THE *POLARIZING CARBONATOR*™ FROM DRINKSTATION®

Patented Polarizing Water Carbonation System with Enhanced Bubble Stability

With three patents granted and several more patents filed, the DRINKSTATION® POLARIZING WATER CARBONATION DEVICE can create carbonated water (sparkling water) that is extremely fizzy and that keeps its bubbles longer than traditional methods. The inventions are focusing at making carbonation more stable by strengthening how water and carbon dioxide molecules bond together.

How It Works

The system works by passing cold water and carbon dioxide through special chambers containing metal mesh screens and small glass beads. Unlike conventional carbonation that relies solely on cold temperatures and high pressure, this device adds three innovative elements:

1. Molecular Chain Breaking: As water passes through fine metal mesh screens, the long chains of water molecules are physically broken apart. This creates more individual water molecules available to bond with carbon dioxide.

2. Passive Polarization: The flow of water through the metal mesh creates a natural electrical charge difference (polarization) that helps orient water molecules in a position more favorable for bonding with carbon dioxide.

3. Molecule Stabilization: Small glass beads with microscopic surface irregularities act as “traps” for carbon dioxide molecules. These trapped molecules become stationary targets that water molecules can more easily bond with, creating more stable carbonated water.

Key Components

The device consists of:

- A venturi that combines the flows of water and gas in laminar pattern
- One or more carbonation chambers containing stainless steel micromesh nets
- Glass beads (0.5-5mm in diameter) placed inside the chambers
- A flow compensator that reduces pressure of the mix before dispensing

Benefits

According to test results shown in the various patents, water carbonated using this system:

- Achieves higher carbonation levels (above 4.3 volumes of CO_2)
- Maintains its bubbles significantly longer - keeping good carbonation even after an hour at room temperature
- Has a lower pH (around 3.6) indicating stronger bonding between water and carbon dioxide