

SMARTmix TOP 5000 P

DOSING TECHNOLOGY

ELMET®
SMART SILICONE SOLUTIONS



WE HAVE BEEN
SETTING STANDARDS
FOR OVER 20 YEARS.

COMPETENCE AND INNOVATION

ELMET inspires with smart silicone solutions. This inspiration is backed by 20 years of experience and a great deal of technical know-how in the field of dosing technology. ELMET has always set standards, such as with the TOP 3000 S, the TOP 5000 P or the TOP 7000 Pro.

HIGHEST PRECISION, FIRST-CLASS QUALITY

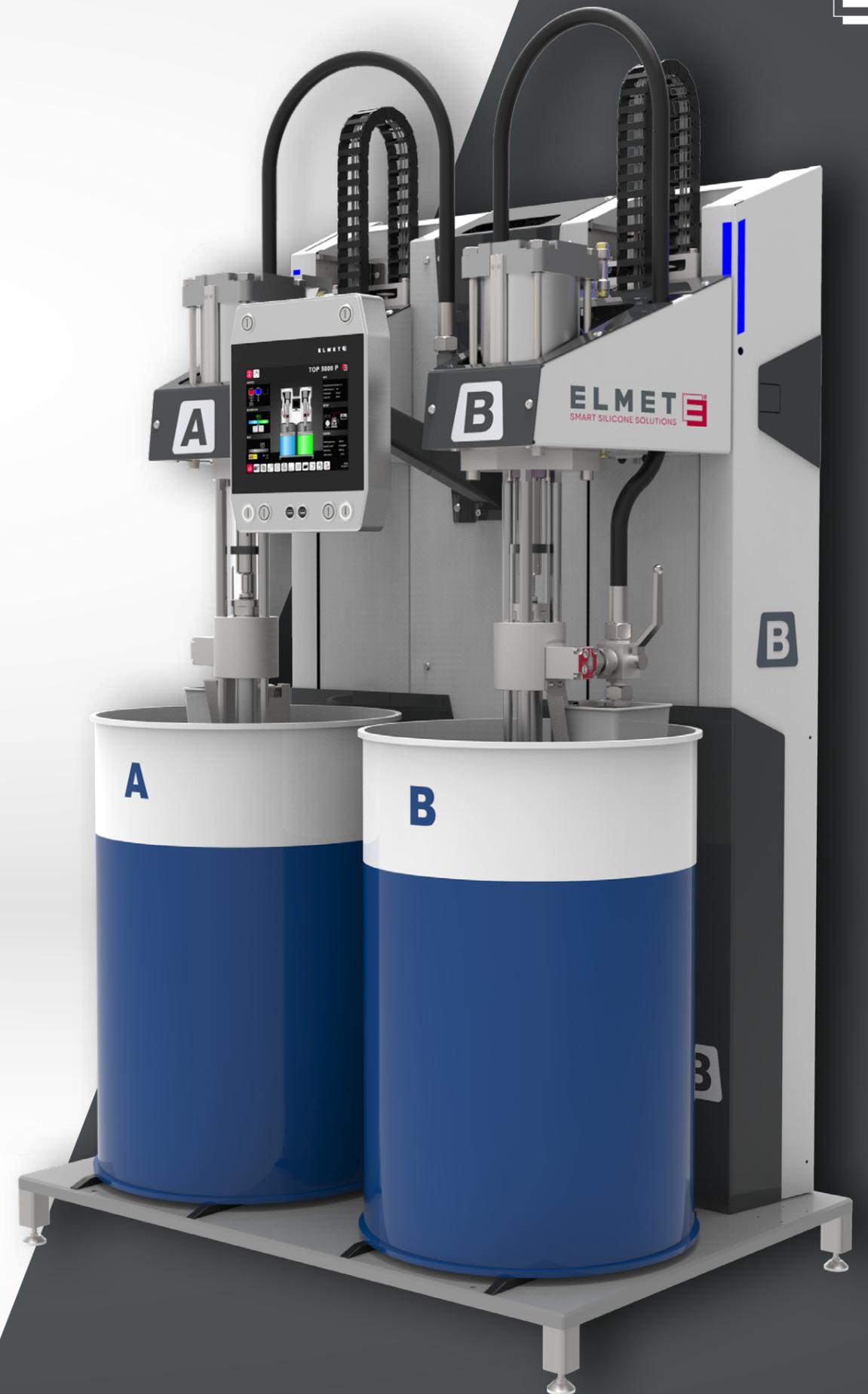
Precision regarding all elements in the production cell is of the utmost importance in order to achieve the maximum quality of parts and process stability in liquid silicone injection molding. Precise mixing ratios between the two silicone components and the admixed additive flows are of the essence. The TOP 5000 P dosing system achieves the best values here.

PERFECT EFFICIENCY, OUTSTANDINGLY ECONOMIC

Successful production of silicone parts requires economic use of material, space, working time and energy. ELMET therefore has always developed its dosing systems with an eye to fully using all possibilities in terms of efficiency and economic aspects. This generation adds another clear improvement.

GREATEST SAFETY, SIMPLEST USER MANAGEMENT

Due to the high costs and lack of plannability, production downtimes as a result of operating mistakes are a great risk in every production plant. The TOP 5000 P therefore had many ideas implemented to make it easy for the operating staff to properly operate the system and exclude potential error sources.



PERFECTLY DOSED

TECHNICAL PERFECTION REDUCED TO WHAT IS ESSENTIAL

In many products, designs become established due to technical conditions or historical developments, which is true for smartphones, airplanes or washing machines. In other cases, however, no one can explain why something looks just the way it is common on the market. All design principles were cast overboard for the development of the TOP 5000 P. Throughout the elaboration process the designers re-thought everything based on the question of how to build a dosing system that can make the customers even more successful.

From the beginning, it was clear that all functions and the quality customers are used to from ELMET dosing systems must be maintained. All components were revised and redeveloped with a focus on process safety, efficiency and operability. The result is visually surprising and technically convincing.

DECENTRALIZED TOUCH DISPLAY

The touch panel that can be used to access all functions of the dosing system is an achievement of the TOP 5000 P. Depending on the local situation at the customer's site, the display can be installed on the side or centered. Integration into the customer's process control system as well as remote control by tablet or smartphone are possible.

GENTLE HANDLING OF THE VALUABLE RESOURCES

The difficulty in the LIM-process (Liquid Injection Molding) is in the difficult-to-control process properties of liquid silicone. Therefore, the preservation and economic handling of this compressible liquid subject to viscosity fluctuations are the central demand of every professional LSR-processor.

PERFECT MIXING RATIO

The material flows of the liquid silicone components are volumetrically recorded and continually adjusted in a closed control loop. This permits safe mixing of materials subject to very high viscosity differences between the A- and B-components within the specified tolerances.

99% MATERIAL UTILIZATION

After the proper mixing process, a second control loop ensures that quantity differences caused by filling differences in the drums or by manual purging are compensated in the best manner when emptying the container.

PULSATION-FREE SUPPLY

Exact and accurately repeatable filling of the injection unit is essential for precise and even production of silicone injection molded parts. In order to keep absolute control of the filling procedure at highly critical processes, the direction of the piston pump drives is always switched before the dead center is reached.

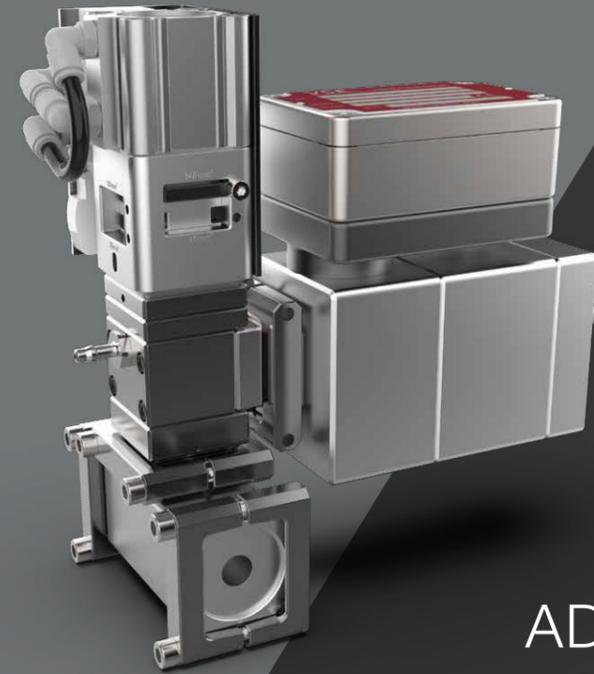
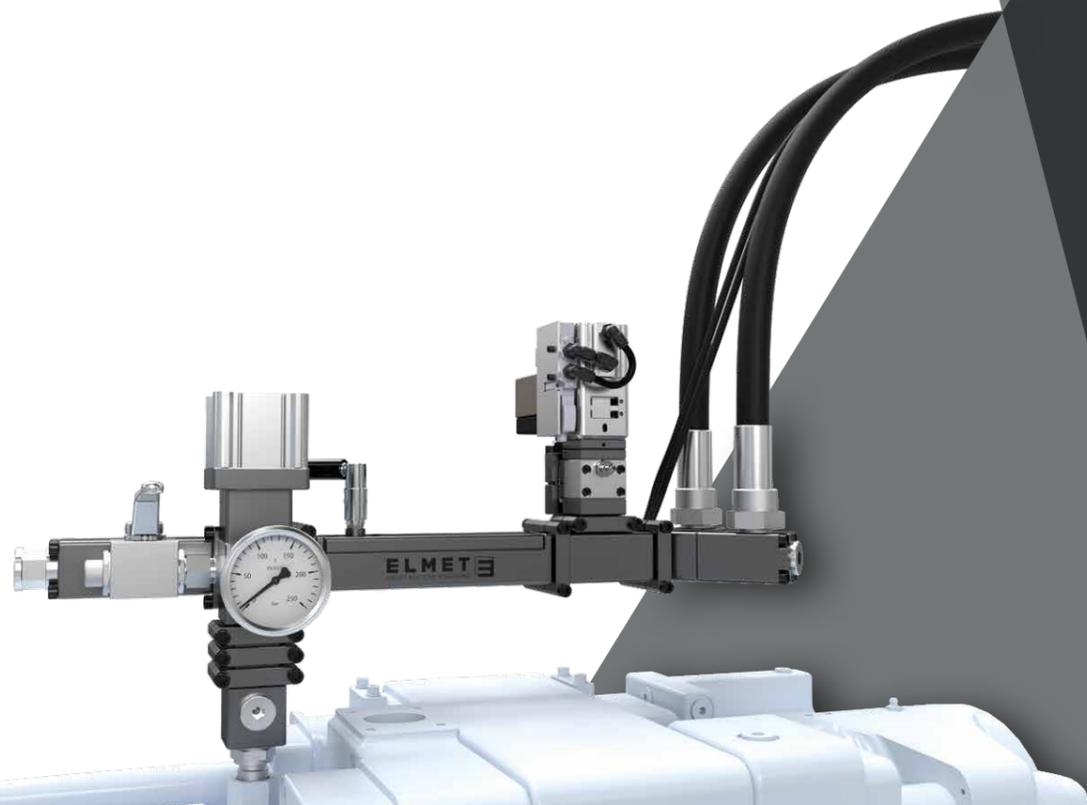


PROCESsing UNIT 40D12

40D12 FOR THE PERFECT MIX

In the processing unit, the A and B components are mixed with the pigment or additive streams. The high pressure of the compressed liquid silicone is flow-optimized thanks to sophisticated technology and kept at a constant, adjustable discharge level by a pressure limiter. ELMET has perfected this technology so that it can even be used in the extrusion process without any issues. Here too, ELMET is setting a new benchmark.

- Modular design
- Integrated cooling
- Laminar flow optimized (no dead corners)
- Simple clamp-connection design
- 45° & 90° connections for easy adaptation to any system
- Up to 6 additive lines can be used per unit
- Simple cleaning
- Minimum material cross-sections with maximum possible throughput
- Economically sophisticated – material minimization in the system



ADDITIVE LINES WITH CONTROLLED ADDITIVE ADDITION AND SOFTWARE OPTIONS

ADDITIVES – FLEXIBLE & PRECISE

Pigments and additives are valuable parameters in the LIM process. ELMET therefore relies on high-precision pigment and additive lines developed in-house. The dosing is adjusted to the actual measured volume flow of the components. Optional control systems can permanently readjust and thus increase the precision even further.

ADDITIVE LINES:

- Additive container 0.7 l
- Additive container 4 l
- Additive pump 20 l

CONTROLLED ADDITIVE ADDITION:

- Flow-meter
- Resolution 1,689,600 increments per liter

SOFTWARE OPTIONS:

- Barcode drum detection
- Remote control via VNC
- OPC-UA | Euromap 82.3
- Fix-Mix mixing ratio
- Premium Connectivity package incl. app for iOS & Android
- Elkem LSR Select





ELMET INSPIRES WITH
SMART SILICONE SOLUTIONS.

www.elmet.com

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