

# SIP Technologies

*supplied by*

Vendability t/a Café Mezza, Unit 4B–Block B,  
Dunshaughlin Business Park,  
Dunshaughlin, Co.Meath, Ireland.

Phone: 01 8024007 Fax: 01 8024008

E-Mail: [info@cafemezza.ie](mailto:info@cafemezza.ie) Web: <http://www.cafemezza.ie>

# How SIP 1000 Works:

- Attaches to back of cooler (or inside) and enters through reservoir
- 5-10 Min. → Ozone
- 5 Min. → Dissipation
- LED on front of cooler
- Compressor control (before ozonation) option



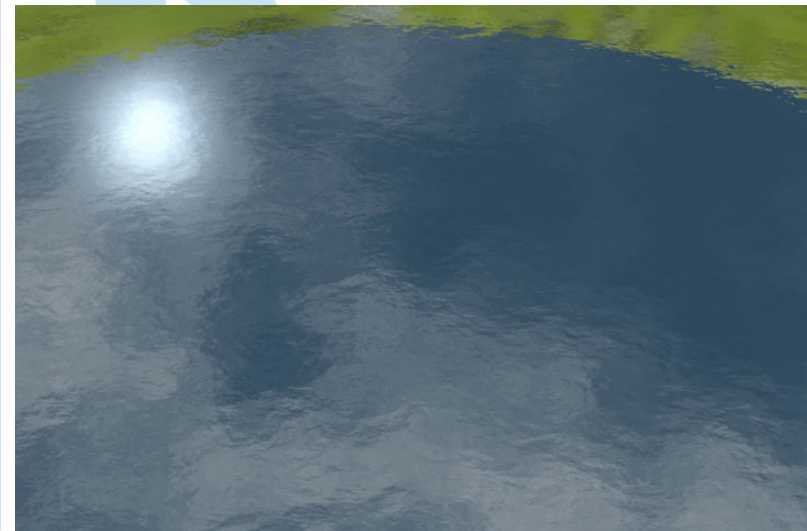
# Oxygen

- $O_2$  is the source of all life
  - Also the source of aging (Oxidant)
  - Food is packed in Nitrogen
  - Fruit oxidizes (ripens)
- Looking for a **BALANCE**:
  - Too much oxygen: bad
  - Air is a **MIXTURE** (21%)



# Activated Oxygen

- When oxygen passes through electrical discharge, it breaks apart the two oxygen molecules.
  - Some single atoms bond with the O<sub>2</sub> and form “activated or hyper-oxygen”
    - $O_2 + O_1 = O_3$
- Happens naturally
  - Protects the earth
- Unstable gas
  - O<sub>3</sub>:high-energy oxidizer
  - It wants to “age” something – bacteria
  - Wants to go back to O<sub>2</sub>



# Ozone's Use

- Used to disinfect municipal water systems
  - First in Nice, France in 1906
  - Used to treat over 3,000 municipal water supplies
    - Los Angeles, Dallas and Las Vegas
  - Bottled water
- Advantages:
  - Very effective (most powerful oxidizer → water treatment)
  - When used as primary oxidizing agent (disinfectant), does not add chemicals to water
  - Reduced production of byproducts (THM's)
  - When it's gone, no chemicals left in the water

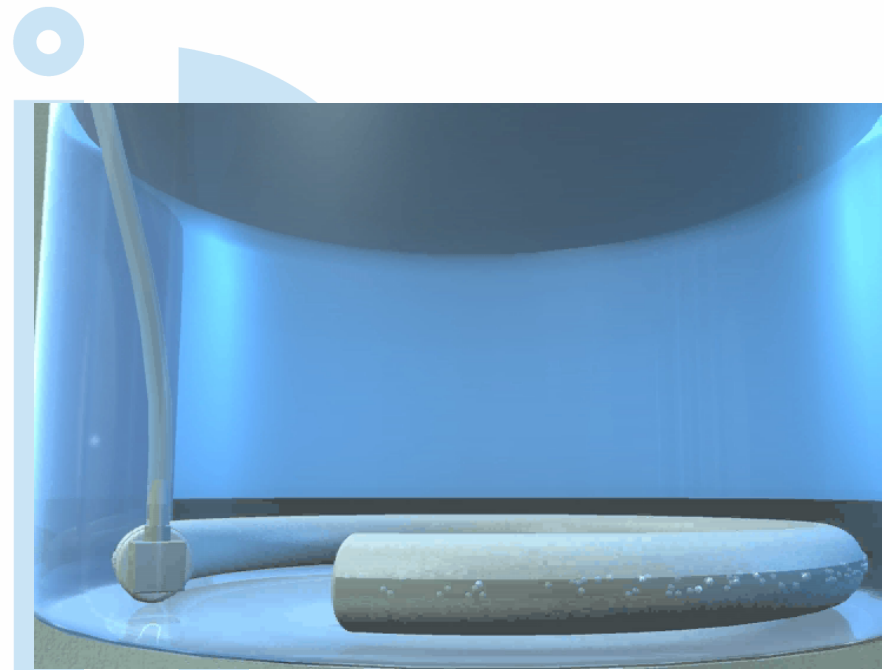
# Bacteria

- Even pathogenic bacteria (E. coli, for example) are easy to kill with ozone (upon contact)
- When ozone goes into the water, it “burns up” the bacteria cells quickly
  - Can’t reproduce
  - Ability to “stick” to the walls of a reservoir is inhibited (biofilm).



# SIP Ozone Levels

- .15 ppm (in water) for 5 to 10 minutes (depending on size of reservoir)
  - All water contact surfaces
  - Cold water is better
  - “Micro-bubbles”
- After ozonation, dissipation
  - Only lasts 30 to 120 minutes if no dissipation
- 0 ppm (in air): one-foot
  - Unstable – converts to O<sub>2</sub>



# Corona Discharge

- With the SIP 1000, the O<sub>2</sub> passes through 7,500 volts to make the “hyper-oxygen”
  - Much more effective than UV



# Corona Discharge versus UV

	UV	Corona Discharge
Energy required to generate 1 kg of ozone	44 kWh	6-8 kWh
Operating Costs	High	Low
Max. Production Rate	1.94g/kWh	> 55g/kWh
Ozone Production	Variable	Constant

# Problems with UV:

- Shadowing
- Bulbs need to be replaced
- Efficiency decreases with bulb life
- Ozone production much lower than corona discharge
- High energy costs

# Other Technologies

- Heat/Steam
- Silver Impregnated Reservoir
- Nano-plastic reservoir



# Bromate

- Source water must:
  - Have Bromide
  - Heavy ozonation
- We ran the SIP 1000 for **one-hour** and tested for Bromate (in water with high levels of Bromides)
  - At USA and at WRC/NSF labs
    - Overseen by independent microbiologist
  - Couldn't produce ANY Bromate
- *We gently ozonate*
  - Balance (lower levels for shorter time)

# It's Easy To Do Business With SIP

- Employee Education Program
  - Ozone Training
  - Programming
  - Installation
  - Sales Support
  - Technical Support
- Marketing Program
  - 3D Marketing Animations
  - Information Sheets



# Using The SIP 2000

- Get more customers
- Separate yourself from your competition
- Better quality water
  - Protect the quality of the water purity
  - Every night
- Increase customer retention
- Cost savings versus manual sanitization
- Additional profit





*supplied by*

Vendability t/a Café Mezza, Unit 4B–Block B,  
Dunshaughlin Business Park,  
Dunshaughlin, Co.Meath, Ireland.

Phone: 01 8024007 Fax: 01 8024008

E-Mail: [info@cafemezza.ie](mailto:info@cafemezza.ie) Web: <http://www.cafemezza.ie>