

Case study

Drilling Technical Services develops die cut thin film blank accumulator with Siemens motion control



The VR Series "cut and stack" accumulator stacker machines for thin film in-mold label (IML) substrate processing features Siemens HMI, drives and servomotor technology to handle the delicate thin film substrates processed, with precision, accuracy, high speed and with fast changeover for the machine user.

VR Series "cut and stack" accumulator utilizes leading-edge motion control products to efficiently transfer film blanks from point of cutting to positioning in counted stack

As a machine builder specializing in the design, engineering and system integration of narrow and mid-web label solutions as well as flexible packaging and folding carton machinery, Drilling Technical Services (DTS) of Milford, Ohio sees this global industry from many perspectives. Much of the machinery and equipment solutions devised by DTS end up on the production lines of major label and filmic product producers worldwide. Recently, company owner Joe Drilling and his team had one of those "light bulb moments" where a specific market need could be addressed by a better solution.

It involved the delicate world of thin film substrate processing and the need for a high-speed cut-and-stack solution.

As Joe Drilling explains, "The primary challenge was to create a solution that took into consideration the unique environmental and material factors of each customer. The materials our machines process are normally very thin film products that accumulate static quite easily. Due to their structural instability, it always requires special transport techniques to convey these products from the point of cutting to the point of positioning in a counted stack." Superior blank control throughout the process, converting blank shapes in multiple streams and integrating the equipment into continuous print cut processes or offline converting systems further complicated the challenges.

Further, the DTS team saw the industry trends toward smaller footprint equipment, greater energy savings, quick changeover and portability. Collectively, these factors presented a daunting set of circumstances to Drilling and his design staff.

DTS realized the control scheme on the machine would be vital, so they turned to their longtime partner Siemens for assistance. Through the integration of high-precision Sinamics drives and Simotion motion control, coupled with the complementary suite of Simotics servomotors and Simatic HMI touchscreen product, the VR Series of in-mold label (IML) accumulator stacker machines began to take shape.

Unique blank shapes are accumulated in 1, 2 or 3 streams on a small footprint machine requiring only 3' x 4' of floor space, capable of handling web widths from 13"-26". The VR Series machines from DTS provide end users with simple matrix separation, while diverting scrap at the process start-up or as a component in the overall quality inspection system. The machines can create serialized groups through a "bottom up" stack format with total static control, so they can be utilized in a normal press room environment.

Noting the high-precision servo technology and motion control accuracy of the Siemens equipment onboard the VR Series, Drilling observed, "The axes communication and control are also extremely compact and this facilitated our designing a very portable machine with quick changeover capability, something our customers consistently demand."

DTS further relies on the Siemens international sales and technical support teams, as this builder's equipment is found in labeling, printing and converting plants worldwide. Drilling notes his company has received a high level of consistent service, application engineering assistance and support from the Siemens personnel and affiliated contractors.



Drilling Technical Services Inc. (DTS) in Milford, Ohio is machine builder specializing in the mid-width and narrow web press market. Its sister company, Pre-Owned Press & Parts Solutions, offers full reconfiguration engineering and remanufacturing services, plus full installation and commissioning on pre-owned presses. DTS team handles the design, engineering, build and line integration of the company's various machine types for customers in the label, film, packaging and printing industries.

Company profile



Joe Drilling

Joe Drilling has a pride in his company that's classic American entrepreneur. After years at a leading label machine builder, he founded DTS as a virtual engineering company specializing in the mechanical, electrical and process engineering of mid-width and narrow web printing, drying, converting, RFID and digital print equipment. DTS has a particular emphasis on web transportation, die-cutting and laminating solutions.

As the installed base grew and in response to current market conditions, Drilling founded a second company in Milford, Pre-Owned Press & Parts Solution LLC (POPPS), specializing in the evaluation, reconfiguration, remanufacturing, sale, commissioning and servicing of pre-owned presses.

Another vital component of the business models at both DTS and POPPS is the engineering of energy recovery systems for containment of utility costs, an ongoing challenge in the printing and labeling industries. The two companies primarily serve the needs of the flexible packaging, folding carton, tag and label, health and beauty, wine and beer, plus other label market segments.

Siemens Industry, Inc.
5300 Triangle Parkway, Suite 100
Norcross, GA 30092

1-800-879-8079
SiemensMTBUMarCom.industry@siemens.com

www.usa.siemens.com/motioncontrol

Subject to change without prior notice
MOCS-DTS02-0213
Printed in USA
© 2013 Siemens Industry, Inc.

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.