Water Quality

Water is the most abundant chemical in the human body and plays a central role in the regulation of nutrient transport, toxic waste removal, thermal regulation, digestion, and organ functioning. About 55-65% of the human body weight comes from water. To maintain optimal health, the Institute of Medicine advises that men consume roughly 3.7 liters (about 16 cups) of total water a day and women consume 2.7 liters (about 12 cups) of total water a day.

Natura® improves the water quality and produces healthier, cleaner, purer, and tastier water by using two specialty filters and a UV-disinfection unit in series. The standard Natura® filters, schematic shown in Figure 1, are designed and optimized to provide high removal efficiencies for inorganic and organic contaminants while allowing essential minerals such as potassium, sodium, calcium, fluoride and magnesium to pass. The filtration units effectively reduce chlorine, metal ions, sediment, rust, turbidity, pesticides, herbicides, bacteria, inorganic and organic contaminants, and pharmaceuticals including Gemfibrozil, Naproxen, Carbamazapine, and Propanolol. The treated water leaving the filters passes through an integrated UV which provides total irradiation and kills microorganisms such as E.Coli, Giardia lamblia, Cryptosporidium and Coliform as a final disinfection step. Table 1 shows the data sheet for the Natura® standard purification unit.

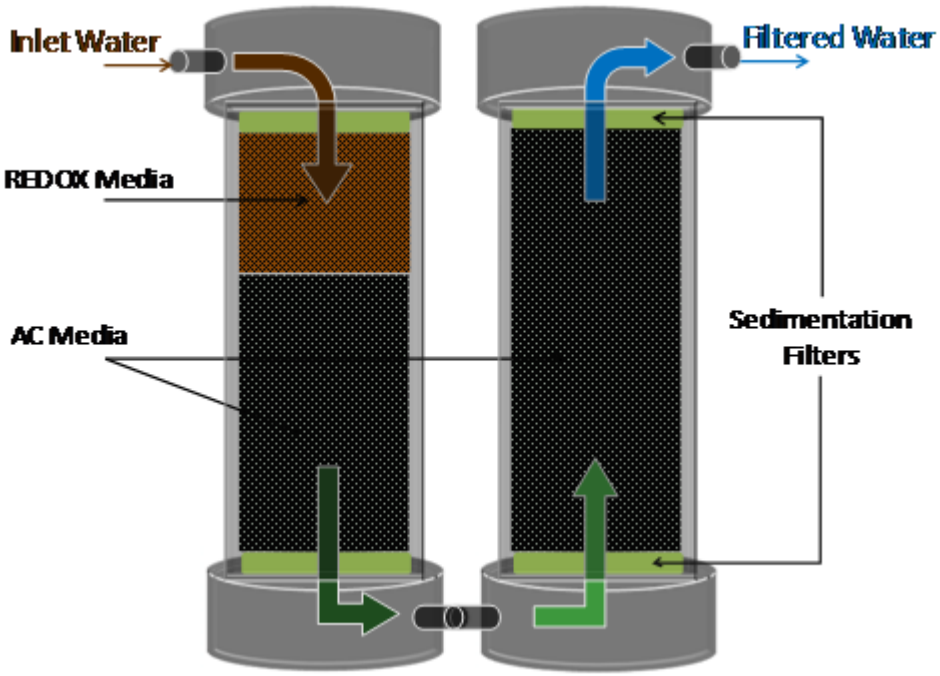

Figure 1. Schematic of Natura® standard filtration unit.

Table 1. Natura® standard purification unit data sheet.

	NWF-SD-1 Dual Media	NWF-SS-2 Single Media	UV-Disinfection
Life expectancy	6 months, has better bacteria control that prevents bacteria reproduction and premature clogging	6 months with better bacteria control when installed with NWF-SD-1	avg: 8000 hours
Sedimentation filtration	each filter has a sediment filter to remove particles 1 micron and larger	each filter has a sediment filter to remove particles 1 micron and larger	N/A
Removal efficiency	dechlorination, sedimentation, inorganic and organic removal, dissolved cations	final dechlorination, sedimentation, organic removal	N/A
Design	universal, could be used in any Natura system	universal, could be used in any Natura system	based on Natura system
Removes bad tastes and odors	yes	yes	yes
Removes chlorine	yes	yes	N/A
Removes lead, mercury, nickel, chromium, iron, manganese and other dissolved metals	yes	no	N/A
Removes organic contaminants such as benzenes, dichloroethylenes, pentachlorophenols, haloacetonitriles, styrene, toluene, trihalomethanes, chloroform, xylenes	yes	yes	N/A
Reduces pharmaceuticals including Gemfibrozil, Naproxen, Carbamazapine, Fenoprofen and Propanolol	yes (as complete set)		N/A
Removes E.Coli, Giardia lamblia, Cryptosporidium and Coliform	yes (as complete system)		

Since the purification unit removes a wide range of undesired compounds from water while allowing essential minerals to pass, the final Natura® water has an enhanced natural mineral balance with a neutral or slightly alkaline pH. The pH of water is the measure of the acidity (pH less than 7) or alkalinity (pH above 7) of the water. Natura® produces still water with a pH of 7.3 – 7.6. Most carbonated beverages have acidic pH values (Coke and Pepsi have a pH of about 2.5), are sweetened, are often caffeinated, and may include phosphoric acid or citric acid. Natura® produces healthy Sparkling water with higher pH values of around 4.75 – 4.85. When compared to many other beverages and food, the pH of Natura® Sparkling water is comparable

to common healthy food products. Table 2 summarizes approximate pH values of Foods and Food Products listed by the Food and Drug Administration.

Table 2. Approximate pH for food products.

Item (alphabetical order)	Approximate pH
Cranberry Juice, canned	2.30 - 2.52
Blueberries, Maine	3.12 - 3.33
Fruit cocktail	3.60 - 4.00
Grapes, Seedles	2.90 - 3.82
Grapefruit Juice, canned	2.90 - 3.25
Honey	3.70 - 4.20
Lemon Juice	2.00 - 2.60
Lime Juice	2.00 - 2.35
Mangoes, ripe	3.40 - 4.80
Milk, Acidophilus	4.09 - 4.25
Natura Water	
Still	7.30 - 7.60
Sparkling	4.75 - 4.85
Nectarines	3.92 - 4.18
Orange, Juice Florida	3.30 - 4.15
Peaches	3.30 - 4.05
Pineapple Juice, canned	3.30 - 3.60
Plums, Blue	2.80 - 3.40
Pomegranate	2.93 - 3.20
Raspberries	3.22 - 3.95
Strawberries	3.00 - 3.90
Tomatoes, Juice	4.10 - 4.60
Vegetable Juice	3.90 - 4.30

Scientific research results showed that carbonated water intake significantly decreased the level of bad cholesterol (LDL-cholesterol) and total cholesterol by 14.8% and 6.8% while increasing good cholesterol (HDL-cholesterol) by 8.7%. Other health benefits of carbonated water consumption include a decrease in fasting serum glucose concentration by 6.7%, a decrease in the dyspepsia score and constipation score from 7.9 to 5.4 and 16.0 to 12.1, respectively. On the other hand, tab water did not modify the scores.