



A Recipe for Healthier Steam Processing

Although the word “steam” never appears among the ingredients listed on foods or beverages, maybe it should, given how critical the quality of steam can be in manufacturing. Steam is one of the most energy efficient and reliable ways to transfer heat. Contamination can creep in from chemicals, particulates and non-condensable gases as outlined in our paper [“Tips for Maintaining Good Steam Hygiene”](#).

Let’s review 6 critical ingredients your process needs to produce quality steam for food, beverage and pharmaceutical manufacturing:

1. Install and Maintain the right steam processing equipment

All equipment is designed to operate within certain parameters. Be sure your plant or filtered steam processing equipment incorporates the specifications, design and controls needed for your applications and that it’s correctly installed. This, coupled with regular maintenance, will help you consistently generate steam of appropriate hygienic quality.



2. Minimize the potential for boiler carry-over

Boiler carry-over can be triggered by a number of operating factors and may contain high levels of water treatment chemicals, total dissolved solids and other contaminants. Avoid this by:

- Setting the correct boiler water level and operating at the right pressure
- Modulating boiler water controls if currently using on/off controls
- Further enhancing modulating controls through direct links to a steam flowmeter
- Limiting how low boiler pressure can drop with ‘surplus’ controls
- Using a steam accumulator, steam ‘banking’, and boiler sequencing
- Using ‘slow opening’ controls to bring your plant or process online
- Installing automatic Total Dissolved Solids (TDS) controls



3. Control chemical additives

Adhere to FDA and 3A guidelines for food approved chemicals and dosages to treat your boiler water and the steam that comes in contact with your product or process. Failure to comply can result in product spoilage and possible regulatory fines.

4. Quickly identify and remove contaminants in condensate

The practice of returning condensate from around the plant to reduce energy, water and chemical consumption may allow steam to pick up scale, corrosion, detergent residue and other chemical cross-contaminants. Regular testing of

Greensboro Division

Phone: 336.393.0100 / 800.334.0231

Fax: 336.393.0140

Louisville Division

Phone: 502.459.7475 / 800.459.7475

Fax: 502.459.7633

Nashville Division

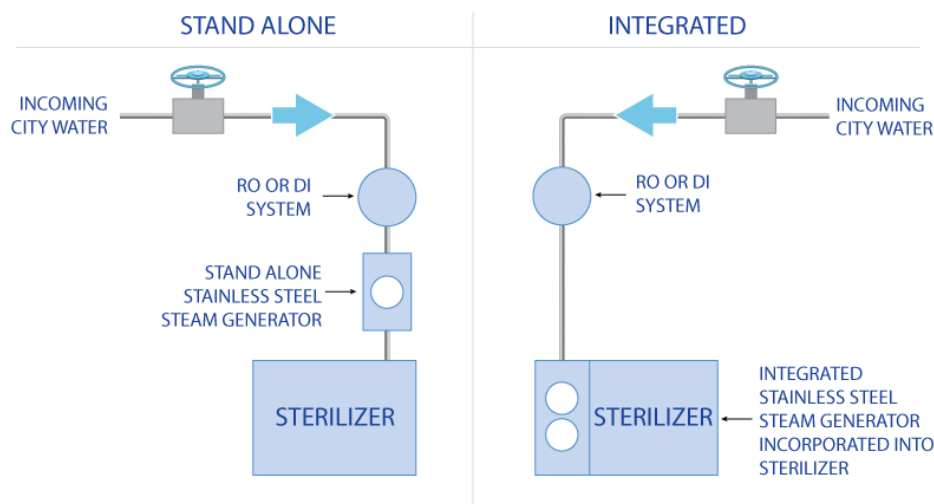
Phone: 615.822.3030 / 855.749.4820

Fax: 615.822.3031

samples taken from fittings just ahead of food processing applications will help you catch any impurities quickly. Intermittent testing only catches contaminants in a particular sample at a particular time. For consistent clean steam, install contamination detection equipment in your condensate return system.

5. Install a clean steam generator and use it wherever steam quality is critical

Clean steam systems use a second steam generator, fed by distilled, deionized or demineralized water. They also include antimicrobial design and finishes are made of high-grade stainless steel. Together, these elements eliminate the risk of contamination by boiler chemicals, particulates or other hazards.



6. Conduct regular quality control assessments

Don't wait for problems to occur. Save money and avoid downtime, product waste and headaches by implementing regular assessments with a steam expert.

Here at M.G. Newell, we partner with a steam expert like Spirax-Sarco. Their knowledge of steam systems and components is unmatched and is one of the reasons we can help you Make It Work Better.

For more information on steam systems, contact your local M.G. Newell rep or email us at sales@mgnnewell.com.

Steam information courtesy of Spirax-Sarco