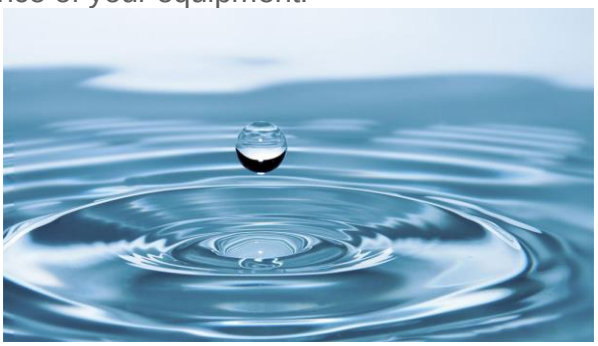
the importance of water treatment

Water quality is a critical factor impacting the function, reliability, and longevity of your commercial kitchen equipment. Invisible contaminants can negatively affect the taste, odor and appearance of your food, and the performance of your equipment.



There are significant variations in water chemistry from one location to another and around the globe. Here are some of the chemical characteristics that can negatively impact your oven.

- **Total Dissolved Solids (TDS**) - This is the measure of a broad range of minerals dissolved in water which can include calcium, chloride, sulfate, sodium and silica to name a few. It is the chemical characteristics of these dissolved minerals that cause scale and/or corrosion problems with everything from coffee makers to Combi Ovens.
- **Hardness** – Scale-forming minerals (primarily calcium and magnesium) are present in most water supplies. When water is heated these minerals form and accumulate as a hard, rock-like deposit (often called “lime-scale”) on surfaces throughout the oven.
- **Chloride** - This is a common substance found in tap water. Chloride, and other TDS such as sulfate, are a primary cause of pitting and corrosion of metals including the stainless-steel liner of your new oven and the oven racks.
- **Silica** – Some amount of silica can be found in most water supplies. This can form as a hard, glassy substance and contribute to scale build-up.
- **Chlorine & Chloramines** - These disinfectants are added to public water systems to prevent water-borne disease and can be particularly corrosive to even to stainless steel.

Treating your water to meet manufacturer standards will ensure food tastes the way you want it to, while extending the life of your cooking equipment. Plus, by reducing scale buildup and guarding against corrosion, operating costs are decreased due to greater energy efficiency and less frequent service required.

required water quality

Combi oven maintenance and ensuring water quality standards are met are the responsibility of the owner/user. The use of water that is outside the manufacturer’s specifications will void the warranty.

Water quality metrics can often be obtained by calling your local water treatment municipality, or a water test kit can be purchased, and a water sample is sent to a lab for testing. With new construction, the water test sample can be obtained from a nearby source.

Water Treatment Selection Guidelines

STEP 1 – Understand the basic water characteristics of your water

Compare water quality at your location to the **Convotherm Water Quality Requirements** listed here.

- Contact your water company for information about the quality of your water.
- Convotherm can provide a complete water analysis through an independent laboratory

WATER QUALITY REQUIREMENTS

WATER QUALITY REQUIREMENTS	CONVOTHERM COMBI'S (BOILERLESS)
TDS:	50 - 150 ppm
Hardness:	70 - 125 ppm (4 - 7.3 gpg)
pH value:	6.5 - 8.5
CL (Chloride):	max 50 ppm
Fe (Iron)	max 0.1 ppm
SiO_2 (silica):	max 13 ppm
Cl_2 (free chlorine):	max 0.1 ppm
NH2Cl (monochloramine):	max 0.1 ppm

WATER QUALITY REQUIREMENTS	CONVOTHERM COMBI'S (GENERATORS)
TDS:	50 - 360 ppm
Hardness:	70 - 360 ppm (4 - 21 gpg)
pH value:	6.5 - 8.5
CL (Chloride):	max 50 ppm
Fe (Iron)	max 0.1 ppm
SiO_2 (silica):	max 13 ppm
Cl_2 (free chlorine):	max 0.1 ppm
NH2Cl (monochloramine):	max 0.1 ppm

STEP 2 - Selecting the right system for your equipment

- Determine if your water meets or does not meet Convotherm water quality requirements and select the right system for your applications.

CONVOTHERM C4 ES/GS (BOILERLESS)	WATER QUALITY	
	MEETS STANDARD	DOES NOT MEET STANDARD
6.10	QT1+CR	OPS70CR/2
6.20	QT1+CR	OPS175CR/5
10.10	QT1+CR	OPS175CR/5
10.20	QT1+CR	OPS175CR/5
12.20	QT1+CR	OPS175CR/5
20.10	QT1+CR	OPS175CR/5
20.20	QT1+CR	OPS175CR/10
Stacked Ovens	QT1+CR	OP175/16
MINI COMBI		
6.10 Mini	QTI1+CR	OPS70CR/2
10.10 Mini	QTI1+CR	OPS70CR/2

CONVOTHERM C4 GB/EB (GENERATORS)	WATER QUALITY		
	MEETS STANDARD		DOES NOT MEET STANDARD
	ALL APPLICATIONS	HARDNESS ABOVE 170 PPM, pH IS BELOW 8.5	ALL APPLICATIONS
6.10	QTI1+CR	QTSX2-PG	OPS70CR/10
6.20	QTI1+CR	QTSX2-PG	OPS175CR/10
10.10	QTI1+CR	QTSX2-PG	OPS175CR/10
10.20	QTI1+CR	QTSX2-PG	OPS175CR/16
12.20	QTI1+CR	QTSX2-PG	OPS175CR/16
20.10	QTI1+CR	QTSX2-PG	OPS175CR/16
20.20	QTI1+CR	QTSX2-PG	OPS175CR/16
Stacked Ovens	QTI1+CR ea.	QTSX2-PG ea.	OP175/50 Or (2) OP175/16

***Optipure OP Series systems** utilize **reverse osmosis (RO)** to remove total dissolved solids (TDS) from water, including chlorides and hardness mineral. Then balance of minerals is introduced into the pure water to provide desirable "Optimized" water with a stable, non–aggressive nature that can significantly reduce water-related equipment problems including corrosion and scale.*

Water Quality Test Kit Part No: 1150360

***Optipure QT1+CR** recommended for boilerless Convotherm combi ovens reduces chlorine/chloramines and takes out sediment down to ½ micron.*

***Optipure QTI1-CR** recommended for Convotherm combi ovens with steam generators reduces chlorine/chloramines and takes out sediment down to ½ micro and includes IsoNet™ scale inhibitor.*

***Optipure QTSX2-PG** recommended for use with steam generators reduces chlorine and takes out sediment down to ½ micron. ScaleX2 uses "template assisted crystallization" to effectively minimize scale formation at high hardness levels.*