ELMET
SMART SILICONE SOLUTIONS

COLD RUNNER SYSTEM

SMARTshot

ELMET SMARTshot

PNEUMATIC OR ELECTRIC – THE ELMET COLD RUNNER SYSTEMS ARE SMART.

THE ESSENTIALS IN A NUTSHELL

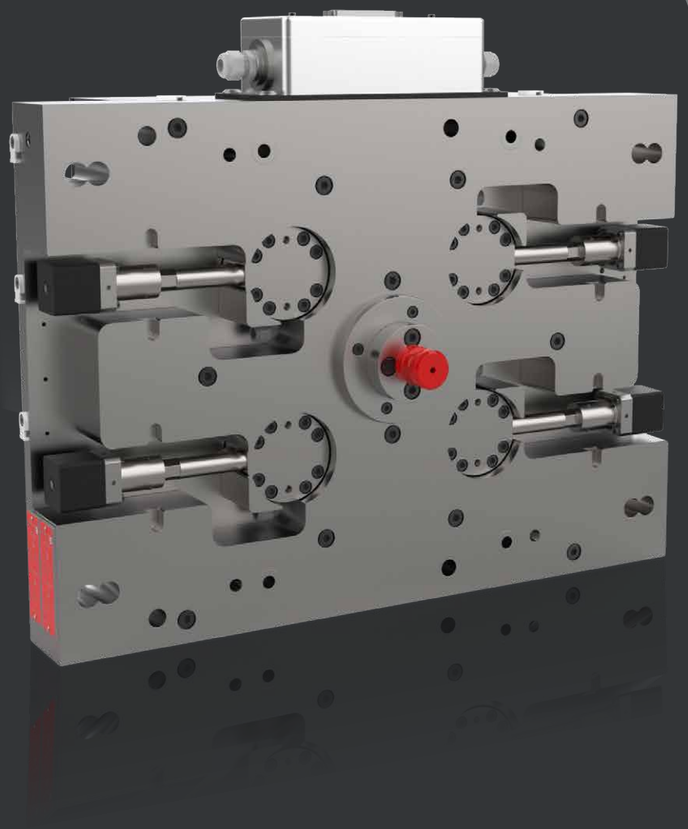
Silicone or rubber moldings are usually produced using the liquid injection molding (LIM) process. During this process, the silicone raw material is either cooled or moderately warmed prior to being injected into the hot cavity where the cross-linking process accelerates. Cold runner systems are used to keep the raw material in the lower temperature range until it reaches the cavity. Here the raw material is cooled or warmed with a defined water temperature up to the injection point of the cavity. The high-precision ELMET valve gate nozzles, together with the needle tip, form part of the cavity that determines the molding shape.

A WEALTH OF BENEFITS

- Exact calibration of each individual nozzle
- Highly precise cavity filling behavior
- Extra long needle guide
- Patented infinitely variable adjustment mechanism on the pneumatic opening stroke
- 100% protection against needle twisting
- Practically no sprues or runners
- No waste material thanks to pinpoint feeding
- Short cycle times
- Uniform temperature flow thanks to innovative cooling system
- Thermal separation of cold runner and mold side
- Reliably stable processes

ELMET cold runners are manufactured 100% in Austria. Behind this ELMET innovation is the know-how of experienced LSR moldmakers. ELMET uses a uniquely sophisticated and patented cold runner technology. The finished cold runner systems are a perfect symbiosis of the experience of a market leader and the complex demands of the customers.

SMARTshot P

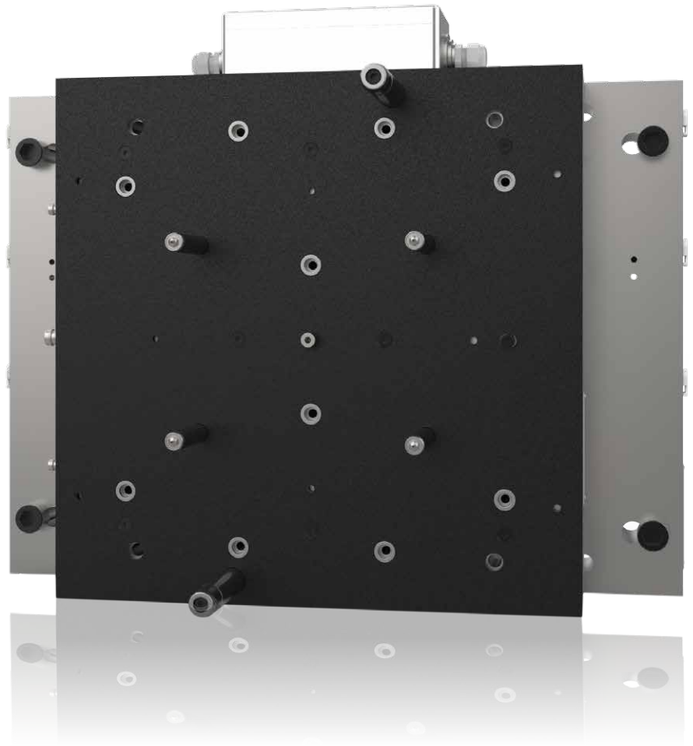


THE CLASSIC PNEUMATIC SOLUTION

The SMARTshot P is the compact classic in the field of valve gate cold runner technology. It fits into practically any mold concept and all common injection molding machines. To keep the process window as large as possible, the material flow of each individual cold runner nozzle can be balanced by manual or – optionally – electrical adjustment. The electrical adjustment is conveniently operated via a separate touchscreen, allowing the setting parameters to be saved and read in again later on a project-specific basis.

PROVEN AND EASY TO HANDLE

- Pneumatic stroke movement of the needle
- Anti-twist needle
- Needle adaptable to the cavity contour
- Cold runner design in plate construction for easy cleaning
- The cold runner can be adapted to the mold
- Mold-bound cold runner with fixed screw connection – no solution necessary from the hot side
- Manual adjustment of the material flow of each individual nozzle
- Optional electrical adjustment of the needle stroke by stepper motor possible
- Very short nozzle spacing possible (49 mm)
- Simple operation via touchscreen
- Automatic storage and assignment of parameters
- Simple cleaning



SMARTshot E

ELECTRIC HIGH-END SOLUTION

The SMARTshot E is a new development of the needle actuation drive unit. The fully electric needle actuation is performed by a brushless servo motor and guarantees an extremely fast and smooth needle movement. The servo motor combines very high control quality with minimum heat generation. The perfect synchronization of the needle movements also ensures optimum process stability. The small size of the drive unit makes nozzle spacings of only 44 millimeters possible and enables the construction of compact molds.

HIGH-TECH MOTOR FOR EFFICIENT AND PRECISE PRODUCTION

- Highly dynamic DC brushless servo motor for maximum control quality and minimum heat generation
- Real-time control of the needle position including permanent position monitoring
- Anti-twist needle
- Needle adaptable to the cavity contour
- Precise setting of the needle opening stroke (0.002 mm)
- Needle opening and closing time in hundredths of a second
- Perfect synchronization of needle movements between different cavities and opening strokes
- Up to 16 nozzles possible in the cold runner

EASE OF OPERATION AND INTELLIGENT SYSTEMS FOR PRECISE CONTROL

- Optimum operating convenience at the 18.5“ color monitor
- Improved process monitoring through documentation of needle position, current consumption and cycle times
- Clear recipe management with import and export options
- Integrated authorization system with user administration
- Freely positionable (Vesa standard) operating display (optional)
- Guided initial commissioning via touchscreen
- Free graphical arrangement and designation of the cavities

INTELLIGENT AND COMPACT DESIGN FOR A NEW DIMENSION IN COLD RUNNER TECHNOLOGY

- Minimum nozzle spacing from 44 mm
- Sophisticated cable management eliminates the need for specialist electricians
- Robust plug connections with miniature industrial plugs
- Robust and industrial design throughout
- Minimum space requirement on the mold

SMART PROCESSES FOR EFFICIENT PRODUCTION

- Accelerated start-up process after shutdowns
- Automatic referencing process in the start-up phase
- No pneumatics necessary
- No recurring maintenance of the drive unit necessary

ELMET INSPIRES WITH SMART SILICONE SOLUTIONS.

www.elmet.com

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