# **COMMANDER SYSTEM**



Parameter	Req Level
Free Chlorine	0.5 PPM
рН	6 - 8
Total Dissolved Solids	Under 500 PPM
Trihalomethanes	80 PPB



### **FEATURES AND BENEFITS**

- Monitors Storage Tank Free Chlorine Level
- Monitors Storage Tank pH Level
- Monitors Storage Tank Total Dissolved Solids Level
- Monitors Storage Tank Water Temperature
- Continuously Circulates Tank to Prevent Stagnation and Evenly Distribute Disinfectant.
- Includes Proportional Chlorine Dosing System that Automatically Adjusts Chlorine Injection Rates to Actual versus Target Free Chlorine Residual Levels. Prevents Over or Under Chlorination.
- On skid storage of two week minimum chlorine supply. Tank includes level gauge and mixing chart for maintaining proper chlorine solution strength.
- Tank Disinfection Function Included for Shock Sanitization of Storage Tank and Carbon Filters For De-chlorination Allows Disinfected Water to be Reused.
- Integral Filtration System to Remove Sediment and Suspended Iron from Tank
- Integral Phosphate Injection System to Stop Corrosion in Tank and Plumbing System.
- pH Neutralization and Re-mineralization Filter Works With pH Monitor to Maintain Neutral pH and Adds Water Hardness to Lessen Corrosion Issues.





The H2O CMDR System is designed to serve four primary functions.

## Circulation

As water sits stagnant in a storage tank thermal stratification begins to occur. Stagnant water is far more susceptible to algae and bacterial growth. Furthermore, since chlorine is heavier than water it sinks to the bottom of the tank. This allows bacteria and algae to grow at the surface and on the walls of the tank. Proper circulation of the tank is necessary to maintain an even distribution of disinfectants and prevent algae and bacterial growth.

#### Monitoring

The CMDR system continuously monitors three major parameters of your potable water supply; Total Dissolved Solids, Free Chlorine Residual and pH. All three parameters are critical to maintaining potable water that meets regulations including the EPA Safe Drinking Water Act and should be logged daily.

#### Disinfection

Regulations require that a minimum free chlorine residual be maintained in a water supply at all times to prevent bacterial growth. The CMDR system injects chlorine produced on site via electro-chlorination to maintain the required disinfectant levels.

#### **Re-Mineralization**

Water produced by the R.O. and distillation process will have a low PH. This condition is created because the watermakers not only reject salts (such as Sodium Chloride) but also rejects minerals such as calcium and magnesium. This results in a high quality fresh water supply, but mineral deficient and low in pH. Water with a low pH can be aggressive as it tries to neutralize itself by dissolving minerals and/or metals it comes in contact with. This can cause piping to be attacked in the piping systems downstream of the water maker. The CMDR system includes a neutralizing tank filled with a mineral which is high in calcium carbonate to control the problem. When the produced water from the watermaker flows through this media it dissolves some of the calcium carbonate, adding minerals back into the water and raising the PH to a neutral level of around 7.

