enagic are satisfied customers*. Paul had chronic pain from bone spurs – gone; Pamela's husband is diabetic, suffered with Crohn's, colitis, blood sugar 500 – now Crohn's and colitis gone and blood sugar normal. The representatives that I have spoken to from other ionizer suppliers do not have this personal experience with the machines they are selling.

Life Ionizer and other like corporations have a staff of paid phone operatives who know the answers to a few limited questions. They are not out educating folks, encouraging, and offering water with no strings attached (we honestly do not care whether folks buy machines, we bought ours because we wanted to give the water to folks we know and see them get better, but I'm having just as much fun giving the water to complete strangers that show up at our door). The rep I spoke to from Life Ionizer feels great and gets up earlier in the morning; that's wonderful, but I want water that has the potential to help heal friends of mine with bone cancer, rheumatoid arthritis, asthma and many serious issues.

12) We have a couple of folks in the Co-op here who have told us they bought machines similar to ours from other companies (that are less expensive) in the last couple of years. We asked them "Tell us your stories?" thinking how fun it was going to be. No stories! No specific health improvements from drinking the water. And we have seen folks get results within days/weeks of drinking Kangen Water™.

13) Here's the deal. Not only is there a LOT less platinum and titanium in machines like the Life Ionizer, but because they are not certified by an independent organization, there is no way to know if the metals are free of

impurities that may be harmful. And even if they are medical grade materials like Enagic uses, the method of forming the plates is as important to the function of the machine as the material they are composed of.

I mentioned in paragraph 1 above that Bret and I worked in an electroplating facility. We plated circuit boards with copper, silver, and gold. The manufacturing process controls necessary to do this successfully took a team of about 30 talented engineers and technicians monitoring the processes 24 hours a day. To plate a flat surface, like a solid titanium plate (or a flat circuit board) is not difficult, but to do so in such a manner as to result in a uniform thickness requires careful process controls (for which Enagic is famous). The reason this is important is because the base plates are made of titanium because it is an excellent electrical conductor. However, titanium is toxic to humans if ingested, so we do not want it in the water.

Therefore, years ago when Enagic was developing this technology for use in Japanese hospitals, (they are the only water ionizer used in Japanese hospitals. Dr. David Carpenter never saw the same results in his US patients, as he saw with patients in Japanese hospitals all using Enagic, even after purchasing 9 different US water ionizers (this was before Enagic was in the US). Enagic's integrity has meticulously develop a strictly monitored process to carefully plate a heavy uniform thickness of platinum to guarantee a minimum life of 15 years before the plates may need to be serviced (which Enagic's is designed to do – the electrolysis unit is bolted together and they simply unbolt it, refurbish the unit and return it, during which time they ship you a loaner machine so you are never without your water). The platinum will ionize into the water over time (it is beneficial to your health), but eventually you will be close to titanium – it's time for a service. If the plating thickness is not carefully controlled, the unit's life expectancy would be reduced from 15 years to 1 or 2 years.

Meanwhile, the folks that use a mesh technology have a much more difficult process control issue. They do not have a flat titanium plate to then plate with platinum, they have a mesh of varying thickness and topography with little interstices and funky places to try to get the platinum plated into – just like with circuit boards that had holes drilled through them with multiple layers of circuitry that had to all be electrically connected with the copper, silver, or gold plating that we were plating them with. The plating was ALWAYS thicker at the surface of the hole than it was down in the hole, and it got thinner and thinner deeper in the hole, to the point that "opens", or a place with NO metal plated on, were a common quality issue that had to be resolved by careful process control.

Then there are the folks who simply plate or spray a thin titanium plate with a micron layer of platinum, then stamp a mesh grid out of it. Then you have exposed titanium surfaces by design (not necessarily intentionally, just as a natural result of the chosen manufacturing process).

I discussed the water ionizers with Bret (Barry's ChemE brother) a couple of weeks ago and he concurred with my assessment that the mesh design technology might be able to reproduce an initial high ORP, but that considering the elements being used it is rife with potential health hazards. Furthermore, he pointed out, the voltage at which electrolysis takes place is high enough to put a significant load on the titanium plates, and with thin little mesh it will lead more quickly to material failure [degradation], (that's from all those boring classes on material science and from watching it happen at Tek).
When I spoke to Life Ionizers about why their unit is superior to Jupiter's mesh design, I was informed that they have an innovative recirculation technology that circulates the water over the plates multiple times to achieve the high ORP. The result of this, again, will be a shorter equipment lifespan (remember, Enagic gets high ORP by contact with a larger solid surface area, there is MORE platinum, that is why it costs more). So by using a recirculating technology with a smaller overall amount of platinum, the lifespan of the equipment WILL be shorter as the platinum is ionized into the water exposing the titanium. Unless you are using a daily lab analysis of your water to determine if there is any titanium contamination, you would never know.

14) All of the tekno-mumbo-jumbo in paragraph 13 above probably explains why in Dr. Peggy Parker's report, ”Comparison of Ionizers”, she found that the mesh designed machines ORP would not hold for any length of time (while Enagic’s held for several days) and that within a few months of purchase the mesh machine's ability to produce the high ORP’s at all was drastically reduced. Most folks who are not tekno-nerds like us are not going to buy an ORP meter from a scientific supply company to monitor their ORP – they simply would never know.

15) I realize that every company that wants to sell you something is going to tell you "Ours is the Best!", "Ours is just as good, but we have developed superior technology to bring it to you less expensively", or "Our ORP measures higher than theirs consistently", or whatever. We bought the Enagic Machine because it has a proven track record with medical professionals in the US, Japan and in over 100 Japanese hospitals, besides the many certifications from independent organizations (paragraph 3). Moreover people we knew were getting significant results (like healing from cancer) and our understanding of engineering principles in general corroborated the reality of the Enagic Machine's superiority. Furthermore the Enagic "Rep" we were talking to was willing to bring his machine into OUR kitchen, use our water, check it with an ORP meter on the spot, fill all our jugs and our friends' jugs with water.

16) I would like to retouch on the issue that ALL of the Ionizer manufacturers that I looked at and talked to rarely tried to disparage the performance of the Enagic machines; they all seem to consider Enagic a benchmark when it comes to performance. Their contention is ALWAYS that Enagic is overpriced because of the compensation plan and that theirs is <u>just as good but cheaper because the distributor makes all the profit</u>. But they NEVER talk about the fact that regardless of the innovations they have created to attempt to duplicate Enagic’s performance, **they ALL use ¼ or less titanium and platinum to build their machines**, which as I detailed above makes their machines cost about $308 to manufacture, **which makes their <u>markups much higher</u> than Enagic’s**. And again, Enagic has a machine in their $2,000 price range that has the medical grade components and all of the detailed high quality manufacturing process controls and performance criteria to maintain the medical equipment license that only they have.

<u>FURTHER COMPARISONS</u>

a) Enagic produces medical water at 2.5 pH and 11.5 pH. None of the other ionizers are able to produce water consistently at below 2.6, which is what is necessary to kill pathogens. UC Davis did a study showing that 2.5 acidic water from an Enagic Kangen Water™ machine kills E-coli, strep, MRSA, salmonella, etc.

Some manufacturers of machines that are not capable of producing this water claim that this water is unimportant. (Keep in mind, Enagic has a smaller machine, the Leveluk JRll for $2,380 that can produce 2.5 pH and 11.5 pH waters).

What is the value of 2.5 ph acid water to a person who is fighting gangrene or MRSA? How valuable is this feature to eliminating e-coli pathogens on our food (for the prevention of food poisoning)?
How valuable is 11.5 pH water, used to remove pesticides from produce or pathogens from meat?

Dr. David Carpenter has a weekly teleconference call. He had a gentleman on who told how <u>a month</u> prior he was scheduled for amputation of his leg and had already purchased his new prostheses. Someone brought over 2.5 and 9.5 pH water for him to try. One month later, <u>he no longer needed the amputation</u>. <u>He purchased the Enagic SD501</u>. <u>What value can you place on a leg</u>! This gentleman personally was on the phone call and he said "I can’t tell you enough how grateful I am that someone had the heart to care enough to bring this water to me and insisted that I try it. This saved my leg! I tell everyone who comes in my store about Kangen Water™"

b) Enagic is UL approved (this is an important safety consideration as it is an electrical device being used near water). Enagic has documentation of this fact available on their website. If another company claims to have UL approval, or medical grade titanium, or whatever, ask them for the documentation. No documented UL approval would also mean they would not have Product Liability insurance as no insurance company will insure a product with electricity and water without UL approval. I asked Life Ionizer for documentation that their platinum is medical grade and I was told they had it in a file "somewhere".

c) Enagic Corporation's manufacturing facility is ISO 9000 and ISO 14000. These are independent quality control certifications that are very difficult to achieve and insure the highest integrity in manufacturing technology and equipment quality.

d) There is a website called "Ionizers Reviewed", which is presented as an independent review of various ionizers. They show the insides of three machines, but not Enagic. This web-site has no presentation, scientific evidence or measurable tests to show that mesh technology is equivalent (or superior to solid plate technology). There is no mention on this site of the fact that Enagic uses 230 watts with large solid plates vs all the other machines being evaluated using small mesh plates with only 85 watts. A reputable review would at least mention this fact considering the whole science behind creating hexagonal, high ORP water is predicated on how much energy you can charge into the water.

All competitors fail to mention the energy usage dichotomy.

Many of the cheap machines have an "overheating warning".

The Ionizers Reviewed website is linked to Tyent USA; in fact it is a Tyent Distributor website, portraying itself as an independent review.

Note: Enagic does not enter into these kinds of stunts. They do not compare themselves to ANYBODY on their website – they don't have to.

This information is provided to help understand the true technical differences between Enagic and all other Ionizer companies. We hope it has been helpful to you.

For more information and informative videos click on http://www.alkalinewatercure.com/

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