

## OUR CORE VALUES

AK was founded on three basic core values: Supply the most advanced machinery with the best process support and outstanding customer service.

Unmatched in the industry, the company offers:

- No Risk Guarantee – for peace of mind
- Three Year Warranty\* - for extended coverage (extruder only)
- 24/7 Service – for fast response
- Wet Testing Prior to Shipment – for proven performance
- Free Spare Parts – for reduced downtime
- Fair Spare Parts Pricing – for low long-term cost of ownership

\*For AK systems within North America and Europe, consult the factory for more details.

### Technical Polymer Processing Centers (Extrusion Labs):

Our customers and prospective customers have access to our two fully instrumented extrusion labs that include a variety of machine sizes and screw designs. Each extruder can be outfitted with high-speed computerized data acquisition system for complete analysis and process studies. Complete tubing systems for customer lab trials are located at our Rhode Island headquarters and at Kuhne GmbH in St. Augustin, Germany.

*“Due to the nature of our product we needed the highest quality extruder. American Kuhne is one of our valued suppliers, with their breadth of industry and processing knowledge and outstanding service and support.”*

— Dennis Connelly, Senior Process Engineer, Tepha, Inc. Lexington, MA

*“We are currently running small bore, tight tolerance silicone tubing both single and multi lumen with our American Kuhne extruders. Their unique feed section feature was impressive but what really stood out to us was the innovative engineering and durable construction. American Kuhne is a great company to deal with: their prices are fair, the service prompt and they are responsive and honest. Our next extruders will be American Kuhne extruders.”*

— Bill Woinowski, R&D Manager, Vesta, Inc. Franklin, WI

*“We love the ease of use, graphics and touch screen display of the AKcess. The American Kuhne extruder is an all around great machine and we are extremely happy with it. AK offers superior quality and service – unmatched in the industry.”*

— Bill Coulson, Owner, Eldon James, Loveland, CO



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# ADVANCED EXTRUSION SOLUTIONS

## FOR THE MEDICAL MARKET



Thermoplastic Extruders  
Silicone Extruders  
Turn-key Systems with Closed Loop Control  
Discrete Controls  
Advanced Touch Screen Controls



Photo courtesy of HFP-Medix, LLC

**Expertise in the following applications:**

- High speed flexible PVC up to 800 ft/min (244 m/min) line speeds
- High temperature (PEEK, ULTEM, etc.)
- Fluoropolymers (FEP, PFA, etc.)
- Multi-layer
- Bump/Taper
- Micro-tubing
- Multi-lumen
- Co-extrusion with encapsulated radiopaque stripes
- Continuous and discrete length wire coating
- Braid or spiral reinforced tubing
- Thermally bonded tubing
- Corrugated respiratory tubing
- Specialty profiles

**American Kuhne** is the leader in supplying extruders and complete turnkey extrusion systems specifically designed to meet the increasingly stringent demands of the medical marketplace –

*we work closely with our customers to provide custom engineered solutions backed by a superior level of service and support.*



**Turn-Key Systems**

American Kuhne's expertise lies in creating complete turn-key extrusion systems featuring advanced closed-loop control systems. We ensure the best possible performance by paying close attention to each detail in the system. We offer complete system integration and engineering services for line speeds and dimensional tolerances of the finished tubes. And, before any equipment is shipped we perform a comprehensive factory acceptance test at our newly constructed facility. We also include comprehensive training and start up assistance to ensure optimal performance and profitability after the system is installed at the customer's facility.

**The Ultra MD Series**

These extruders are designed exclusively for a variety of medical applications and are typically used in a clean room environment. Our medical line of extruders (MD series) are supplied with a special urethane based medical paint that is more chip resistant and does not "yellow" over time, closed loop AC vector or servo drives for improved speed regulation, and a replaceable feed section liner on all small machines up to 1 inch (25mm) that provides the flexibility to configure the feed geometry to best suit the application. There are many options available to choose from including pressure feedback control that enables small but rapid changes to the screw speed to correct any drifting pressure that is sensed. Melt pump systems are also available on all models.

**The Compact MD Series**

Our unique Compact MD series extruder is designed specifically for clean room and/or controlled environments. The electrical controls are easily serviced and integral with the extruder frame, providing the benefit of reduced machine width and reduced floor space. The low profile control panel enables the operator's unobstructed view across the clean room production area. The machine is designed with smooth external surfaces and rounded corners that allow for quick and easy wipe down. A melt pump can be fully integrated at the time of order or easily added in the future. This machine is available with an option to include the entire main frame and safety guards to be made of stainless steel in place of standard painted steel. The Compact Series is offered in 0.5" (12.7mm) to 1.75" (44mm) sizes.

**The AKcel Modular Extruder**

American Kuhne also offers the AKcel (American Kuhne Custom Extruder Line) modular extruders that provide for quick and easy barrel and screw L/D and/or diameter changes – allowing for fast product changes for different size tubing applications. The system also enables processors to perform off-line clean-out of the feed and barrel sections for faster resin change-over. The systems are available in various families of sizes: Small: 0.5" (12.7mm) -1.0" (25mm), Medium: 1.25" (32mm) – 2.0" (50mm) and Large: 2.5" (63.5mm) – and larger.

**The Ultra R/S Extruder for Silicone**

The ULTRA R/S Extruder features multiple innovations that provide dramatic improvements in process performance, serviceability, and longevity. As the most advanced silicone extruder available on the market today, the ULTRA R/S extruder design features a proprietary hinged roller feed assembly that is easily opened by loosening two simple swing bolts. This provides quick and total access for common service and maintenance including fast and thorough cleaning.



*The AKcess touch screen control system is a Windows based integrated line control system with recipe storage, trending, alarm and event, and report generation capabilities. Three levels of touch screen control are available for every budget and operating philosophy. The AKcess Level I is a direct replacement of discrete temperature, pressure and drive controllers with the added benefit of recipe generation and real-time trending of all parameters. The more advanced AKcess Level III is offered for complex lines that require unlimited recipe management, real and historical trending capabilities and optional requirements to meet FDA 21 CFR Part 11 regulations for electronic signatures.*

*All extruders, systems and controls sold into Europe are CE labeled.*



**Each American Kuhne extruder includes a Steward Barrier Screw that is custom designed to optimize the process and to provide the versatility to process a variety of different resin types. The Steward Barrier Screws are the heart of the process and provide a number of critical benefits. The screws are designed to maximize pressure stability and minimize melt temperature variation to achieve the tightest possible dimensional tolerances.**