



The new COLOURLINE with MULTI-CONNECT technology

Fast and uncomplicated colour change for surface finishing of decorative elements and functional elements

Hennecke is a recognized specialist when the task at hand is generating scratch-resistant and high-quality surfaces on injection moulded components using polyurethane or polyurea systems. With the new COLOURLINE MULTI-CONNECT the machine manufacturer now introduces a machine system that takes surface finishing to a new level. Based on the CLEARMELT technology users can now process even abrasive colour systems with no problems. The intelligent plug-and-play system "MULTI-CONNECT" allows fast and clean colour changing. Thanks to the consistent modular system structure, users also benefit from a production capacity that can be expanded virtually without limit.



Surface finishing at a new level: the COLOURLINE MULTI-CONNECT machine system

A tried-and-tested field of application for polyurethane and polyurea system is the surface finishing of parts e.g. by coating them with transparent PU systems using the RIM process (Reaction Injection Moulding). Hennecke's

CLEARRIM technology offers an innovative concept for efficient production of parts with high-quality and functional surfaces. It focuses on the use of a thin layer of polyurethane or polyurea, through which thermoplastic support elements or support elements with natural surfaces are effectively finished. In this manner users achieve scratch-proof, resistant high-quality surface structures with depth effect for decorative parts in the automotive and furniture industries or for countless other decor elements. Moreover, CLEARRIM can be perfectly combined with other processing techniques. This is very well illustrated by a further development of the process based on the cooperation between Hennecke and Engel AUSTRIA in the field of mechanical engineering: The CLEARMELT® technology. Here, thermoplastic moulded parts are combined with decor films or veneer elements in the injection moulding process. In this regard, the transparent polyurethane or polyurea systems are implemented in the same production cell.

Hennecke worked closely with customers to enhance this process. Now it is also possible to use coloured polyurethane systems to flood injection moulded components. Through use of different colours and effect pigments, such as metallic flakes, in terms of design freedom, now there are virtually no limits imposed on the user. While the high-pressure metering system STREAMLINE can only fully bring its strengths to bear in the area of the CLEARRIM or CLEARMELT® technology, COLOURLINE with MULTI-CONNECT technology enables a fast and easy colour change. Naturally, transparent systems can also be used in this regard. Flexible production with multiple coloured polyurethane systems becomes possible through the systematic distribution of the isocyanate and colour processing in different units. The COLOURLINE is installed as a stationary isocyanate unit on the injection moulding machine. The MULTI-CONNECT colour module with its own heater is designed as a compact mobile carriage. The MULTI-CONNECT parking station is used for homogenisation and pre-tempering of the different colour systems. In this regard, the parking station provides up to seven colour modules simultaneously. If needed, the user can undock the module with the desired colour from the parking station, move it to the isocyanate unit and re-dock it there. The isocyanate unit then takes over control of the colour module. Each colour module is equipped

with its own type MN 8 MC mixhead on which the isocyanate unit is attached. This ensures that each colour circulates in its own system and colour mingling cannot occur when changing colours. Due to this intelligent plug-and-play principle, a colour change does not require cleaning measures and can be carried out in less than 15 minutes.

Because colour pigments are highly abrasive, Hennecke has developed the HT30evo piston pump for this special purpose. Each colour module is equipped with its own piston pump that is designed in such a manner that it can produce for an extended period of time under these highly abrasive conditions with high precision and repeat accuracy.

The positioning of the COLOURLINE and the MULTI-CONNECT colour units can be adapted with great flexibility to the user's layout, as the units are connected via a single multi-coupling. Moreover, the modular system structure enables effortless expansion of production capacities. Thus a system with a parking station and seven colour modules can be easily supplemented with additional parking stations. To increase production capacity, the number of COLOURLINE isocyanate units can be increased as desired. This means that several injection moulding machines can be used for large-scale production. In this regard, all MULTI-CONNECT colour units can be combined with all COLOURLINE isocyanate units. Thus production has the greatest possible flexibility. In addition, for large-scale production runs that require a high material throughput, the COLOURLINE MULTI-CONNECT system can be equipped with a ring line. The material continuously circulates via this ring line and ensures supply to all systems.

The COLOURLINE with MULTI-CONNECT technology is now opening up new horizons for the automotive industry, as well as consumer goods industry. Along with the components' very high-quality appearance and the excellent efficiency of the highly integrated process, the new technology scores with the particularly high scratch-resistance of the surfaces. To enable users to master the new technology, Hennecke, in collaboration with the Kunststoff-Institut Lüdenscheid (K.I.M.W.), offers introductory training for the processing of coloured or transparent systems. In a two-day course the participants will learn through theory and through practice

directly on the machines how to master the process and how to carry out optimizations. This training offer is so far unique on the market.

Further information and public relations

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