PRESENTATION OF
THE NATURAL PASTEURIZATION PROCESS
THE CHANGING FOOD SAFETY ENVIRONMENT

- Microorganisms are naturally present in low moisture food products (e.g. salmonella prevalence > 2% in raw agricultural products)
- Pathogenic germs such as Salmonella and E.Coli are a major cause of food poisoning and thus present a potential health hazard, even in very small dosage, especially to consumers with a compromised immune system
- Growing concerns of consumers regarding diseases stemming from food born illnesses
- Stringent controls by authorities and very precise analytical tools in laboratories
- Trend to increased regulations by health authorities world wide (e.g. FSMA - Food Safety Modernization Act in the US)
- To meet microbiological standards in large food processing industries often requires a validated, documented “kill-step”
- Product recalls may have ruinous financial consequences and harm brands
AN EFFECTIVE PROCESS TO PASTEURIZE PRODUCTS WHICH IS CERTIFIED FOR ORGANIC PRODUCTS

THE NAPASOL TECHNOLOGY

- Based on the science of sterilization
- Treatment under saturated steam conditions for maximum efficiency in a wide range of temperatures (65°C - 121°C)
- A process which is validated according to FDA criteria and fully traceable
- Optimized equipment configuration for a large range of products
- Elimination of pathogenic germs (> 5-log) without altering product quality
- Elimination or reduction of mold and yeast
- Inactivation of insects in all phases of their life cycle (including eggs)
SATURATED STEAM - MOST EFFICIENT FOR GERM REDUCTION
SCHEMATIC PRESENTATION OF THE PROCESS
THE NAPASOL TECHNOLOGY

- Minimal impact on visual and organoleptic characteristics of the products
- Low pasteurization temperatures minimize the loss of essential oils
- Partial denaturation of enzymes allow for an extended shelf life
- No moisture increase of the product due to precise control of saturated steam conditions
- Complete documentation and traceability of each cycle
STATISOL - STATIC MACHINE DESIGN

• Products are treated in stainless steel containers with a capacity of approximately 700 kg each
• Modular concept for 1 - 6 process containers (line capacity of 1 - 6 tons/hour)
• Clear separation of raw material area from clean room
• Completely automated process from preheating to cooling
• Short cycle time for optimized integration into a continuous production environment
• Flexible logistic solutions for different products (trays, containers, and others)
• Concept and lay-out can be adjusted to specific availability of space
• Static design: ideal for tree nuts, dried fruit, herbs, seeds and in general all fragile products (whole leaves, stems, etc.)
ROTOSOL - DYNAMIC MACHINE DESIGN

- Rotating autoclave especially designed for powders and grains
- Pasteurization and blending in one step
- Automated loading/unloading simplifies the logistic for products in powder form
- Short cycle time
- No separate drying step required
- Concept and lay-out can be adjusted to specific availability of space
- Integrated CIP-system for efficient cleaning when needed
- Separate cooling solutions for special products are available
EXAMPLE: PLANT FOR MACADAMIA (Capacity 1,5 tons/hour)
EXAMPLE: LINES FOR TREE NUTS (Capacity > 2 x 5.5 tons/hour)
ROTOSOL PLANT FOR POWDERS, GRAINS, CEREAL BLENDS etc.
SERVICE - FROM ENGINEERING TO COMMISSIONING/VALIDATION

• Complete engineering and consulting regarding the optimized integration of the pasteurization as a CCP (Critical Control Point)
• Installation, commissioning, staff training and thermal validation of the installation according to a strict protocol
• On-line support over the internet for process optimization and trouble-shooting
• Option: Yearly contract for preventive maintenance, re-calibration of all temperature and pressure probes
Examples of customer installations
Small static unit (for R&D, demonstrations and staff training)
Small static unit for vanilla (Mauritius Island)
RESEARCH & DEVELOPMENT

• Complete R&D centers in France and United States
• Product tests, process optimization and demonstrations to customers
• Training of customer staff
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