

In non-stop operation: The linear actuator from Angst+Pfister

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Automatic diecutters play an essential role in the manufacture of packaging. The world-wide operating Bobst Group is a specialist and inventor in this field. To optimize production output, the group's EXPERTCUT 106 diecutter is available with an optionally equipped non-stop delivery device that is driven by a linear actuator supplied by Angst+Pfister. The robust and powerful Elero Econom 01 enables non-stop operation and turns the diecutter into a truly high-performance machine.

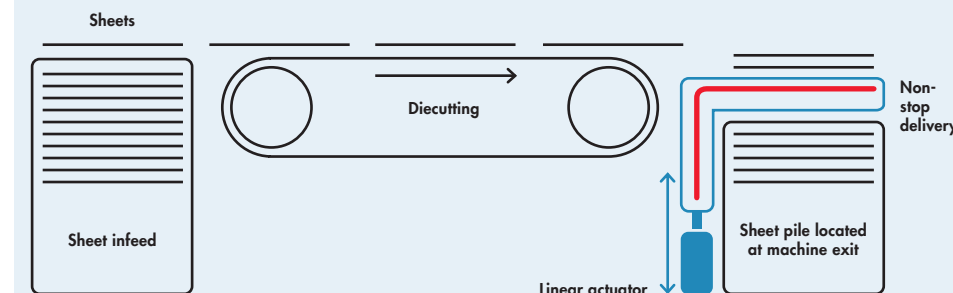
The Bobst Group is the leading supplier of equipment and services to packaging manufacturers in the folding carton, corrugated board and flexible material industries. With its production facilities in Prilly and Mex in western Switzerland and in Grenchen in Canton Solothurn, as well as in Italy, France, the UK, Germany, Brazil, India and China, the Bobst Group generated consolidated sales revenue of approximately CHF 1.6 billion in 2008. Its roster of partner companies includes the Angst+Pfister Group, with which Bobst collaborates in areas such as drive technology. The Elero Econom 01 is an outstanding example of the productive and successful cooperation between the two companies. Deployment of the Elero Econom 01 push-rod actuator in the EXPERTCUT 106 diecutter provides the advantage of continuous output by enabling the stack of finished sheets to be offloaded from the non-stop delivery station without interrupting production.



Robust linear actuator – greater net output

High productivity, user-friendliness and top product quality are the hallmarks of the EXPERTCUT 106, which processes paper and carton just as well as it handles plastic and corrugated board. One of the special highlights of the diecutting machine is the non-stop delivery mechanism that is offered as optional equipment. After the printed sheets are die-cut, they are automatically stacked onto a pile located at the machine exit. The non-stop delivery mechanism enables the machine operator to offload the completed pile without halting the machine. A robust push-rod actuator from Angst+Pfister enables on-the-fly pile changes during running production and thus boosts the net output of the entire system.

Schematic setup of the machine



Operational description
The blue chassis carries the red non-stop carpet that is inserted in order to catch exiting sheets during pile changeovers. During pile changeovers, the linear actuator lowers the chassis to prevent incoming sheets from colliding with the non-stop carpet.

Continually in motion

When the pile has reached the maximum height, a flexible plastic carpet is inserted into the machine above the completed pile, and the next die-cut sheets are stacked onto that. To prevent collision with previous sheets that have already been stacked, the carpet is gradually lowered with each exiting sheet. A sensor controls this linear movement and monitors the height of the pile. An Elero Econom 01 push-rod actuator executes the lowering motion. After the completed pile is off-loaded, the carpet is rolled back and the sheets are stacked onto a new pile. This procedure can be repeated at will using this intelligent system featuring the high-grade linear actuator from Angst+Pfister, making non-stop operation possible.

Joint development work

In the Bobst Group's efforts to find a solution for the non-stop delivery mechanism, the expertise of the Angst+Pfister drive technology specialists was once again called on. Because after all, to ensure trouble-free operation, all of the details have to mesh perfectly. And that's particularly true for the motor that is the heart of the stacking device. Here the custom specifications of the diecutter stood in the foreground for the engineers at Angst+Pfister and Bobst. The result of the joint development work is the EXPERTCUT 106 which, when equipped with the Elero Econom 01, perfectly combines high quality with high-performance output. At a stroke speed of 7 mm/s over a stroke length of 100 mm, the push-rod actuator exerts a force of 5,000 N.

Significant efficiency enhancement

Angst+Pfister mastered this not-so-easy drive technology challenge in optimal fashion. In the final analysis, the non-stop delivery mechanism employed by the EXPERTCUT 106 is a novel innovation. The achieved continuity of the equipment operation is now paying off in spades. The efficiency enhancement is particularly noticeable with larger-scale production runs and tougher materials. Regardless of whether new machine designs or further development of existing equipment is the matter at hand, Angst+Pfister helps its customers find the ideal solution for every application.



The Econom linear actuator from Angst+Pfister is deployed in the Bobst EXPERTCUT 106 diecutter and ensures non-stop operation of the machine.

The push-rod actuator from Elero stands out for its high flexibility of use, enabling the electric linear actuator to replace pneumatic and hydraulic lifting cylinders.

Technical data on the electric push-rod actuator and its advantages:

- force production ranging from 100 to 10,000 newtons;
- operating voltage: 3 x 400 V AC, 1 x 230 V AC, or 24 V DC;
- stroke lengths ranging from 50 to 750 millimeters;
- stroke speed ranging from 1 to 90 millimeters per second;
- unlimited positioning along the stroke length;
- high protection class IP 65, version in stainless steel for outdoor deployment;
- no use of hydraulic oil (less risk of contamination)
- no compressed air necessary.



The Econom electric linear actuator is compact and maintenance-free, and enables continuous motion and any desired positioning.

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