



# **KEM Suppliers**

## Auto Equipment



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## KEM KÜPPERS IN POLYURETHANE

KEM is a reliable process technology partner for the various PUR segments. We understand the processes of our customers, which allows us to tailor our products to our customers' specific needs and ensure an optimised process sequence.

### Polyurethane for visual and haptic requirements in automotive applications.

Polyurethane (PU or PUR according to DIN) is a synthetic material or synthetic resin that can exhibit very different material properties depending on the choice of isocyanate or polyol. PUR can be hard and brittle or elastic and soft, and can also be foamed. When it has not been foamed, its density is approximately 1,000 to 1,250 kg/m<sup>3</sup> with a viscosity in the range of < 5mm<sup>2</sup>/s to > 4,000mm<sup>2</sup>/s.

KEM flow meters are able to handle a wide variety of measuring tasks in PUR applications with the highest precision and a long service life.

The proportion of synthetic materials in automobiles keeps increasing. Not only do plastics reduce weight and therefore save fuel, they frequently reduce production costs compared to other materials as well. Over a million tons of PUR raw materials are processed into moulded parts for vehicles worldwide every year, for example in seats, armrests, dashboards, steering wheels, roof linings, body panels and more.



*KEM understands their customer processes. As a result, our flowmeters are optimised to meet requirements of various PUR applications.*

In the past these components were mainly produced on stationary rotary table or oval conveyor systems. New system concepts are in demand due to the rapid increase in the variety of models produced by the automotive industry with a simultaneous reduction in model unit quantities and increasingly short production cycles. Such concepts make it possible to produce a wide variety of products in any quantity quickly and at high quality with optimised costs. Nowadays, production facilities are developed to be more resource and cost-efficient. KEM flow meters are an important element here in order to optimise the interplay between the various PUR production processes.

The size of a component often reveals very little about the true meaning in the application process. KEM Küppers GmbH understands the product and process requirements in the individual application areas, and has been consistently developing new technologies in close cooperation with the leading manufacturers of automobiles and the manufacturers of production facilities for the various process technologies in the different areas of PUR.

The continuous demands of Automobilindustrie means " ... More performance - less weight ...".

Your process is our passion. We are driven by your application. With this approach and understanding internalised by every one of our company's employees, your requirements are our incentive for continuous further development.



## KEM KÜPPERS APPLICATION OVERVIEW

- Headrests
- Roof lining, back shelf, door lining
- Armrests
- Seats
- Body panels
- Bumpers and spoilers
- Gear shift knob
- Steering wheel
- Instrument panel

## KEM KÜPPERS IN HIGH-PRESSURE DOSAGE MACHINES

High-pressure dosage machines form the basis for processing in a wide variety of PUR applications. Depending on the system configuration and the mixing head that is used, modern dosage machines support the production of all kinds of rigid and soft foams as well as integral foams. Here the main focus is on modular, configurable systems for minimum to maximum discharge capacities with top-end dosage pumps, flow meters, a large selection of highly modern mixing heads and intelligent automation.

## KEM KÜPPERS IN LOW-PRESSURE DOSAGE MACHINES

The low-pressure process is used for the production and processing of casting systems and highly viscous raw materials requiring the use of low pressures for system reasons. These include elastomer components and thermoformable foam parts for example.

In two-component and multiple-component systems, KEM flow rate measuring technologies have proven themselves with outstanding performance for a wide variety of applications and chemicals over many years. With application-specific measuring ranges from 5 ml/min up to 500 l/min, at process pressures up to 320 bar, the KEM product range perfectly meets customer requirements with various measuring techniques and high-precision measuring technology.

Precise measurement and dosage is essential for the mixing ratio of all chemicals used in the respective formulation in order to guarantee the highest product quality, lowest product weight and minimal use of materials. This requires a modern system concept. Many different formulations are processed, with a broad spread for the associated working range requirements for measuring and control technology. KEM has been a reliable partner for end customers and equipment manufacturers in this field for many years.

Polyurethane is not only gaining popularity in the automobile industry. PUR is also used in many other industries, for example as building insulation, for furniture and mattresses, coatings, paints and adhesives as well as an almost countless range of other applications in large sectors of industrial production for consumer goods and articles of daily use.



*KEM flowmeters guarantee both high process accuracy and high process repeatability in the dosing of PUR materials.*





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