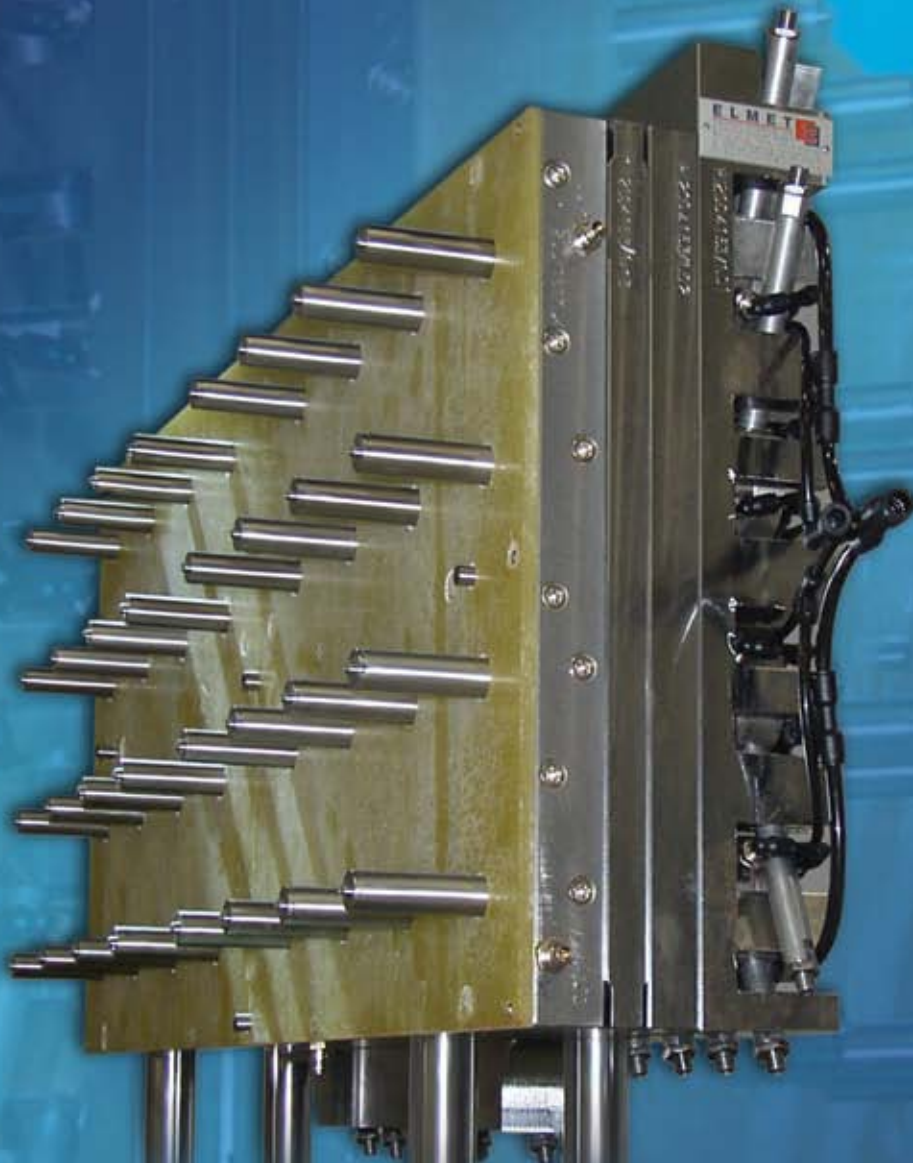


# DME Elastomer Solution

Powered by ELMET

**Standard cold decks  
for processing elastomers  
including LSR, HTV and rubber**



**DME**  
*Every step of the way*

# DME Elastomer Solutions

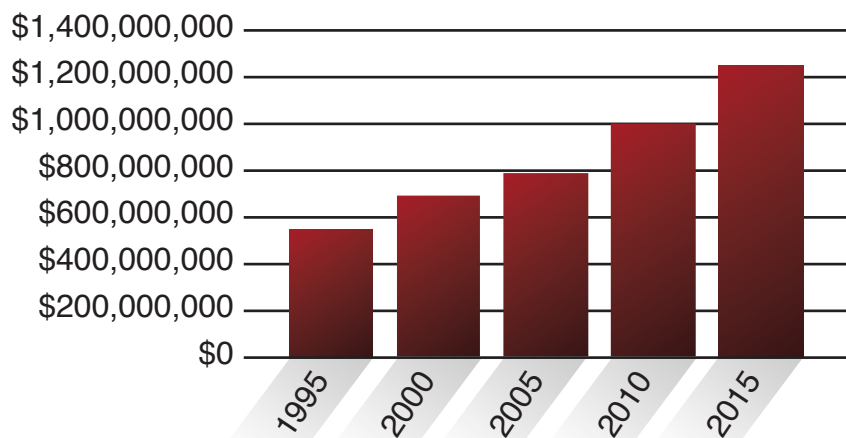
## Powered by ELMET

**DME and ELMET Elastomer Productions are the intelligent choice for elastomer injection molds, valve-gated nozzle technology, dosing systems and peripheral devices for processing high-quality elastomer parts.**



As global competition continues to intensify, North American moldmakers and molders are diversifying their products and services to expand their customer base. One such opportunity is the utilization of Liquid Silicone Rubber (LSR) and other elastomers to meet the demands of products requiring “soft-touch” applications.

### Silicone Resin Demand



Silicone resin demand is expected to continue its upward trend.

The results of an independent market research survey recently indicated that LSR applications are expected to grow by 10-12 percent annually, in part due to increased demand in the medical, electronic, automotive and industrial sectors.

Additionally, specific properties of LSR — including chemical resistance, clarity, non-aging, and the ability to withstand a great range of temperatures — have made it the elastomer of choice for both plastics and rubber processors looking to enhance their capabilities.

However, many plastics professionals are new to LSR and face the challenge of attempting to enter a market in which molds designed for LSR processes are not built in the same manner as molds designed for processing thermoplastic resins. The utilization of LSR requires specialized processing, including specific tooling, pumps and injection presses. Successful integration will depend on a commitment to learning and a relationship with an experienced supply partner.

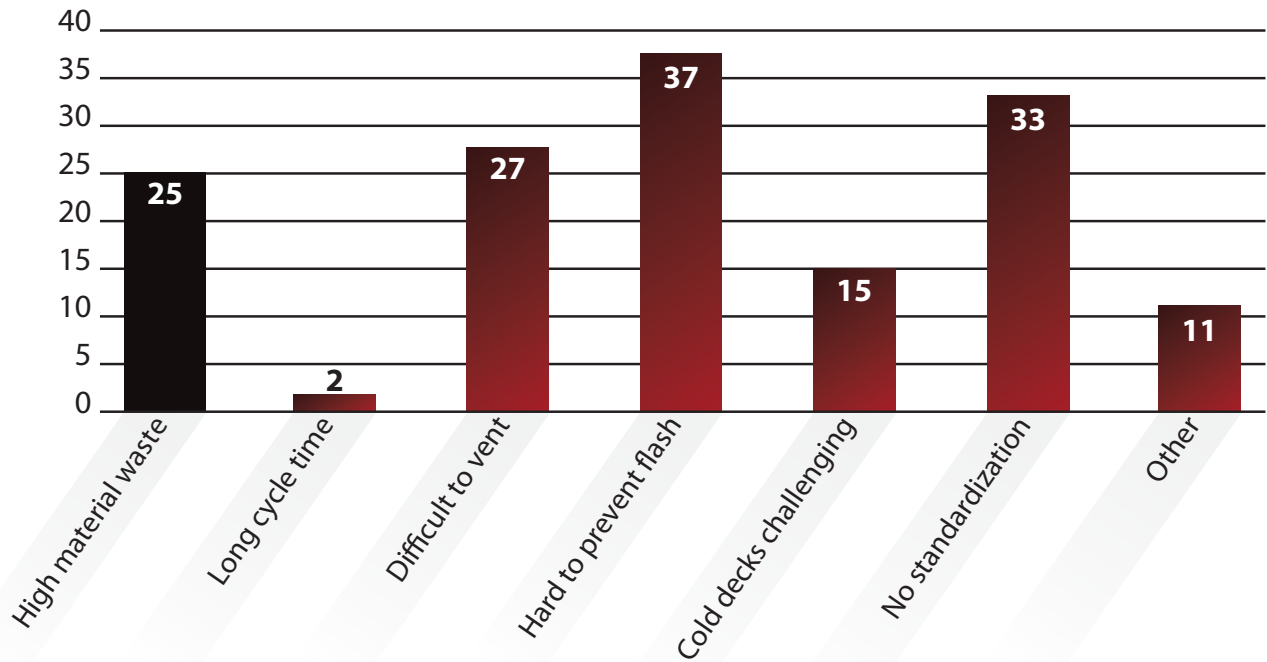
Unlike plastics that are injected at high temperatures and then cooled inside of the mold, liquid silicone rubber is injected at a cooler temperature then cured by heating the mold. Elastomers require a much tighter tolerance so equipment that allows for higher cavity density and flash prevention must be used.



# DME Elastomer Solutions

## Powered by ELMET

As more rubber and plastics molders and moldmakers enter the LSR processing arena, it will be increasingly important for supply partners to provide specialized tooling to meet their customers' growing business needs. Based on an independent survey, 77 percent of rubber molders and moldmakers are looking to streamline their LSR efforts through standardized cold runner systems, suggesting yet again that this is a high-growth market.



Rubber processors who currently work with LSR identified a number of processing challenges when using self-modified equipment to process elastomers.

Many rubber molders and mold makers who work with LSR have modified existing equipment to accommodate these unique challenges, though results have been less than ideal. The lack of standardization with modified equipment can lead to long cycle and setting times and an inability to easily replace parts. Additionally, equipment that isn't designed to specifically accommodate LSR can result in a high degree of waste and material costs, preventing processors from cost-effectively maximizing market demands and stifling their efforts to compete in global markets.

This is where DME can assist. By developing key supplier relationships with top technology solution providers from around the world, DME is positioned as an essential mold technologies resource to customers worldwide. In addition to the plastics industry's broadest range of market-leading products, we provide unsurpassed knowledge, a global logistics infrastructure and exceptional service every step of the way.

One such key partnership is with ELMET Elastomer Productions. ELMET is one of the world's leading suppliers of LSR Cold Decks and complete LSR Molding Solutions. For more than a decade, ELMET been committed to high quality, engineered solutions and customer satisfaction that has resulted in highly successful LSR molding solutions.



# DME Elastomer Solutions

## Powered by ELMET

As the exclusive distributor of ELMET Cold Decks and LSR Molding Solutions in the Americas, DME is committed to providing high-quality LSR solutions to molders and moldmakers.

DME and ELMET are designing, manufacturing and automating systems that meet your specific needs. Through ELMET's expertise in this growing field, DME can offer cold decks or complete elastomer injection molds, valve-gated nozzle technology, dosing systems and peripheral devices for elastomer processing, and even turnkey molding machines for the production of high-quality elastomer parts.



New entrants into this exciting industry, face the challenge of learning the differences between processing elastomers (LSR) versus thermoplastics. Together, DME and ELMET can help moldmakers and molders enter the growing field of LSR injection molding through solutions ranging from standard valve-gated cold decks in which the mold is manufactured separately to full mold solutions (valve-gated or open-nozzle designs) which are validated on-site at ELMET prior to shipping the mold to its new facility.



Through our partnership with ELMET, DME also offers complete turnkey LSR molding solutions (including the cold deck and mold, molding machine and peripheral devices).

ELMET has developed its own dosing system as a result of using conventional dosing pumps for many years. The main requirements for an effective dosing system are:

- High operating precision
- High-quality, functionally-optimized components
- Self-regulating and documented dosing accuracy by means of a closed control loop

The resulting dosing system from ELMET ensures that residual quantities under 1% can be guaranteed when changing the LSR drum kits. This saves money, reduces material waste and protects the environment.

# DME Elastomer Solutions

## Powered by ELMET

### The Four “M’s”

#### Four Key Components to Successful LSR Molding



#### 1. Material

- Thermoset material, solidified by cross linking (curing or vulcanization)
- Requires the mixing of a set ratio (i.e. 1:1) between parts (Part A and B)
- Non-toxic, environmentally harmless
- Stable and flexible over wide range of temperature
- Different grades of materials with different hardnesses
- Easily colored, resistant to oxidization and UV rays

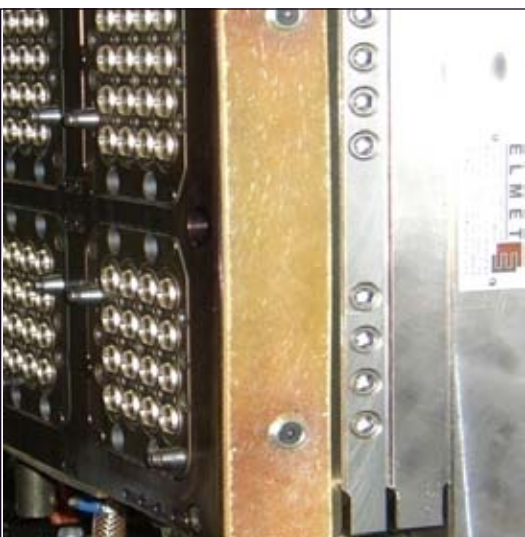


#### 2. Machine

- Different injection machines specifically designed for processing LSR are available on the market
- The quality of shot size control within the machine will affect the final molded part quality
- Different forms of mixing (Static Mixers) are available depending on the machine manufacturer, (which will affect the quality of the final part)

#### 3. Metering (i.e. Dosing System)

- A proper ratio (Part A and B) needs to be maintained; any form of waste between the two parts can result in lost operating profits
- Ability to pump 5 gallon pails or 55 gallon drums
- Option of pumping color in ratios
- Interface valve interlocked with screw rotation, isolating barrel pressure
- Maintains constant pressure valve to improve consistency

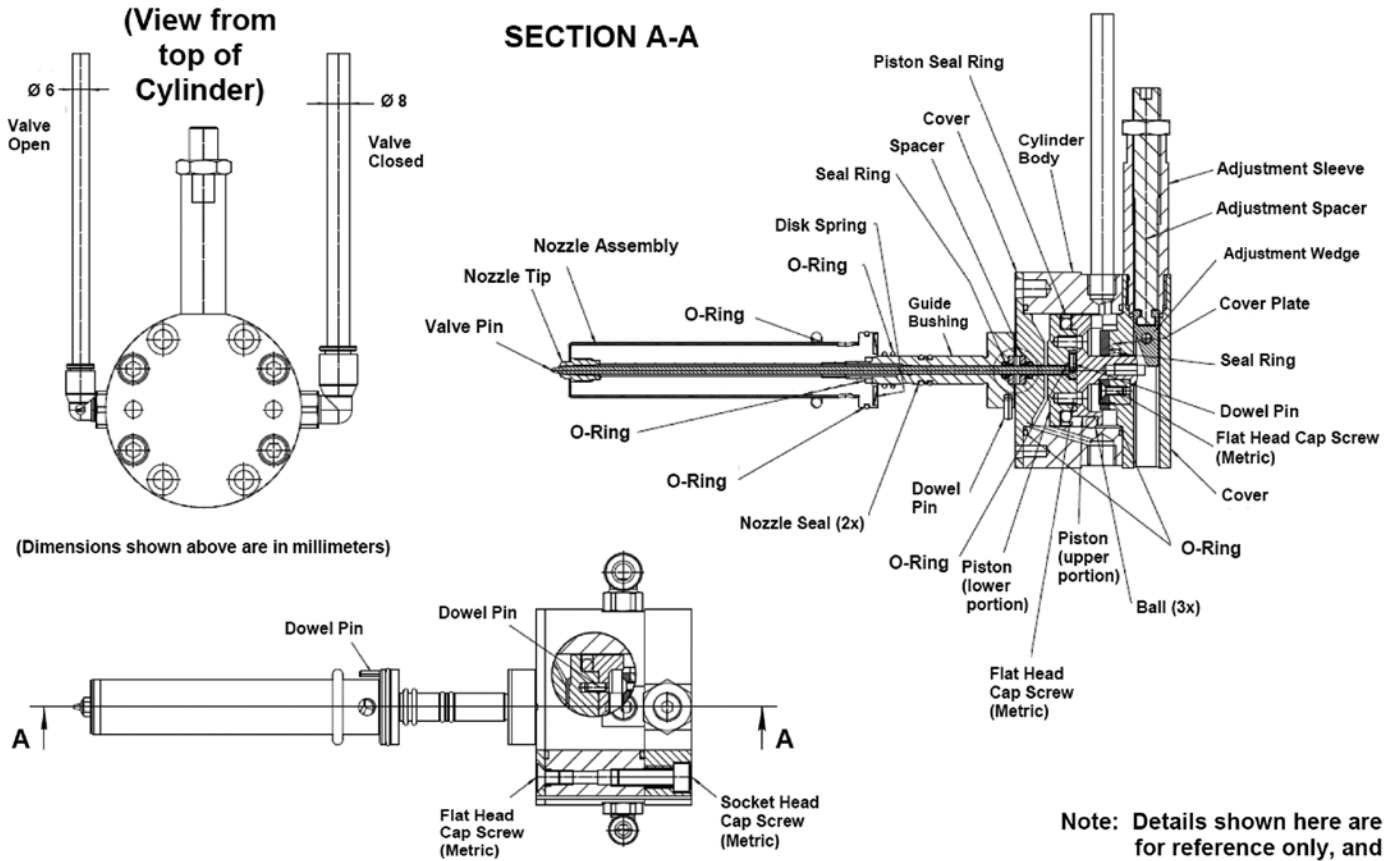


#### 4. Mold

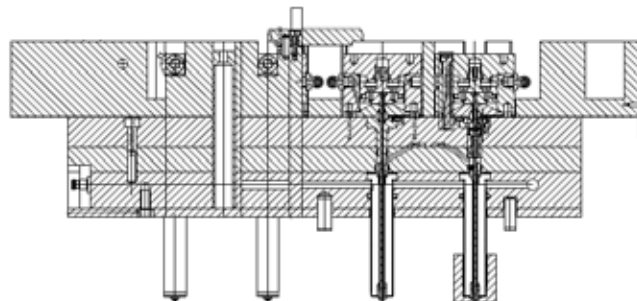
- Unlike thermoplastics where wasted runners can be reground/recycled, solidified LSR runners are waste that cannot be recycled
- Elastomers are not ejected from a mold in the same manner as most thermoplastic resin parts, which require unique methods for cavity design and ejection methods
- Once injected into a mold under high pressure, LSR becomes very fluid and flashes readily
- Requires mold features with tightly controlled tolerances, typically greater than what is required in molds designed for processing thermoplastics
- Molds are cartridge-heated or tubular heated — not oil- or steam-heated
- Plastics mold design does not work with LSR

# DME Elastomer Solutions Powered by ELMET

## ELMET Standard Valve-Gated Cold Runner Solutions NOZZLE/CYLINDER COMPONENT LIST



ELMET offers standardized, valve-gated cold deck technology for installation in an LSR mold. "Open" nozzle designs are also available on full mold solutions. The valve gated nozzle system is available in two series sizes: "MAXI" (as shown above), and "MINI". Each series comes with one standard nozzle length; "special" nozzle lengths are available upon request. The MINI series has no cylinder body; the piston assembly is inserted directly into a pocket in the back of the top clamp plate of the cold deck or LSR mold. The MAXI comes with a cylinder as standard, but upon request can also be inserted directly into a pocket in the back of the mold's top clamp plate. For a cost quotation or for application assistance, please contact DME Engineering at: [LSR@dme.net](mailto:LSR@dme.net)



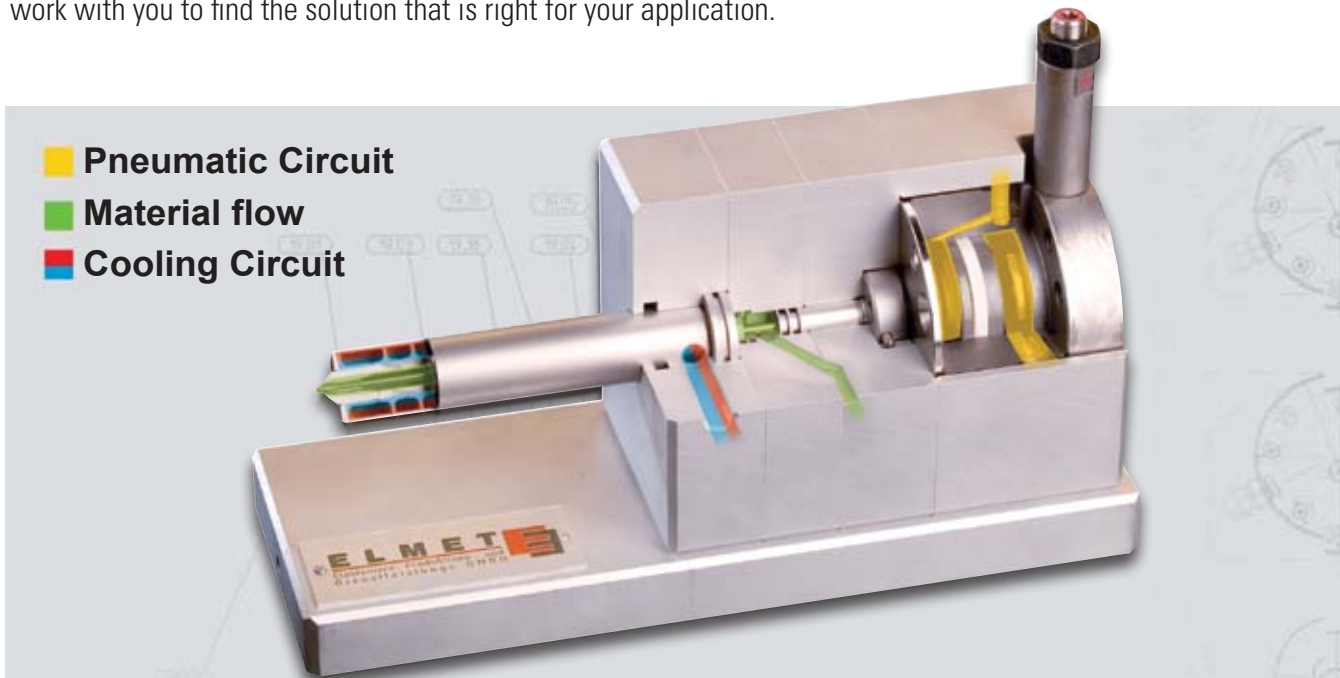
# DME Elastomer Solutions

## Powered by ELMET

### GET THE ELMET ADVANTAGE

Whether you are a molder or moldmaker wishing to enter the LSR market for the first time, or have decades of experience in the LSR molding market, DME and ELMET can assist in reducing material waste, improving cycle time and minimizing your overall costs. Standard LSR Valve-Gated Cold Deck Systems from ELMET can make you more profitable, more agile and more responsive to the demands of the LSR molding industry.

If you require a complete LSR mold, open-gated and valve-gated nozzle options are available. DME and ELMET will work with you to find the solution that is right for your application.



#### OUR HIGHLIGHTS

- Precision guiding surfaces*
- Material feeding at an angle in the direction of injection*
- Individual adjustment of flow rate for each needle*
- Each cavity is directly gated*
- Standardized cold runner delivery system*

#### YOUR BENEFITS

- Extended life span of seals and moveable parts*
- Optimal protection of material & seals*
- Enhanced process window & possibility to inject parts with different volumes*
- Optimal cycle times with no material waste*
- Standard components and drawings allow less lead time*

Call us or email us for a cost quotation at:

**[LSR@dme.net](mailto:LSR@dme.net)**

Whatever the LSR injection molding need,  
DME and ELMET will be there to assist you,  
***every step of the way.***

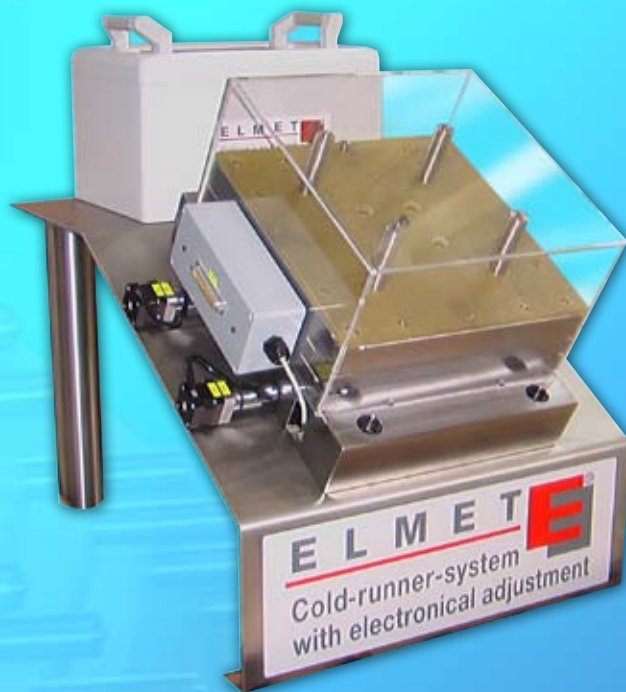


# DME Cold Runner Systems

## Standard Cold Decks for Processing Elastomers Including LSR, HTV and Rubber

### System Features:

- Standard configurations from 4 to 32 drops
- Standard sizes ranging from 296mm x 296mm to 896mm x 446mm sizes (custom systems available)
- Short cycle times
- No material waste



### Valve Gate Control Promotes Consistent Processing

- Replaceable nozzle inserts cut costs
- Optional electronic control optimizes cavity fill
  - High-precision control with infinite nozzle settings
  - Individual settings regulate flow rate for each nozzle
  - Control unit stores data by process for future use



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