

STEAM PURITY

PURE

PHARMACEUTICALS
BIOTECHNOLOGY

CLEAN

FOOD & BEVERAGE
PERSONAL CARE
COSMETICS
CHEMICAL

CULINARY & FILTERED

PETFOOD
MEAT & POULTRY
FOOD & BEVERAGE

PLANT

PULP & PAPER
PETROCHEMICALS
STARCH CONVERSION
INDUSTRIAL LAUNDRY
HEAVY METALS & MINING
WASTEWATER (Municipal & Industrial)



APPLICATIONS

Jacketed kettles/blenders
Reactors/tanks/kettles
Biokill & sterilization

Tunnel pasteurizing/retort
Food cooking/defrosting
Blanching/vegetables/other
Washdown/hose stations
CIP/bottling/canning
PVOH/rubber/chemicals

Food/slurry cooking
Blanching/vegetables
Washdown/hose stations
CIP/bottling/equipment
Can topping/dilution
Extrusion/rendering

Water heating/dilution
Dry-end/wet-end/starch
Whitewater/liquor heating
Pulp stock/bleaching/coating
Oil extraction/pickling/emulsion
Ethanol/biofuels/Cellulosic ethanol
Thickening/sweetening/confection
Anaerobic digestion/sludge/settling pond

HOW IS MY PRODUCT FORMULATION AFFECTED BY ADDING STEAM?

Steam is sterile water, doesn't alter taste and can be added to the existing water already captured on an ingredient statement. Many food and beverage companies incorporate steam (direct steam injection) in their processing systems without issues, and in most cases the product results in better quality, texture and taste.

ARE YOUR PRODUCTS CERTIFIED?

Yes. The SilverLine, Infuze Cooking System, and Sanitary Hydroheater are all 3A certified.

The SilverLine and Infuze Cooking Skid are designed to meet FDA, CE, and EHEDG standards.

WHAT MAKES STEAM CULINARY?

The steam entering the system goes through a thorough filtration system. 3-A guidelines additionally require a filtering steam using a maximum particle size of 5-micron.

Also, boilers utilize pH adjustment, oxygen scavenging, and descaling chemicals. The chemicals must be FDA food grade and conform to the approval list of boiler chemicals. These chemicals do not travel with steam and stay in the boiler because their boiling points are much higher than that of water.

Amines are chemicals used to keep condensate returns clean and corrosion free. However, these are not food grade chemicals and cannot be used in systems requiring culinary steam.

IS STEAM COOKING IN FOOD A COMMON PRACTICE?

Yes. Hydro-Thermal has 85 years of proven steam technology. The largest companies in the world utilize Hydro-Thermals' products to process meat, produce soups, sauces, fruit products, baby food, tomato paste/sauces, dairy, milk, cheese, vegetables and much more. A large number of well known global food and beverage companies are utilizing steam (direct steam injection) in their product processing, and the number of companies doing so continues to grow. Hydro-Thermal can provide suitable references upon request if necessary.

HOW MUCH WATER IS ADDED DURING STEAM COOKING?

The general rule of thumb is 1% water for every 10°F of temperature rise. Since variables like composition and specific heat vary from product to product, the average addition is 8-12% water yet can be above or below depending on the application.

The 8-12% can occur if Hydro-Thermal equipment is fully cooking the product. If the equipment is simply heating the product, then this percentage can be significantly lower. Hydro-Thermals' engineers can calculate the exact percentage based on the specific processing conditions.