

# Mepaco®

RELIABLE BY DESIGN

Mepaco



**COOKING  
EFFICIENCIES**

## **HEAT TRANSFER CAPABILITIES**

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for Batch Cooking Operations

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## Stay Bolt Jackets

The stay-bolt (also referred to as stay-rod) jacket is a heat transfer design in ThermaBlend® and Mixer-Cookers that handles elevated temperatures and pressures that cause stress. Rods are individually welded between the inner shell and outer jacket providing a robust jacket design.

The the 90 + psig, ASME rated stay bolt jacket fulfills the demanding applications of the ThermaBlend® Cooker.

The ThermaBlend® Cooker is designed with a full length, stay bolt, wrap around jacket. The advantage to the wrap around jackets is a greater heat transfer surface area. In comparison to a traditional kettle cooker, a double agitated ThermaBlend® has 66% more heat transfer area and a single agitated unit has 74% more heat transfer area. Increased heating surface results in quicker batch cooking times and better product quality and definition. (See Illustration A.)

### Jacket Comparison

*Conventional kettle jackets have partial jacketing.*

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*The single agitated ThermaBlend Cooker has 74% more heat transfer area than conventional kettles.*

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*The double agitated ThermaBlend Cooker has 66% more heat transfer area than conventional kettles.*

Illustration A

## Dimple Jackets

Dimple jackets provide indirect cooking or heating of product. In the ASME rated jacket, steam or other media is circulated through the chamber and heats the product through conduction. Various types of equipment can also be engineered with dimple jackets to provide continuous heating required for the application. (See Illustration B.)

Equipment such as Mixer-Cookers, Screw Conveyors and Pump Feeders can be designed with dimple jackets to provide batch cooking or sustained heating during product transport.

Applications for indirect heating include: stews, sautéed vegetables, scrambled eggs, granola, and ground protein mixes.

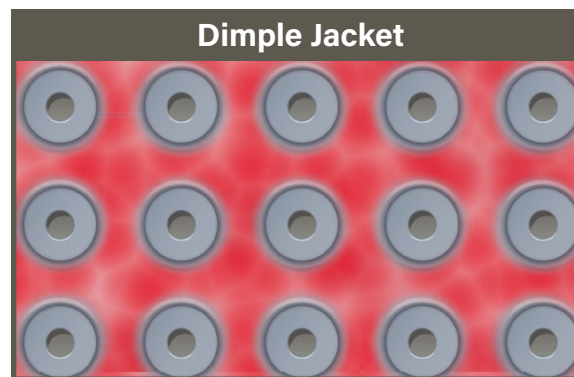


Illustration B

*The spot welded pattern in the ASME rated dimple jacket creates turbulence and circulation for steam or other media to cook and heat through conduction.*



## Dual Zones

Heating jackets can be engineered for two separate zones that heat or cook independently.

The first chamber forms the bottom of the cooker tub to the centerline of the agitator. This zone has independent controls and can be used for smaller batch scenarios. The upper chamber can be activated to heat when the batch size and application demand. (See Illustration C.)

The best-use applications for dual zones are test market runs, small recipe variations, and staged cooking. Zoned heating jackets provide savings in time, energy and cost for partial batch production. Depending on the application, significant efficiencies can also be realized by starting the batch in the first zone and adding the second zone to finish the batch.

The advantage of dual zones heating jackets is versatility of batch cooking processes and significant savings in energy costs.

## Indirect and Direct Steam

The stay bolt jacket and the dimple jacket designs both provide indirect heating of food product.

The ThermaBlend® and the Mixer-Cooker also have a direct steam option. When additional moisture is allowed for the product, steam is modulated and added to the food product. (See Illustration D.) Advantages of direct steam cooking include reduced batch cooking times and reduced burn-on. Application examples include: moist pet food, thick sauces and soups. Direct steam is often used when the product is more viscous or has heavy particulates.

Direct, indirect or both steam heating techniques can be used in horizontal cookers. Utilizing both indirect and direct steam options will substantially increase batch cycle cooking efficiencies. Viscosity and make-up of food product, processing and production requirements dictate the type of cooker and agitator that will provide the best results for the application.

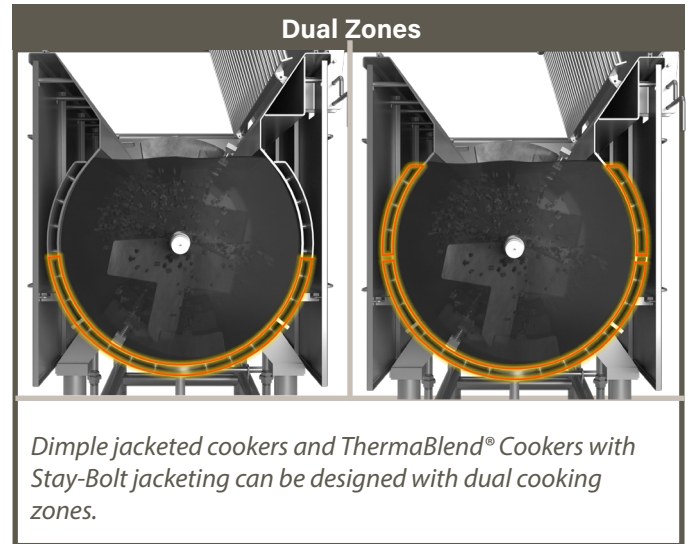


Illustration C

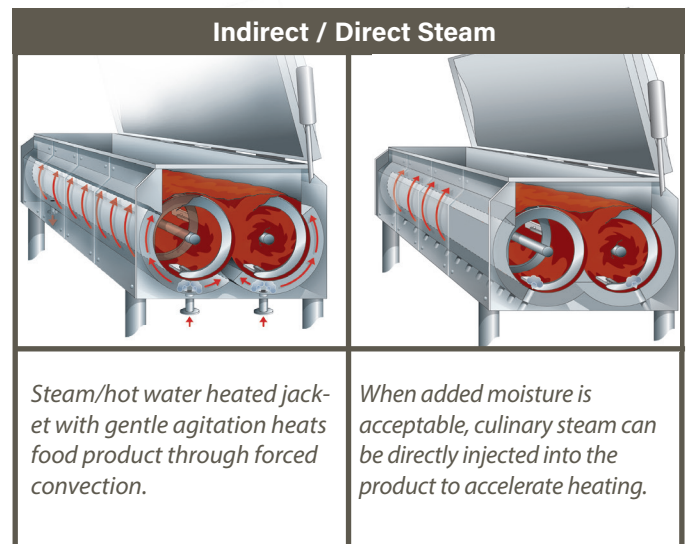


Illustration D

## Thermal Screw

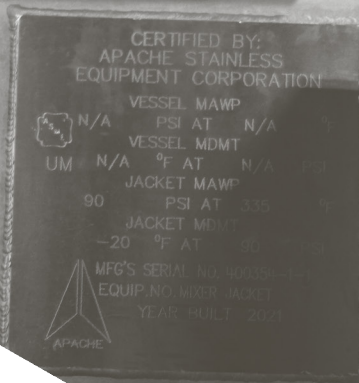


Thermal screws can be used as an additional heating surface to reduce heating time. A rotary union with chain sprocket drives a rotating hollow shaft. Hot water circulates through the hollow flights in the thermal screw. Processors with around the clock operations, high volume, and minimal recipe turnovers, often opt for a thermal screw to be added to the overall cooking solution for faster batch times.

## Scraper System



Some applications are susceptible to product burn-on. Both the single agitated and double agitated ThermoBlend® cookers feature Mepaco's metal detectable spring-loaded scraper system. By eliminating burned on product, the patented scraper system allows maximum heat transfer and allows for more effective sanitation.



ASME Stamp  
and Equipment  
Name Plate on  
ThermoBlend® Cooker.

## Mepaco®, part of the Apache Stainless Equipment Corporation Family

Mepaco® began in 1932 and has always been known for formulation systems. In 1993, Mepaco® was purchased by Apache Stainless Equipment Corporation. Under the Apache umbrella, Mepaco® continues to manufacture food processing machines with the resources of a large commercial manufacturer and expertise in working with stainless steel for industries with sanitation compliance.

The tenured sales and engineering teams in the Mepaco® group are driven and dedicated to solving production problems for industrial food processing customers.

As a 100% employee owned company, Apache's culture exemplifies continuous improvement, efficiency, innovation and commitment to our customers.

**Mepaco®**

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