

COMBIMATE 35

Combimate for Combibloc's Aseptic Technology

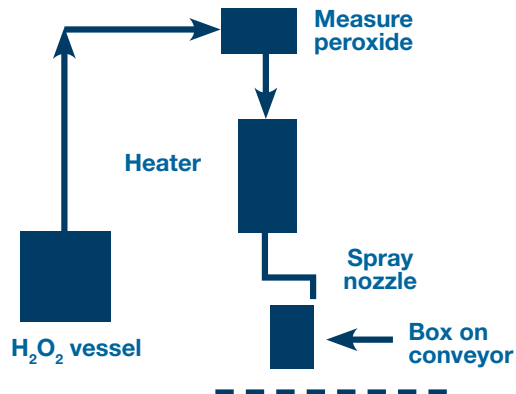
Conventional way for increasing food shelf-life such as Retort canning typically requires products to be heated in the container for 20 to 50 minutes. Hot-fill bottling uses the heat of the product to sterilize both the product and package, a process taking one to three minutes for heating and another seven to 15 minutes for cooling. Both processes essentially "cook out" many of the product's original vitamins and nutrients.

In contrast, aseptically processed products are sterilized prior to packaging, using an ultra-high temperature process that rapidly heats then cools the product before filling. The processing equipment allows time (generally three to 15 seconds) and temperature (195 deg to 285 deg F) to be tailored to put the least amount of thermal stress on the product, while ensuring safety. This flash-heating-and-cooling is a far gentler process, which is why aseptic products retain more nutritional value, exhibit more natural texture, color and taste and consume less energy than their canned and bottled counterparts--a win-win for the consumer.

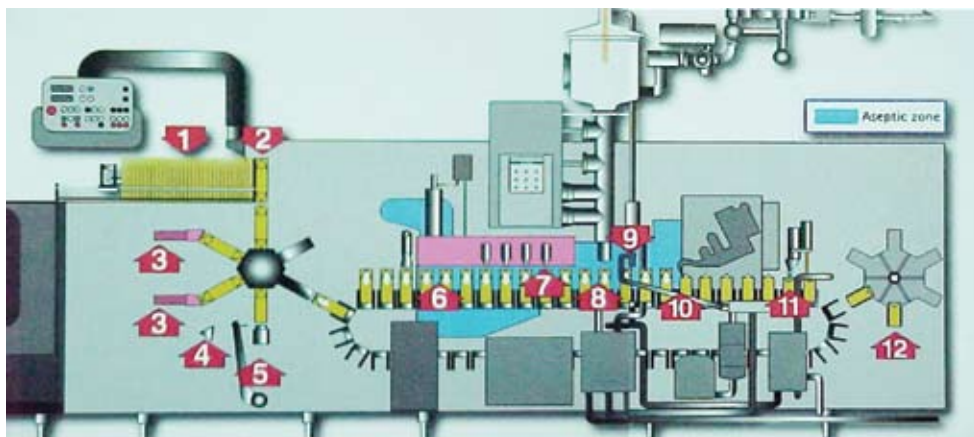
Combibloc Aseptic Packaging steps:

Hot peroxide is sprayed inside the boxes, residual mist of peroxide is then flushed out with hot air. Liquid is then filled and the box is sealed.

Steps-6 details: H₂O₂ is heated and measured quantity is sprayed as mist into empty box



12 Steps in aseptic filling sequence



General arrangement sketch of Combibloc's aseptic filling machine showing 12 steps



HACCP
Certified System

FDA
Certified Products

Halal
Certified Products

Kosher
Certified Products

Quality
ISO 9001:2000

Environment
ISO 14001:2005

Safety & Health
OHSAS / TIS 18001

GMP
Certified Facility

COMBIMATE 35

Combimate for Combibloc's Aseptic Technology

COMBIMATE 35 and Operation Cycles:

COMBIMATE 35 with active ingredient Hydrogen peroxide is a proven bactericidal agent, capable of destroying both non-spores forming bacteria and more resistant spores forming strains. In aseptic packaging, hydrogen peroxide acts as a sterilant on the food contact surfaces of a food packaging material.

On Combibloc machines, COMBIMATE 35 is sprayed on inner surface of packaging sleeves before filling with milk, juice or other foods. When used in accordance with conditions specified by the package manufacturer **SIG Combibloc***, hydrogen peroxide serves as an effective & economical sterilant for the aseptic packaging of foods and beverages.

Residues from hot peroxide solution can deposits on the heater internals and the spray nozzles. This can reduces the desired operation cycle of 120 hrs. if rate of deposition is high. Plant trials with COMBIMATE 35 have confirmed most optimum packaging operation cycles.

Before cleaning, After 120hrs
usage of Combimate-35 on
Combibloc machine

After cleaning, Easy to clean with
detergent spending only 30 mins.
and less Chemical



Residue deposit
using Combimate-35



Residue deposit
using Combimate-35



* **SIG Combibloc** is one of the world's leading system suppliers of carton packaging and filling machines for beverages and food. In 2009 the company achieved a turnover of 1,260 million Euro with around 4,250 employees in 40 countries. SIG Combibloc is part of the New Zealand based Rank Group.

Website and Contact

Visit our website at www.adityabirlachemicals.com to view MSDS & Certificates.

For additional assistance call Customer Service: Tel: +66-2-7042141

E-mail: customerservices.thaichemicals@adityabirla.com

Thai Peroxide Co., Ltd. (Aditya Birla Group)

Sales office : 77 Moo 6, Soi Sukhaphiban 1, Poochaosamingprai Rd.,

Samrong, Phrapradaeng, Samutprakarn 10130, Thailand

Tel : 66-2-704 2100 Fax : 66-2- 748 4970

The above information and recommendations given by us (TPL) is to the best of our knowledge & ability and is intended to provide general notes on our products and their usages. It should not be therefore construed as guaranteeing the specification of the product described or their suitability for a particular application. We expressly request the customer or end users of our products to perform such tests prior to any commercial use or application of our products for the specific intended use. No representation, warranty or guarantee is made as to its accuracy, reliability or completeness. No consequential losses shall be entertained by the usage of the product.



FMC

T P L

ADITYA BIRLA
CHEMICALS