

# Culinary Steam Filters for Food Capping Process

Market Application Publication



## Background:

Steam is by definition, sterile in the sense that it contains no viable microorganisms. However, typical steam is far from "pure". It contains particles of rust, pipe scale and other particulate matter. It contains condensed water. It contains chemicals from boiler feedwater additives. It is the interaction of these impurities that can cause changes in the food product in terms of taste, texture, color and appearance.



## Contact Information:

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## Features and benefits:

- 98+% capture rating @ 0.1 micron of solids, excess condensate and boiler feedwater additives
- Six week filter element life
- Prevents taste differences while eliminating unwanted additives to food
- Full compliance with FDA requirements
- USDA accepted for use in federally inspected meat and poultry plants
- Complies with 3-A sanitary standards and pasteurized milk ordinance
- Allows for direct injection cooking, making the process more efficient and ensures more even distribution of heat
- Safe for contacting food



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# Application:

Steam is used extensively in a number of applications within the food industry. Direct injection cooking is a common application by which food is cooked with high quality culinary steam. Other applications include sterilization of packaging and process machinery, bottling applications and capping applications.

Capping applications use relatively high pressure steam and significant flow to displace the oxygen on the very top of the container just prior to installing the cap. This process is used most commonly with preservative free food products. In addition to the steam displacing the oxygen, it also provides a sterile barrier to the food product, and as the steam condenses, a vacuum is created which pulls down on the button cap, forming a concave contour to the top of the cap. This also provides a visual security indicator to the consumer showing the container has not been opened.

Capper machines are capable of capping several thousand jars per hour and rely on a constant high flow rate of steam to operate. Steam typically travels quite a distance from the boiler to the end use point and consequently cools and condenses along the way. By the time the steam reaches the end use point it

can contain boiler feedwater chemicals, condensate and particulates from the piping and boiler. These contaminants can alter the taste, texture and color of the food product.

Therefore, it is important the steam is of high culinary quality, free of contaminants and condensate. Parker Balston's steam filter filters are in full compliance with the requirements of the US Food, Drug and Cosmetic Act. The Parker Balston steam filters are in full compliance with the 3A Accepted Practices (#609-4) for producing culinary quality steam. They also meet the regulations for Indirect Food Additives used as Basic Components for Repeated Use Food Contact Surfaces as specified in 21 CFR Part 177 and Current Good Manufacturing Practices 21 CFR 110. The filters have also been accepted by the USDA for use in federally inspected meat and poultry plants.

## Case Study:

Stonewall Kitchen is a unique operation of-fering specialty jams, oils, vinegars, pesto and baking mixes. The operation focuses on offering the highest quality, best tasting and best looking products with unique flavor blends. In addition, Stonewall Kitchen does not use preservatives in their

products providing their customers with the purest of food products possible. They have several Silgan Capper machines that automatically cap jars of jams and other specialty food products which rely on steam to top off the jar just prior to spinning the cap on to the jar. Although not required by the FDA or USDA, Stonewall Kitchen wants to ensure the highest degree of quality with their food products by providing culinary quality steam in compliance to the 3A Standard. Stonewall Kitchen invested in a Parker Balston high efficiency steam filter to remove all contaminants from the steam supply to an efficiency of 98% at 0.1 micron.

Stonewall Kitchen then contracted with Katakhdin Analytical Services to test the quality of the steam before and after the filter. The results were amazing, the filtered steam was void of virtually any measureable or detectable contaminants that were found in the upstream, supply side of the system.

Mr. John Daley, production manager, said that "although we are not required to have a culinary steam filter, we decided to make the investment to ensure our products are of the highest quality possible and to enable our customers to enjoy the purest specialty food products we can possibly provide."

## Principal Specifications

Model	23/75 SR	SP2-23/75R	SP3-23/75SR	SP4-23/75SR	SP6-23/75SR
Port Size	1" NPT	1 1/2" NPT	1 1/2" NPT	2" NPT	2" NPT
Max Pressure	125 psig	125 psig	125 psig	125 psig	125 psig
Flow Rate	500 lbs/hr	1000 lbs/hr	1500 lbs/hr	2000 lbs/hr	3000 lbs/hr
Materials of Construction	304 SS	304 SS	304 SS	304 SS	304 SS
Seals (1)	EPR	EPR	EPR	EPR	EPR
Shipping Wt	26 lbs. (12 kg)	Approx. 110 lbs (50 kg)	190 lbs. (86 kg)	220 lbs. (100 kg)	280 lbs. (127 kg)
Dimensions	7"W X 35"L (18cm X 88cm)	22"W X 46"L X 11"D (56cm X 117cm X 28cm)	29"W X 48"L X 21"D (74cm X 122cm X 53cm)	36"W X 48"L X 21"D (91cm X 122cm X 53cm)	50"W X 48"L X 21"D (74cm X 122cm X 53cm)

## Ordering Information

For assistance, call 1-800-343-4048, 8AM to 5PM EST

Model	23/75 SR	SP2-23/75R	SP3-23/75SR	SP4-23/75SR	SP6-23/75SR
Replacement Filter Cartridges (Box of 10) (2)	200-75-SR	200-75-SR	200-75-SR	200-75-SR	200-75-SR
Filter Cartridges per housing	1	2	3	4	6

**Notes:** 1 Constructed of food grade EPR. 2 Each Steam Filter Assembly is supplied with filter cartridges installed.

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