



GRAHAM ENGINEERING

Press Release

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AT NPE, GRAHAM ENGINEERING CORPORATION TO SHOW INNOVATIVE BLOW MOLDING, SHEET, AND EXTRUSION SYSTEMS POWERED WITH INTUITIVE CONTROLS

Navigator® Control System Now Extends to All of the Company's Brands, including Graham Engineering, Welex, and American Kuhne

On display at Graham Engineering Corporation's NPE2018 booth will be some of the company's flagship extrusion-based systems for blow molding, sheet, medical tubing, wire and cable, and other applications, each equipped with a proprietary Navigator® control system for live demonstration of its accuracy and ease of use (Booth W2743).

"Graham Engineering Corporation's proprietary Navigator® control technology utilizes an industrial PC with a Windows® platform to enable intuitive, industrial, integrated extrusion process control," said Graham CEO David Schroeder.

"Real-time graphical display is a hallmark of Navigator. High visual correlation between the touchscreen and machine function ensures an intuitive user experience that enables both new and experienced operators a rapid learning curve and ease of use," said Graham vice president of engineering Justin Kilgore. "Powered by a friendly, open architecture that allows a high level of flexibility, Navigator is delivered via hardware designed to withstand harsh industrial environmental conditions such as vibration, electrical interference, temperature, and humidity. The ease and ability to integrate is boundless. From synchronized supervisory control of a line to its open architecture that supports connectivity for data collection systems to internet for remote support and trouble-shooting, Navigator offers integration without limits."

Plastics processing systems on display at the Graham Engineering Corp. booth will include:

- Mini Hercules® accumulator head blow molder. This system combines a small shot size and space-saving footprint with one-hour color and material change and other advanced features available with the company's larger systems. It is available with shot sizes of 2.5, 5, or 8 lb (1.13, 2.25 or 3.63 kg), has a footprint of approximately 15 by 11 ft. (4.6 by 3.4 m), and is 15 ft. (4.6 m) high, with single- or dual-head configuration and bottom or side discharge. The rapid color-change feature is made possible by Graham Engineering's proprietary spiral flow diverter head. Available on all of the company's accumulator head machines, the

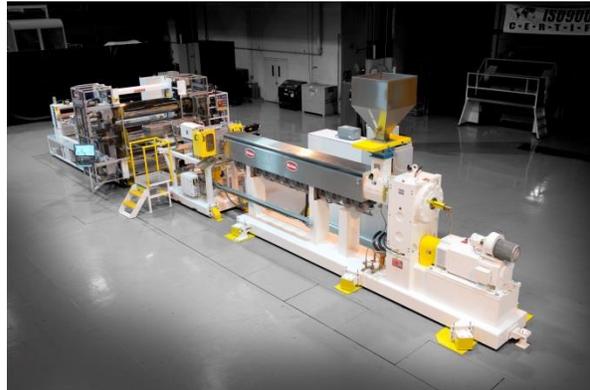




diverter head also provides continuous internal cleaning during production, eliminating the need to disassemble the head for cleaning and increasing production availability.

- Modular clamp station for Revolution MVP® rotary wheel blow molder. A key innovation in the Revolution MVP system is that each clamp station is independent of the others, with all forces self-contained within the clamp. Water manifolds through the platens to facilitate quick mold change, and individual clamps can be removed for offline maintenance to reduce downtime. This modularity enables the user to vary the number of clamp stations from 12 to 24 on the same platform and configure the wheel based on the application and bottle height.

- Welex Evolution® sheet extrusion system, a complete production line for use in sheeting, winding, and in-line thermoforming applications and equipped with XSL Navigator control. While the equipment on display at NPE will be for thin-gauge polypropylene, the Evolution system can be customized for widths from 36 to 90 in. (90 to 230 cm), gauges from 0.008 to 0.125 in. (0.2 to 3.2 mm), and throughputs up to 10,000 lb./hr. (4,535 kg/hr.). Monolayer or co-extrusion systems are available,



with up to nine extruders. In addition to a customized roll stand, the Evolution system can also be equipped with screen changers, melt pumps, mixers, feedblocks, and dies. Additional features of the line on display include a proprietary roll-skewing mechanism for thin-gauge applications while maintaining quick roll change and electric gap adjustment under full hydraulic load without interrupting production.

Originally developed for Graham Engineering extrusion blow molding systems and then adapted for Welex sheet extrusion lines, Navigator® controls are now available for American Kuhne extrusion systems such as those for medical tubing, profiles, and wire and cable. There are three levels of functionality: XC100 for stand-alone extruders, XC200 for one or more extruders in simultaneous operation, and XC300 for integrated production lines with the extruder and components such as a puller, water bath, or winder. At NPE2018, all three controls will be shown installed on American Kuhne extruders.

- American Kuhne ULTRA extruders with expanded features. On display will be a 2.5 in. (63.5 mm) unit equipped with XC100 Navigator control and a 3.5 in. (99 mm) machine with XC200 Navigator control. Building on the proven performance of the ULTRA family of extruders, Graham Engineering has made improvements designed to make maintenance simple and accessible. Serviceability features include newly designed barrel covers that allow for quick and easy access to barrel heaters and thermocouples and an automotive style wiring harness with quick change plugs for routing wiring and thermocouples between the electrical cabinet to the barrel heater/cooling zones.



- American Kuhne tri-layer medical tubing line, consisting of modular micro extruders and XC300 Navigator with integrated TwinCAT® Scope View high speed data- acquisition system.

- American Kuhne AKcent co-extruder. This versatile customized system is available in fixed horizontal versions or units that can be fully tilted from horizontal to vertical. An EZ-Tilt feature makes angular adjustments quick and easy. The control panel is on located on an arm that is mounted to a ground post allowing the panel to swiveling around the post for flexible positioning.



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