

# APEX SERIES **STREAMLINED BAKERY AUTOMATION SOLUTIONS**

## AUTOMATE YOUR Process with AMF's best value Engineering



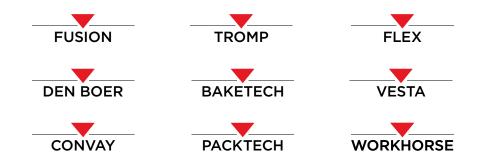
A Markel Food Group Company

## **EMPOWERING YOUR BAKERY TO RISE**

We're a team of the world's leading bakers and engineers, pioneers and problem solvers, and industry leading brands, all committed to one common vision: to help bakers produce better food for families around the world while creating better lives for our teammates, families, customers, and communities. Bakers around the world partner with AMF for best-in-class unit equipment and complete systems solutions that improve efficiency, product quality, and bakery success while producing an endless range of premium baked products from soft bread, buns, and rolls to artisan breads, pizzas, cakes, pies, and more.

### **A UNIFIED FAMILY OF BRANDS**

Backed by focused leadership, each with a dedicated team of engineers, AMF's family of brands collaborate to deliver seamlessly integrated automation solutions that help bakers produce a vast range of baked products from mixer to marketplace. Our fully integrated solutions offer modular, high-speed production solutions for the products of today with the ability to adapt to the changing consumer trends of tomorrow.



### WORLD CLASS INNOVATION CENTER

At the AMF Innovation Center in Gorinchem, the Netherlands, you can work alongside our team of master bakers and technology experts to optimize, adjust, and fully test your recipes on our processes without disrupting production time in your own plant.



### A HISTORY OF INNOVATION

Backed by more than a century of innovation and proven performance, AMF has been dedicated to the continuous improvement of baking technology with increasing focus on efficiency, sustainability, and flexibility. Setting the industry standard for soft bread, bun and roll production systems, AMF continues to develop more flexible automation solutions like the APEX Series designed to serve today's emerging consumer markets as we work alongside our baking customers to deliver safer, more accessible, and more affordable food to families worldwide.

### **BEST VALUE ENGINEERING SOLUTIONS**

AMF's **APEX Series** of equipment allows you to automate your processes for more efficient baking and improved profitability as demand for your products grows. These simplified equipment models and value-oriented systems have been engineered to deliver maximum value and productivity to current and future bakery leaders while maintaining the manufacturing excellence that has long defined the AMF brand. With the introduction of the **APEX** Series of product models within AMF's family of brands, AMF has all of the engineering solutions and manufacturing expertise to produce the world's most popular baked products worldwide.

### **GLOBAL REACH AND LOCAL PRESENCE**

As the only truly global supplier, we support bakers with full-scale manufacturing facilities throughout the U.S., Canada, the Netherlands, and China. All AMF equipment, including the APEX Series manufactured out of Tianjin, China, is supported by regional sales teams and over 100+ customer care teammates strategically located around the world to decrease technical support response and delivery times.







### YOUR BAKING PARTNER OF CHOICE | 3



# **DISCOVER THE APEX SERIES**

Together, AMF's most knowledgeable product experts collaborate across the family of brands to introduce new APEX solutions that will drive growth for the baked goods industry in emerging consumer markets. These semi-automated or fully-automated system solutions ensure seamless production and premium quality for your most unique baked product.

From tin or panned breads to artisan breads and premium buns or rolls with inclusions, toppings, scoring and more, the range of baked product capabilities continues to grow within AMF's APEX Series portfolio.



Hamburger Buns





**Brioche Breads** 



Tin or Panned Bread

Filled or Injected

Pizza & Flatbreads

### **APEX SERIES SYSTEMS BY AMF**

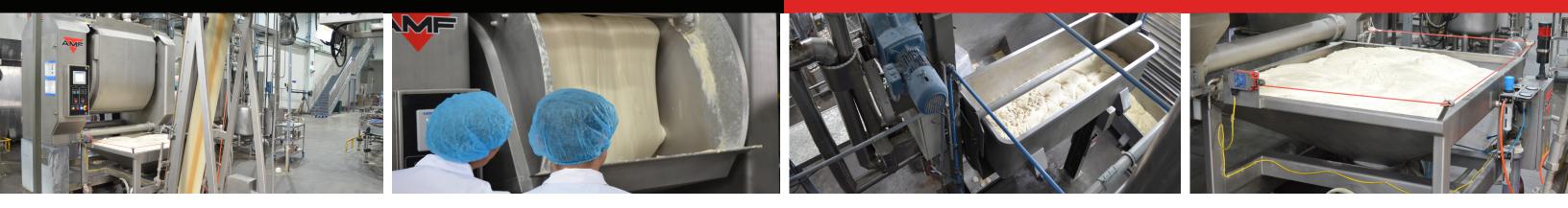
A wide variety of baked products can be produced with AMF's APEX Series. With the flexibility of the APEX Series, bakers looking to introduce automation into their production process can choose to automate various processes while maintaining manual labor throughout downstream processes. As production scales, AMF's complete range of technologies enable efficient upgrades to your line while maintaining seamless integration between sub-systems with consistent, intuitive controls for an improved operator experience.

Product	APEX System	Capacity	Mixing	Make-Up	Proofing	Baking	Pan Handling	Cooling	Packaging
Soft Buns or Rolls	APEX Mini Bun	4,000 - 10,000 BPH	DDM 200-400	Mini Accupan System	Rack	MB-R or Rack	Edge Pan Cooler Depanner	Rack or Spiral	Manual
	APEX Ultra Bun	10,000 - 14,400 BPH	DDM 400-600	Mini Accupan System	Rack	MB-R or Rack		Rack or Spiral	HS20
	APEX Elite Bun	14,401 - 24,000 BPH	DDM 600-1000	Accumax Accupan System	Continuous or Spiral	MB-R or Continuous		Spiral	HS20
Soft Bread	APEX Mini Bread	500 - 1,500 LPH	DDM 200-400	BreadFlex System	Rack	MB-D or Rack		Rack or Spiral	Manual
	APEX Ultra Bread	1,501 - 3,000 LPH	DDM 400-600	BreadFlex System	Rack	MB-D or Rack		Rack or Spiral	Manual
	APEX Elite Bread	3,000 - 4,500 LPH	DDM 600-1000	BreadFlex System	Rack or Continuous	MB-D or Continuous	Mechanical Pan or Lid Stacker	Spiral	60 Slicer & Bagger
Combination Soft Bread & Bun	APEX Mini Combo	2,400 - 7,200 BPH 600 - 1,800 LPH	DDM 200-400	Mini Combo BDR System	Rack	MB-D, MB-R or Rack	and Unstacker APEX Conveyors	Rack or Spiral	Manual
	APEX Combo 400	4,800 - 24,000 BPH 1,500 - 4,500 LPH	DDM 600-1000	ComboMat 400 System	Continuous or Spiral	MB-D, MB-R or Continuous		Spiral	HS20 60 Slicer & Bagger
	APEX Combo 600	7,200 - 36,000 BPH 1,500 - 4,500 LPH	DDM 600-1000	ComboMat 600 System	Continuous or Spiral	MB-D, MB-R or Continuous		Spiral	HS20 60 Slicer & Bagger
Pizza, Pastry, Muffins, and More	APEX SF	3,000-6,000 kilo/hour 6,614 lb- 13,228 lb/hour	DDM 600-1000	SF Sheeting Line	Step or Spiral	MB-D		Spiral	Manual
	APEX EX	3,000-6,000 kilo/hour 6,614 lb- 13,228 lb/hour	DDM 600-1000	EX Sheeting Line	Step or Spiral	MB-D	]	Spiral	Manual



## **APEX ► MIXING**

## **APEX ► DOUGH & TROUGH HANDLING**





OPTIMAL DOUGH TEMPERATURE CONTROL

### **TRIPLE ROLLER BAR MIXERS**

AMF Fusion launched the heavy duty APEX DDM Mixers to deliver consistently high quality dough from 100 lb (45 kg) to 1,000 lb (454 kg) batches for a wide range of dough types including breads, rolls, buns, flour tortillas, English muffins, and more.

- **>>>** Easy access, open frame design to significantly **reduce** sanitation and maintenance time with a stainless steel, triple roller bar agitator
- Most robust frame and bowl design in the industry eliminating belts and chains which reduces maintenance and lubrication requirements providing **quiet drive operation**
- **Intuitive touchscreen** operator interface, PLC controls, and push button functionality



SEAMLESS DOUGH

SYSTEM INTEGRATION

For semi- or fully-automatic dough delivery, AMF's APEX Dough Pumps, Dough Chunkers, and raw Dough Conveyors transfer uniform streams of dough from mixer to make-up with unmatched reliability and efficiency.



APEX Dough Troughs and Trough Hoist systems improve oprerator safety with gentle trough lifting and dough transfer. AMF's selfpropelled vehicles or AGVs can automatically move dough troughs precisely to specified positions throughout the fermentation or dough handling process.



RELIABLE PERFORMANCE FOR STIFFER DOUGH

### SIGMA ARM MIXERS

Available with a robust sigma arm agitator suitable for stiffer doughs, the APEX DDM-S Mixer offers the best value for dough volumes up to 1,000 lbs (454 kg). This heavy duty mixer provides reliable performance for the production of bread, buns, rolls, cookies, crackers, buttermilk biscuits, corn tortillas, pie doughs, and a variety of specialty snacks.

- **bbb** Easy access, open frame design to significantly **reduce** sanitation and maintenance time with a stainless steel, triple roller bar agitator
- Direct drive agitator design eliminates belts and chains which reduces maintenance and lubrication requirements providing quiet drive operation
- >>> Intuitive touchscreen operator interface, PLC controls, and push button for frequent operator functions



FOR TROUGH HANDLING

### **DOUGH PUMPS, CHUNKERS & CONVEYORS**

**>>>** Automated **dough-friendly** pump transfer increases productivity and improves operator safety

>>> Toolless, easy access sanitation and low maintenance design of pumps, chunkers, and conveyors

**Controls are easily integrated** into the full dough system managing the dough level into one or more hoppers with automatic feed from the mixer

### DOUGH TROUGHS & HOISTS

>>> Provides a safe working environment by eliminating manual handling of troughs

Simple, open designs optimize sanitation and **prevent dough** contamination

**Low maintenance**, reliable designs with no operator adjustments required.

## **APEX >** EXTRUSION DIVIDING & MAKE-UP

## FOR SOFT BUN AND ROLL PRODUCTION





ENTRY LEVEL BUN AND

ROLL PRODUCTION

### MINI ACCUPAN SYSTEM

The entry level bun and roll make-up system, the APEX Mini Accupan System by AMF Flex produces 4,000 to 14,000 buns or rolls per hour for bakers looking to automate their dividing, rounding, sheeting, moulding, and panning process delivering up to 60 cuts per minute.

- **bb** Easy access frame design **reduces sanitation costs**
- **Compact footprint** for minimal space requirements
- **Easy operation** with on-the-fly adjustment capabilities



ENHANCE YOUR BUN OR

ROLL PRODUCT QUALITY

**PRODUCT VARIETIES** 

The inline APEX Seeder is designed to deliver consistent coverage of a wide range of decorative dry toppings onto hamburger buns and hot dog rolls. An integrated APEX Water Sprayer & Splitter System provides decorative horizontal splits onto products in the direction of the pan flow as a standard feature with vertical or cross splitting options available to make baked goods visually more appealing.



Apply an even, shiny and protective coating onto a range of baked goods with the APEX Target Glaze. Suited for producing premium buns, breads, pastries, and cakes, the Target Glaze preserves product moisture and flavor while extending shelf life.

For filling soft buns or large croissant and pastry products, the **APEX** Side Injector injects a variety of fillings into the sides of products with up to 14 strokes per minute or 5,000 pieces per hour.

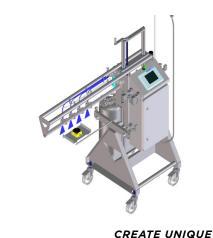


RELIABLE PERFORMANCE AT HIGHER RATES

### ACCUMAX ACCUPAN SYSTEM

A complete extrusion dividing, sheeting, moulding, and panning system, the APEX Accumax Accupan System by AMF Flex is designed for fully-automated hamburger bun and hot dog roll production from 4,800 to 24,000 buns or rolls per hour. Scaling ranges from 25 to 140 grams processing up to 2,260 kgs/hour.

- **Improved scaling accuracy** featuring AMF's extrusion divider technology
- Latest electronic and mechanical design highlighting operational simplicity
- **bbb** 50% fewer moving parts than earlier models for **lower** maintenance and reduced downtime
- **>>>** Simple recipe management system for **repeatable performance** and consistent product quality



### WATER SPLITTERS & SEEDERS

**Adjustable seed quantity** with individual lane gate control

Handles up to 20 pans per minute with a quick change moulder

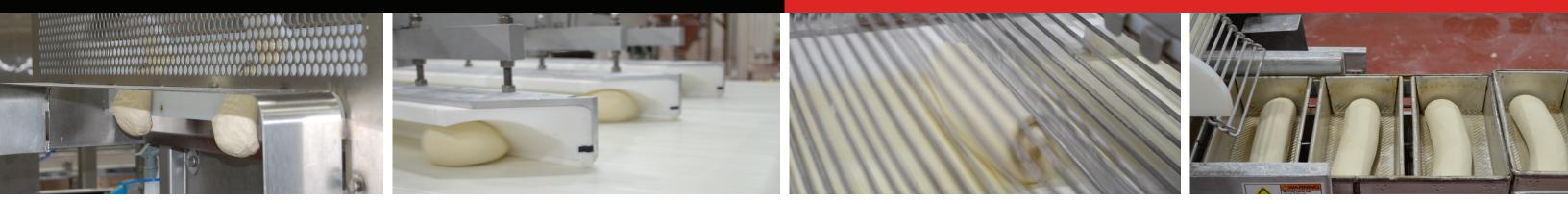


### **LIOUID APPLICATORS & INJECTORS**



## **APEX >** EXTRUSION DIVIDING & MAKE-UP

## FOR SOFT BREAD PRODUCTION





ACHIEVE EXCELLENT SCALING ACCURACY

### **BREADFLEX DIVIDER**

The extrusion APEX BreadFlex Divider by AMF Flex offers improved scaling accuracy over conventional volumetric dividers with 1% standard deviation for doughs at speeds of 10 - 70 cuts per minute.

- Proprietary, sliding vane style metering pump controls throughput without shear and with 100% purse per resolution ensuring 'first-in, first-out' dough processing
- **W** UHMW knife with simple motion, servo driven, rotary cut-off provides a precise gentle cutting action
- **>>>** No divider oil is required for **reduced costs** and simple sanitation



As the APEX Flouring and Outfeed Conveyor by AMF Flex operates, the flour sifters powder the conveyor surface with flour to cover the top and bottom side of the dough piece and prevent sticking.

stretching

>>> Stainless steel, sanitary frame design with one-piece rounder pulleys for consistent belt tracking

SEAMLESS MAKE-UP SYSTEM NTEGRATION

PRODUCE A VARIETY OF

SOFT BREAD UP TO 70 LPM

The APEX Straightline SMP or sheeter, moulder, and panner system delivers from 50 - 70 loaves per minute with simple operation, maintenance, and sanitation to produce high quality, soft tin or panned bread loaves.



**PRODUCE EVENLY** ROUNDED DOUGHBALLS

### **BREAD BELT ROUNDER**

Designed for high-speed, precision rounding, the APEX Bread Belt Rounder by AMF Flex uses an FDA approved poly-slick rounding belt to prevent dough sticking. The rounder belt is easily integrated with AMF's extrusion dividers and controlled by the divider's operator station.

- Hinged rounder bars ensure easy cleaning and maintenance
- An adjustable poly belt scraper is combined with a stainless steel catch pan for **simple sanitation**
- **bb** Direct-drive gearmotor with AC speed control offers dependability, longer life, and mechanical efficiency
- >>> Optional chilled rounder bed to **maintain dough temperature**



### FLOURING AND OUTFEED CONVEYOR

Poly-slick rounder belt prevents dough sticking and belt

### STRAIGHTLINE SMP

>>> Open access construction enables quick washdown for simple sanitation

>>> Optional Cutter and Turner or Seed Enrober options are available for maximum product variety



## **APEX COMBINATION BREAD & BUN PRODUCTION**

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The most compact, value-engineered bread and bun production system offering a single setup to help you scale your bakery processes while controlling costs for maximum profitability. Designed for ultimate flexibility and minimal maintenance, the **APEX Mini Combo BDR** Line is suitable for bakeries looking to move from a manual operation to semi-automatic operation or for

bakery test centers handling product development. The complete make-up system, shown here with a fully integrated dough mixing and handling system, produces from 2400 - 7200 hamburger or hot dog buns per hour (20-60 cpm) and 600 - 1800 bread loaves per hour (30-600 cpm).

### DDM Mixer

### Robust frame and bowl design

- Jacketed bowl offers excellent dough temperature control
- Y-type agitator for mixing bread and buns

**Dough Chunker** & Dough Pump • For continuous receiving

and feeding of the dough from mixer to downstream make-up equipment

**Dough Transfer** Conveyor • Transfers dough

horizontally to the divider hopper with excellent durability

### Intermediate Proofer

- Adjustable speed to provide 30 seconds to 6 minutes of proof time
- Feature available to dwell the IP to increase proof time available
- Extended IP sections available

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### **Double Incline** Conveyor

• Transports dough from the pump or chunker up to an elevation needed to feed the transfer conveyor or dough hopper

• Designed for easy access sanitation and maintenance

### **Dough Divider**

- Single port quick-change nozzle cutoff for breads • Dual port nozzle cutoff for buns and rolls
- Better than 1% scaling accuracy to increase production yield
- No divider oil required

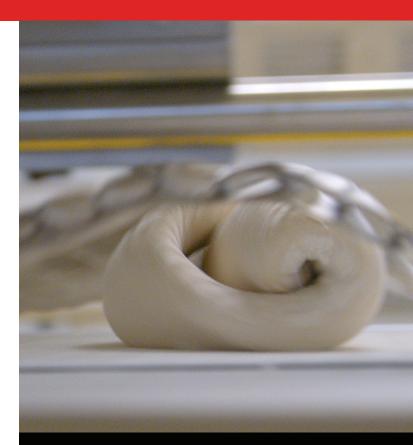
### **Belt Rounder**

• Rounding dough pieces via single or dual lane rounder bars

- Electronic adjustable rounding speed and movements
- Interchangeable tools for various dough piece sizes
- Includes zig zag chute with flour duster

### Sheeter & Moulder

- Optional hot dog moulder board set or oblong bun moulder set
- Electronic adjustable rounding speed and movements
- Interchangeable tools for various dough piece sizes
- Manual panning only, panning conveyor optional





### **APEX COMBOMAT BREAD & BUN SYSTEM**

Designed for producing larger quantities of hamburger buns and hot dog rolls at rates of 4800 - 36,000 buns per hour (80-600 cpm) in addition to soft bread loaves at 1,500 - 4,500 loaves per hour (25-75 cpm) on a single line.

The extrusion Accumax Divider and built in dough developer is suited for higher speeds and minimum dough flow resistance. A variety of moulder boards and extensions are available with a magnetic pan indexer for automated panning with excellent product placement.

## **APEX** > SHEETING & LAMINATING

## APEX DEPOSITING



As Europe's leading suppliers of sheeting and laminating solutions, AMF Tromp has developed the APEX entry-level sheeting and laminating solutions for food producers looking to scale up their manual production of artisan breads, pizzas, flatbreads, bagels, pastries and more.

### SHEETING LINES

For efficient production of doughs with up to 55% water absorption, the **APEX EX Sheeting Line** by AMF Tromp offers maximum product flexibility via extrusion delivering consistent dough sheet thickness to produce any range of products.

For low stress production of consistently moulded products with up to 65% water absorption, the APEX SF Sheeting Line achieves light, open grain structures with maximum flexibility for a wide range of pizzas, flatbreads, or specialty breads.

### LAMINATING LINES

Offering low stress or extrusion production of consistently moulded pastry products, the APEX Laminating Line achieves accurate dough sheet thickness with repeatable performance and controlled baking parameters. By continuously layering, folding, cutting, and/or stacking dough layers, the APEX Laminating Line delivers a finer cell structure to meet exact product requirements for pastries, croissants, and danish or puff-pastry products.



FOR VERSATILE PASTRY AND MUFFIN PRODUCTION

markets.



The Uni-Line T600 by AMF Tromp is a universal make-up line suited for APEX production rates in emerging consumer markets and engineered for high volume production of products like sausage rolls, apple turnovers, chelsea buns, pain au chocolate, and much more.







**APEX SF Sheeting Line** 

### DEPOSITORS

The first universal depositor, **Unimac Depositor** by AMF Tromp is capable of depositing a wide range of cookies, batters, meringues, eclairs, praline, choux-paste, and more for emerging consumer

**Easy changeover** of two roll depositing heads to three roll depositing heads to create a variety of products

>>> Modular unit easily integrates with APEX make-up lines while allowing for future bakery growth



### **UNIVERSAL MAKE-UP LINES**

**Hygienic, sanitary design** uses individual belt relaxers for easy access, hot water sanitation

Modular design allows for simple upgrades for future growth

YOUR BAKING PARTNER OF CHOICE | 15

## **APEX PROOFING & BAKING**

## APEX > COOLING & CONVEYING





### **CONTINUOUS PROOFER & OVEN SYSTEM**

For consistently baked products with proven reliability and superior layout flexibility, AMF BakeTech Continuous Proofer and Oven Systems ensure each pan of product travels one behind the other exposing products to identical conditions delivering the most uniformly baked products. The APEX MiniSaver and APEX MidiSaver models offer 5 - 7 foot (1524 mm - 2134 mm) radius curves in a dual oval or figure 8 arrangement to easily fit most bakery layouts.

- **bbb** Better performance and **exact heat placement** for any variety of pans
- **Reduced energy consumption** with an exclusive dual-drive system that drives the endless chain from both sides for even load distribution and maximum reliability.
- **Longer chain life** with AMF BakeTech's continuous chain design engineered with high temperature heat treatment

### MODULAR TUNNEL OVENS

AMF Den Boer's Multibake® Tunnel Ovens offer flexibility for a wide range of products while improving energy efficiency, delivering maximum process control and lowering operating costs. For APEX production rates, the APEX MB-D Direct-Fired Tunnel Oven is directly heated by means of modulating multi-ribbon gas burners and utilizes three individually adjusted baking zones. The APEX MB-R Radiant Tunnel Oven offers a cyclotherm, indirect-heat system with central burners located above the baking chamber and transferring heat below the products by means of radiator tubes.

- >>> Modularity for efficient delivery and installation with room for future growth
- >>> Independent zone control ensures the most precise temperature control for maximum product quality



### **SPIRAL COOLERS**

The APEX Spiral Cooler improves cooling conditions in a continuous flow and is custom-configured to suit a variety of product types and product applications.

- operations

OPTIMAL PRODUCT CONTROL & ORIENTATION

VALUE-ENGINEERED

**CONVEYING SYSTEMS** 

### PAN AND PRODUCT CONVEYORS

AMF Convay delivers seamlessly integrated conveying and product handling solutions for moving raw dough, products, pans, baskets, cases and more from mixer to marketplace. Handling your bakery's most valuable assets, the APEX conveying and handling systems are designed with simplicity in mind and engineered with easy access, open frames for quick sanitation and maintenance.

MODULAR DESIGNS FOR FUTURE GROWTH

**Easy access** for simple sanitation and maintenance



MOST FLEXIBLE PROOFER

AND OVEN SOLUTION

>>> Optimal product control and orientation eliminates product movement on the belt

>>> Improved sanitation and maintenance access with full washdown construction

>>> Reliable product cooling and transfer to downstream

Custom engineered by product application and bakery layout to ensure seamless integration.

Heavy duty construction with quality materials and components to ensure high performance and longevity.

Wide variety of conveyor and belt types, switches and diverters to move products efficiently through the APEX system

YOUR BAKING PARTNER OF CHOICE | 17

## **APEX > PAN AND PRODUCT HANDLING**

## **APEX BREAD AND BUN PACKAGING**



### **PRODUCT DEPANNERS**

The inline **APEX Depanner** for bread, hamburger and hot dog rolls gently removes baked products from pans with seamless transfer to APEX product conveyors.

The value-engineered depanning solution uses air jets to loosen the products from the pan and a vaccum chamber gently depans the product.

- **Small footprint** design for minimal space requirements
- Operator controlled recipe management system ensures easy product changeover

### **BULK BUN PACKER**

The **APEX HS20 Bulk Bun Packer** by AMF PackTech is designed for efficient bulk packaging of hamburger and hot dog buns or rolls with improved package tightness and seal integrity up to 20 packages per minute.

- High speed regrouping provides a perfect package configuration prior to film feed
- Impulse cross seal and cut system provides outstanding seal quality
- **Low maintenance**, angular design reduces sanitation issues caused by contaminants from shelving



5%食品级酒精壶

大豆油壶(生产用)

### PAN COOLERS AND STACKERS

The **APEX Edge Pan Cooler** offers a compact, efficient solution for pan cooling while eliminating debris via a pan cleaner brush that loosens seeds or products before tilting the pans on their edge to dump debris.

AMF's **APEX Mechanical Pan or Lid Stacker and Unstacker** solution ensures the most gentle stacking and unstacking motion to extend the life of pans and lids. Stacking up to 20 pans per minute and 50 to 70 pans per stack, the fully automated pan stacking system is easily integrated with hand trucks or automated pan storage systems.

### **BREAD SLICER AND BAGGER**

Designed for safety and maximum sanitation access, the **APEX 60 Band Slicer** and **APEX 60 Bread Bagger** offer the most reliable and versatile, continuous slicing and bagging operation handling from 35 to 60 loaves per minute of varying loaf and bag size.

- >>> Open frame designs to **maximize access** for sanitation and maintenance
- **Ultimate slicing and bagging quality** with automatic pneumatic blade tensioning system and pendulum scoop drive
- Continuous infeed conveyor uses high friction bottom and side belt surfaces for smooth operation and lower maintenance





R OF CHOICE | 19



## LIFETIME SUPPORT. ANYTIME. ANYWHERE.

AMF's customer care team provides a range of parts, repair, service agreements, and training solutions to empower your bakery teams and keep your production lines running at optimal efficiency for the enduring success of your bakery.

- Reduce Downtime with Service Plans
- Connect in Real-Time via VirtualCare
- ► Access AMFMethod<sup>™</sup> Training Tutorials

### Contact your regional customer care team:

North America	+01-804-342-9700				
Latin America	+52-229-915-3501				
Europe, M.East, Africa	+31-183-627-555				
Greater Asia	+65-8128-4044				
China	+86-150-2244-2472				

Or request support via email with a 24hour response time during working hours at **support@amfbakery.com**. You can also download the **MyAMF Mobile App** from your App Store today to quickly connect with your customer care team and related support tools.





Empowering your bakery to rise.

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