

High speed printing

plastic bag making machines.

Flexographic printing machine, slitter - cylinder, called gravure cylinder, which is rewinder machine and different types of partially dipped in ink colour. The images or the text to be printed are engraved on this cylinder. The number of colours defines the number of stations, which can The rotogravure machine is the first vary in the range of 4, 6 or 8. Each station machine in the printing line, which is has a defined colour concentrate for the followed by the slitter and pouching printing. Apart from the stations machine. "We at Aim Machintechnik have responsible for colour printing, the the complete expertise in designing and machine has an infeed and outfeed manufacturing of the complete line of station. These stations are extremely printing and pouching machines," shares important as they are responsible for





Rotogravure printing machine - Rototech by Aim Machintechnik running at 200mtr/min provides precision and flexibility

avoiding the variations in printing. These, along with the winder and unwinder, maintain a consistent tension on the material, thus, helping achieve a reliable print quality. A doctor blade removes excess colour from the gravure cylinder before it is allowed to press against the press cylinder. The press cylinder only provides necessary pressure for printing.

When the material passes between the cylinders, the gravure cylinder, which has adequate ink, rubs against it. Due to the pressure applied by the press, the cylinder transfers ink on the material. The pressure applied varies according to the printing material. This material then is allowed to pass through a dryer so as to dry the colour before passing it through the next station having a different colour. Every colour unit is equipped with a dryer and these units are temperature-controlled to maintain the colour quality.

Easier maintenance

The rotogravure machines mechanically couple the stations using gear boxes and uses inverters for driving the motors shafts. Load cells are used to maintain tension on the plastic web, which avoids possible damages to the plastic due to excessive tension. A central processing controller networked on a real time Ethernet-based network controls the entire process.

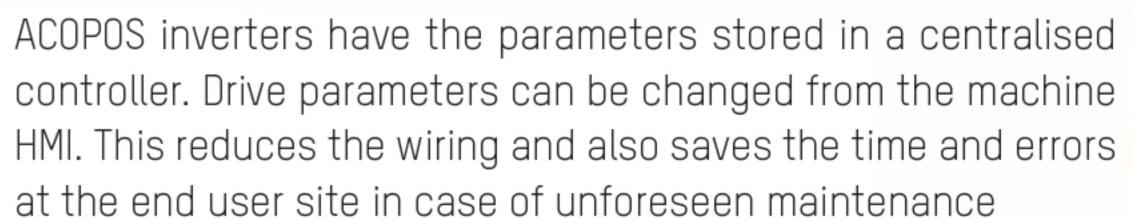
The machine makes use of the power efficient ACOPOS Inverters, which are synchronised with each other. The parameters needed for the ACOPOS inverters are stored centrally in the controller and are downloaded via Ethernet POWERLINK network during boot





Anil Savsani Managing Director Aim Machintechnik

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with a possibility to be changed during runtime. The ACOPOS field action to graphical display. inverters do not need skilled technicians from the machine builder in case the need for replacement arises at end users site. The C series system acts as a central storage for the ACOPOS The maintenance teams can simply replace the inverter with a inverter parameters as well as the machine program. With generic new one and connect the Ethernet POWERLINK cable. Once motion control, B&R achieves a platform independent motion powered, the parameters are automatically downloaded in the solution. Thus, the user is free to choose his hardware for future ACOPOS inverter. This relieves the maintenance of the efforts to technological upgrades without having the risk of software search manuals and reduces support calls to the machine change. "The generic motion control concept, thus, will help us in builder, eventually reducing the overall machine downtime and moving from an inverter-based system to a servo-based allincreasing productivity.

"B&R inverters provide the best in class synchronization." Handling the ACOPOS inverters and the parameters is easier on the field due to minimum intervention needed from operators The machine has decentralised 10 system, also connected on and maintenance," says Dinesh Mistry, Technical Director, Aim Machintechnik. "The decentralized architecture followed by the B&R control systems additionally helps us in reducing our wiring, thus, reducing cost and maintenance efforts."

Inverters to servos - Effortless

Using the latest C series power panels from B&R, Aim Machintechnik optimises cabinet space by having an integrated controller and HMI, which also results in the best possible response time from



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electric system," says Mistry "An all-electric machine will, thus, reduce the mechanical assembly and also provide a short installation time on site," he further adds.

Ethernet POWERLINK. Thus, the B&R system uses a common network for the IOs as well as the ACOPOS inverters. Aim Machintechnik is also able to reduce his wiring effort on the IOs as the IOs can be mounted near the sensors. Hence, only one Ethernet POWERLINK cable runs from the IOs to the C panels and ACOPOS inverters.

Partners in success

"We have been associated with B&R since inception and we are very comfortable working with them," mentions Savsani. "The technical support provided by their teams is exceptional, which has always helped us achieve before-time project completion in all our machines. The application team in B&R has been supporting us in all our developments and is always willing to take the extra step forward."

The machines developed by Aim Machintechnik are sturdy, which complements the B&R hardware and software. Thus, users of these machines not only have mechanical, but also electronical robustness.

"We look forward to this continued strong partnership fuelling our growth. B&R has been a factor for the electronic advancements in our machine and have consistently supported us in our newer developments," says Savsani. ←