

## Press Release

The German machine building industry has been badly affected by the current global economic crisis. Despite the slight lift in spirits in Germany's economy, as reflected in the Ifo Business Climate Index at the beginning of the year, order rates for industrial goods remain unsteady. Pessimists anticipate not only a decline in exports, but a slump in production investments at home. Reduced usage of existing equipment and machines represents an additional concern to those in positions of responsibility. In short, workplaces are in danger. However, within this crisis there is also opportunity—a trend in systems technology away from large fully automated machines toward more flexible manual systems.



According to the January survey of the Munich Ifo Institute for Economic Research, approximately 7,000 companies reported increased business expectations. However, due to the current economic uncertainty, these same companies are avoiding large capital investments and instead concentrating on manually loaded "single cell solutions" or "smart work benches." Managers at the automation, air tools and screwdriving technology manufacturer DEPRAG SCHULZ GMBH & CO based in Amberg, Germany, have observed this development as well. "We have registered an increased demand for operator-based systems in particular," says Sales Manager Jürgen Hierold with respect to this trend.

In operation, the processing reliability of these kinds of manual "smart workbenches" is just as secure as that of an automated system. Even with alternating operators, a well prepared manual system presents no additional processing difficulties. To this end, the automation experts at DEPRAG equip all their manual workstations with both EC- or EC-Servo screwdrivers and sequence controllers as part of their standard program. With these programmable screwdrivers, spindle torque, speed, waiting period and rotational direction can all be individually customised for the screw assembly task at hand. Multiple torque parameters can even be set for multiple screw positions in a single cycle when using a manoeuvrable spindle. Integrated torque and angle recording allows precise control of the screw parameters as well as documentation of all important processing parameters.

A DEPRAG position controller can also be incorporated to ensure even greater processing reliability by coordinating the entire production process. This is especially important in those instances in which the order in which the screws are driven has an effect on processing quality and reliability. In essence, an "intelligent" position control stand supervises the procedure, so that screws can only be assembled if the operator has followed the correct order.

The position controller can also be used to govern such manual procedures as the clamping and locking of work pieces, the automatic feeding of joining elements, and the activation of any measurement functions. In essence, the complete assembly sequence, including all measurement data ascertained, is processed in the controller module.

Equally effective in times of economic crisis is the use of so-called "single cell solutions" – assembly cells that are loaded either manually or by an automatic loading mechanism. These kinds of small assembly cells enable flexibility and adaptation, whereas fully automated systems are inherently inflexible.

The automation specialists DEPRAG SCHULZ GMBH & CO. are superbly equipped to help their customers both create and install these kinds of flexible, "stand-alone assembly cells," thanks to the company's standardized DCAM, or DEPRAG COMPACT ASSEMBLY MODULES, line. Just recently, at the Automatica trade fair; DEPRAG unveiled its DCAM-XS, the smallest member of the DCAM family. This micro assembly machine is extremely small, measuring just 450 x 802 x 680 millimetres, and offers unparalleled changeover times of under a minute. Pick position of feeders and process modules can be changed without having to make any additional readjustments. Even the conversion of a "pick & place" feeder to a "blow-feeding system" is effortless.



The entire DCAM product group of stand-alone assembly cells combines top efficiency with the best possible processing reliability. As a result, the systems are ideal for assembling products comprised of smaller components, such as razors, electric toothbrushes, digital cameras, navigation systems, electronic systems for cars and, of course, cell phones.

The DCAM assembly cells currently being used by mobile phone manufacturers are predominately based on multi-spindle concepts. For example, an XYZ-programmable, four-spindle DCAM equipped with a rotary indexing table can install four screws with a cycle time of 1.6 seconds per screw. Calculating the performance of the machine on the basis of a mobile phone with six screws results

in a three-shift production rate of 36,000 mobile phones! In addition to installing the screws, the system also automatically checks all assembly related quality control issues, including screw presence, screw depth and torque and angle values. Errors are displayed on an interface module and must be acknowledged and reset before the system is approved for the next assembly cycle.

Flexibility can be decisive for economic success in times of crisis. Larger, fully automated systems require a large initial investment and long amortisation periods. By using small flexible assembly systems, in the other hand, manufacturers can easily adjust production rates to match demand. Costs are also proportional—by using an "intelligent" production system, such as a DEPRAG manual workstations or DCAM assembly, manufacturers can guarantee continued high standards of process reliability.

For decades the engineers at DEPRAG SCHULZ GMBH & CO have been creating innovative automation concepts. The company provides full service support through its 600 dedicated employees and representatives in almost 50 countries. The company's technicians work together with the customer to create a tailor-made final result comprised of components from the company's wide range of standard components. DEPRAG proves that there are still innovative production solutions to be found during the economic downturn.

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