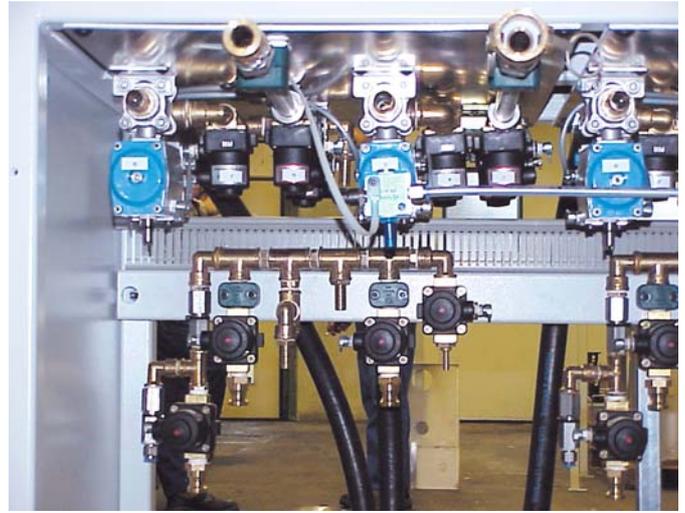


## Cleaning of Inking Units in Packaging Printing Machines



### Application

The packing for food such as folded cardboard boxes and cartons for frozen vegetables, sweets or crisps are printed colourfully and effectively for advertising purposes. Printing is often carried out near the place where filling of the respective product takes place. In order to achieve good printing results and / or to avoid permanent soiling of the machine by dried up ink the inking units must be supplied with the required ink colour during the inking procedure and then be cleaned and the ink must be completely removed. These processes can also be automatized and the different inks and cleaning agents are then controlled by valves. As even the slightest ink residues after changing the colour can lead to serious misprints, the valves must have minimum deadlegs and be easily cleanable without leaving residues.

### Plant Design

The packing material is made of plastic, paper or cardboard and is continuously drawn into the printing machine by a roller. The printing inks are separately distributed on the packing via printing rollers in an offset procedure. The inking units transmit yellow, magenta (red), cyanogen (blue) and black (fullness/contrast) inks on the packing, depending on the setting copy. The combination and intensity of the inks lead to the required printing on the packing. Apart from the classic printing inks, special inks and printer's varnish can also be used. During the printing process the printing rollers are supplied with the required inks. The excess ink is collected and carried back to the tank. After the printing process the system is drained and the rollers are precleaned with used water from the recycling tank. Then this rinsing liquid is carried to a corresponding system to be treated. In a second

cleaning step the inking unit is cleaned with used water which is then collected in the recycling tank to be ready for use for the next first cleaning step. Then the final cleaning takes place with fresh water which is also collected in the recycling tank afterwards. To improve the cleaning results soap is added during the individual cleaning processes and the water and ink residues are blown out of the system by compressed air.

### Solution

GEMÜ 615 minimum deadleg metal diaphragm valves, DN 12, in brass (for water) and stainless steel (for inks and cleaning agents), pneumatically operated, normally closed, with threaded sockets. PTFE is used as sealing material. Maximum working pressure of the equipment is < 6 bar.



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