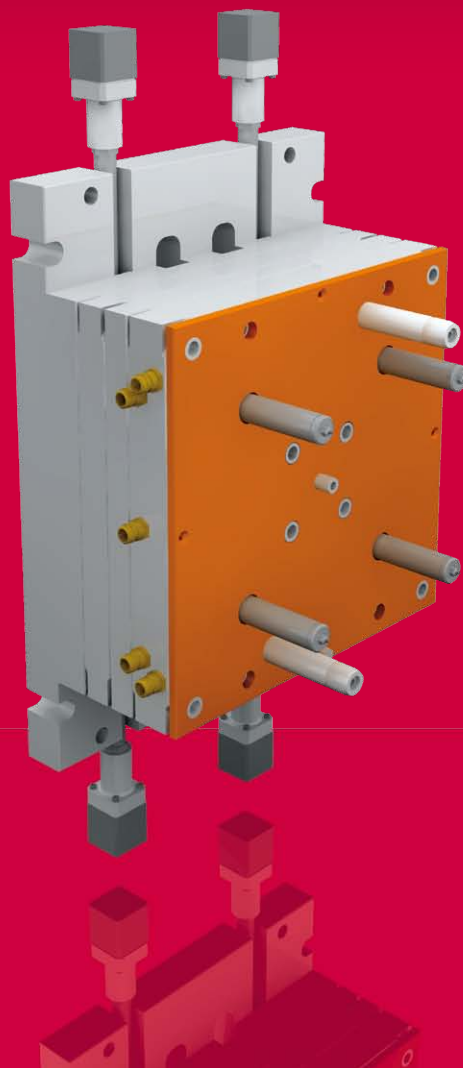


# LIQUID INJECTION MOLDING COLD RUNNER



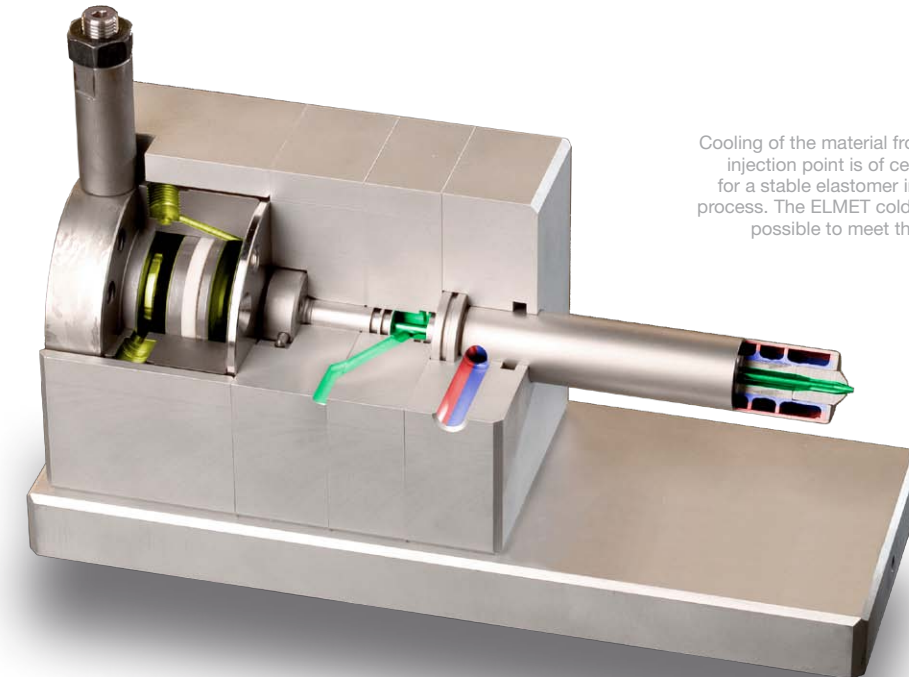
**E L M E T**  
ELASTOMER IS OUR BUSINESS



# EACH DETAIL THOUGHT-THROUGH



The modular ELMET valve gate nozzle with the patented setting mechanism has been used thousands of times.



Cooling of the material from dosing to the injection point is of central importance for a stable elastomer injection molding process. The ELMET cold runner makes it possible to meet this task perfectly.

When producing elastomer parts of silicone or rubber the raw material is injected into the hot cavity in the LIM process (liquid injection molding) and the temperature-dependent linking process is thus activated. Using a cold runner guides the unlinked material to the injection point cooled and prevents the formation of sprue or vulcanised distributor strands.

When using valve gate nozzles, the needle tip as such forms part of the shaping cavity that can be adjusted to any surface, leading to a hardly recognisable perfect gate point in the produced part.

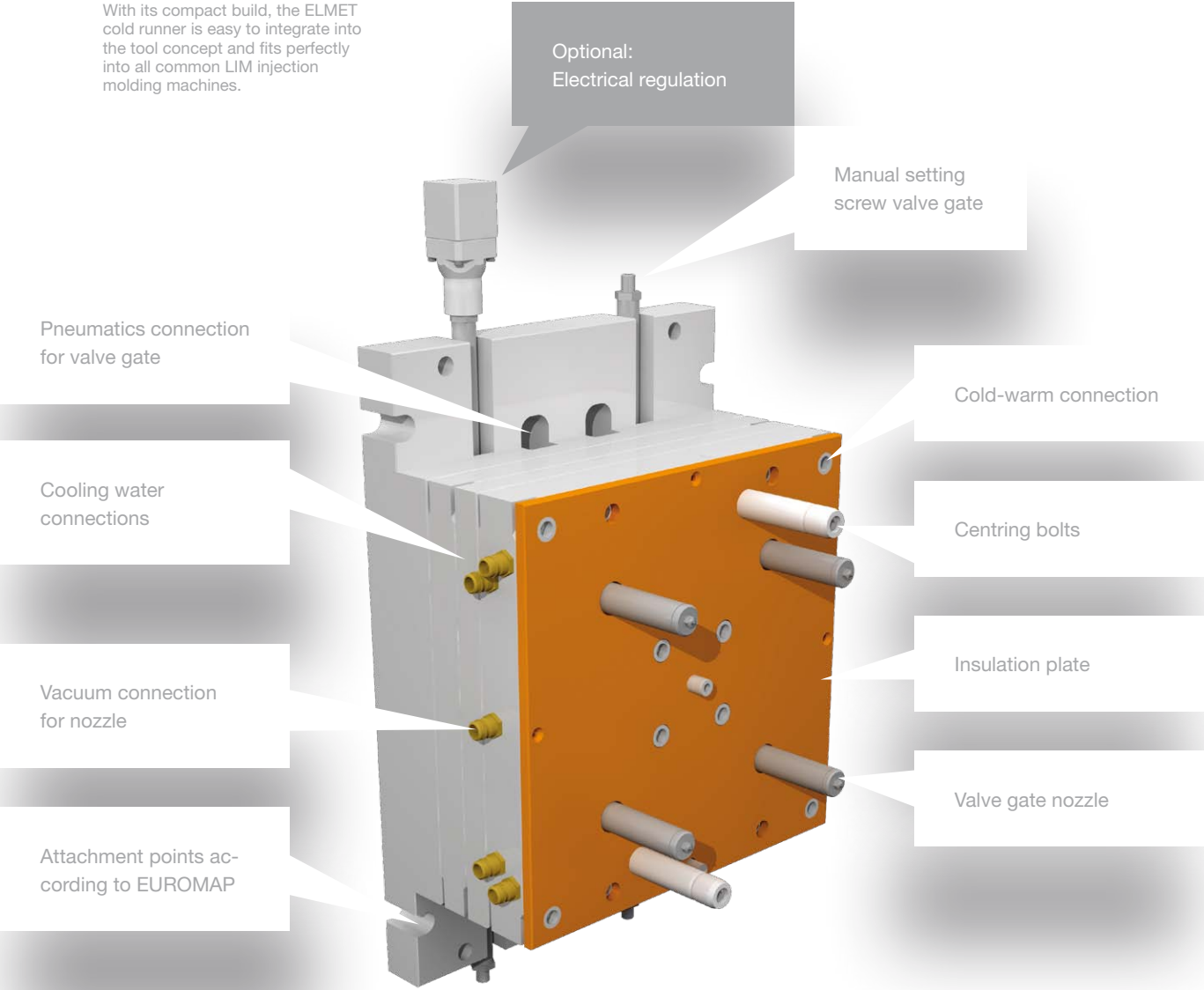
ELMET valve gate cold runners are designed as tool-bound components and permit individual setting of every single nozzle. The long needle guide and the patented infinitely variable setting mechanism of the pneumatically powered opening stroke ensure a low-wear and highly precise function. The flat material supply to the nozzle shaft and shaping of the nozzle-needle combination ensure the lowest shear of the elastomer that is possible in the material guidance.

The sophisticated cooling water distribution prevents temperature influences in the cavity plate and warrants best stability in parts production process.

# FUNCTIONAL AND ROBUST



With its compact build, the ELMET cold runner is easy to integrate into the tool concept and fits perfectly into all common LIM injection molding machines.



# COMFORTABLE AND EFFICIENT

Replacing of the material batch, wear of the tool cavities or use of different injection molding machines may cause deviations of the parts filling degree. This can easily be balanced out by fine adjustment of the opening position of the valve gate nozzle.

The touchscreen can be used to change and store settings. At recommissioning of the tool, the new settings are found easily and quickly based on the original one, reducing the internal equipment set-up time and thus the unproductive standstill time of the production cell.

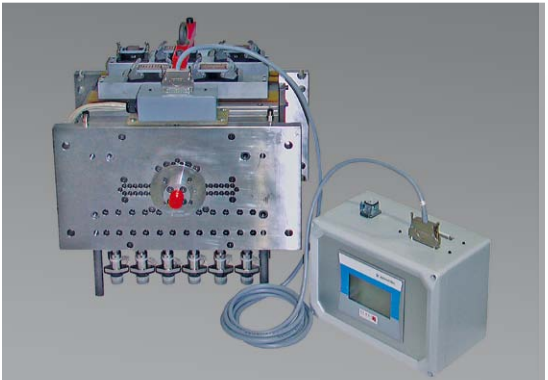
In addition to the manual setting options, ELMET offers an electrical regulation for this. Since the operating terminal that controls the adjustment motors is used outside of the protective enclosure of the injection molding machine, adjustment of the nozzles is possible in running automatic mode as well.

For operation, only an energy supply of 24 V DC | 6A and a locking signal of the injection molding machine during injection and afterpressure application are required.



The ELMET cold runners are designed for best function under the following system conditions:

|   |                       |
|---|-----------------------|
| Compressed air for MAXI needle closure                | 6 bar                 |
| Standard diameter of the submersion nozzle tip        | 15 mm   16 mm   20 mm |
| Cooling water temperature / pressure                  | 18° C–25° C / 4 bar   |
| Used elastomer type                                   | LSR 10–80 Shore A     |
| Vacuum system permanent design                        | recommended           |
| Cavity temperature considered for nozzle distance     | 180° C                |
| Parts injection weight at gate diameter 1.2 mm (MAXI) | approx. 5–200 g       |

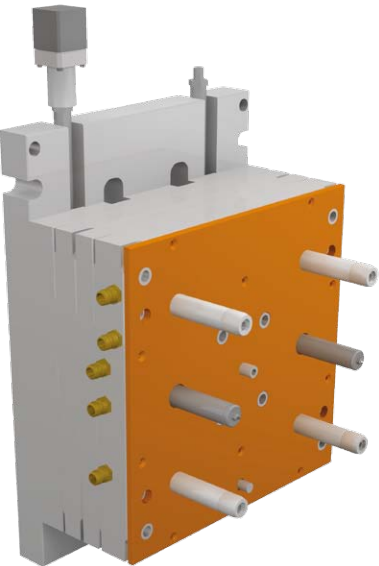
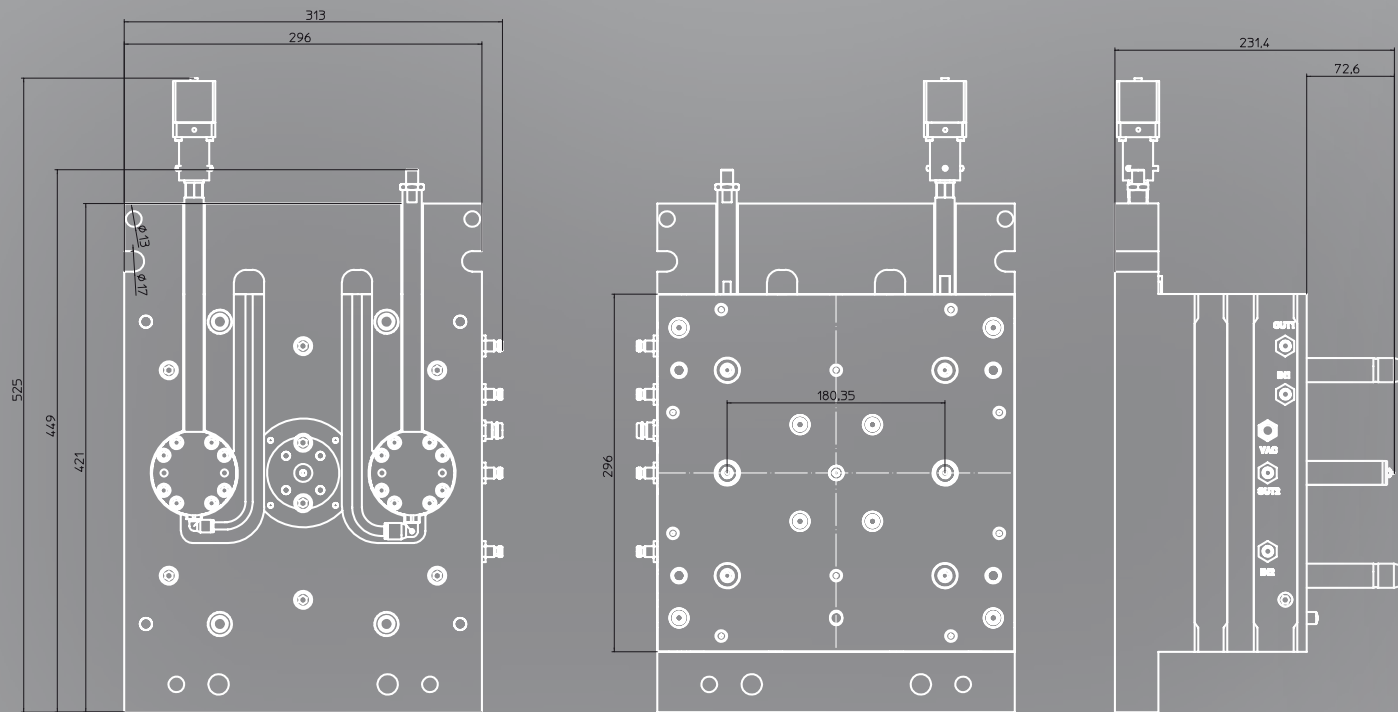


The local control unit is connected to the cold runner for setting the nozzles. After adjustment, the control unit can be used for other ELMET cold runners.



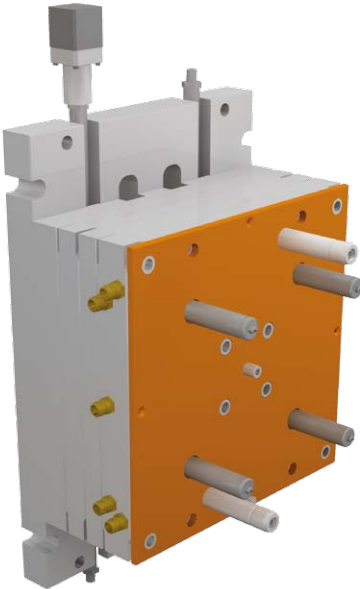
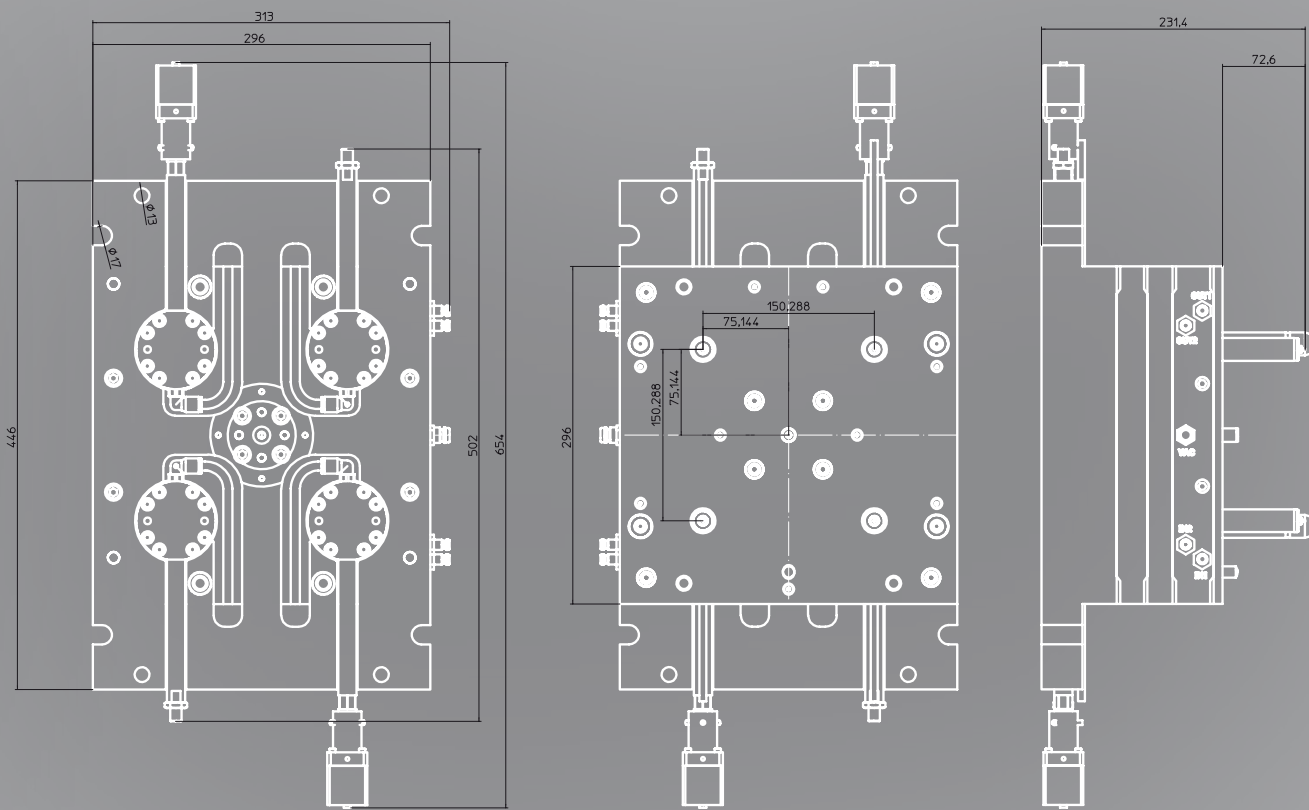
The setting parameters are archived assigned to the tool and called at recommissioning after tool change.

# 2-CAVITY COLD RUNNER



|  |                        |
|--|------------------------|
| Cavity distance (cold) / nozzle distance X | 180,00 mm / 180,350 mm |
| Cavity distance (cold) / nozzle distance Z | –                      |
| Nozzle length Y                            | 72,60 mm               |
| Perfectly usable as of beam distance       | 320,00 mm              |
| Number of cooling water circuits           | 2                      |
| Number of vacuum connections               | 1                      |

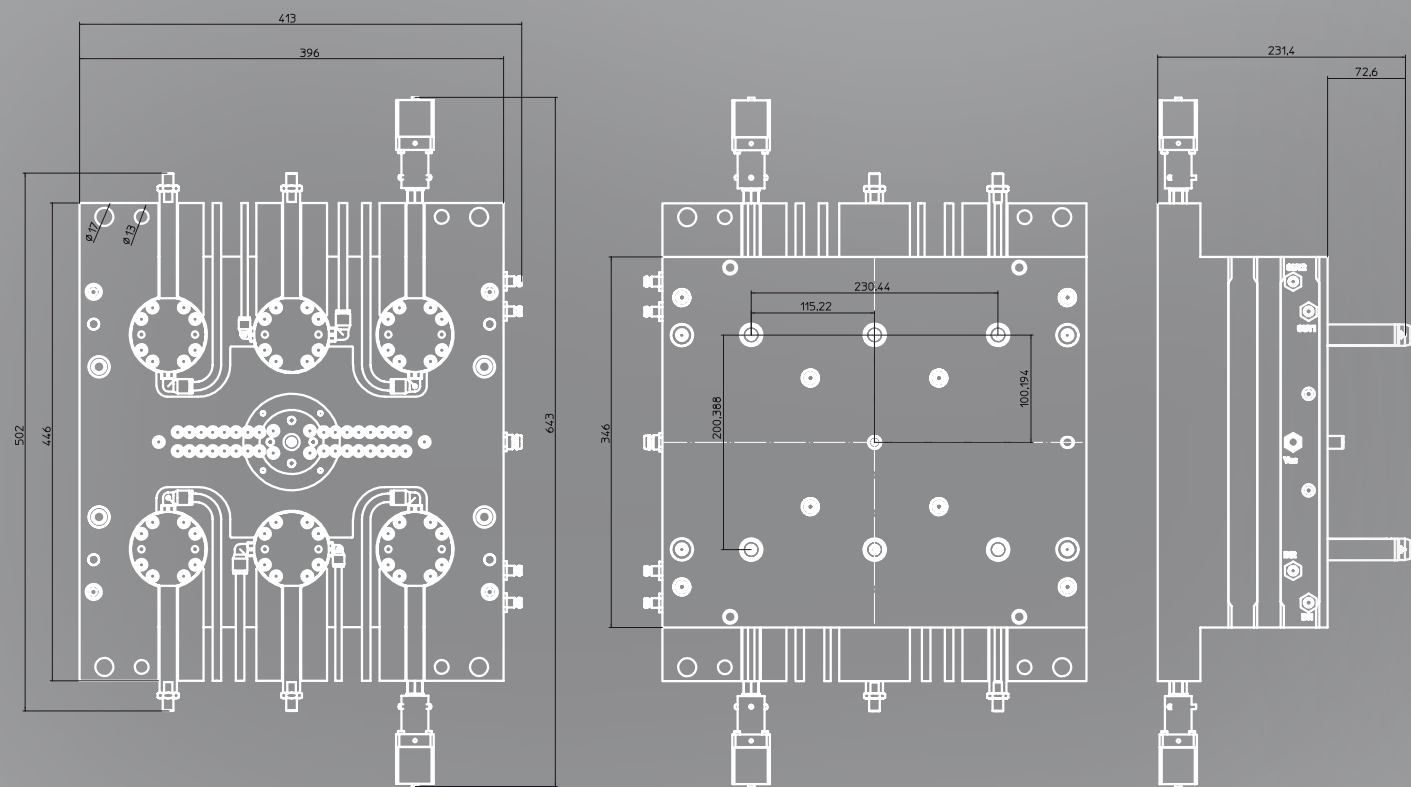
# 4-CAVITY COLD RUNNER



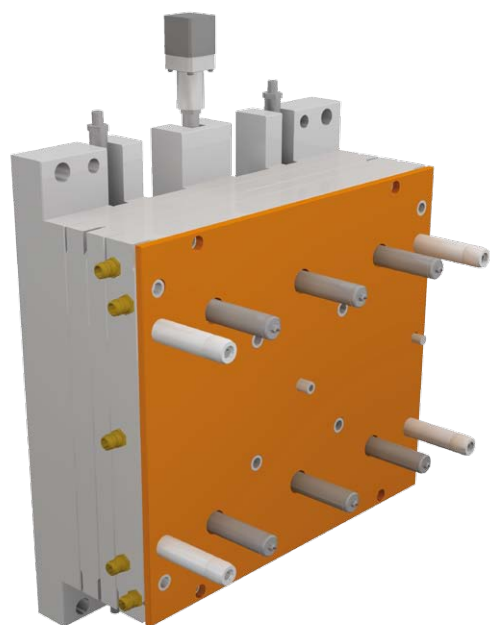
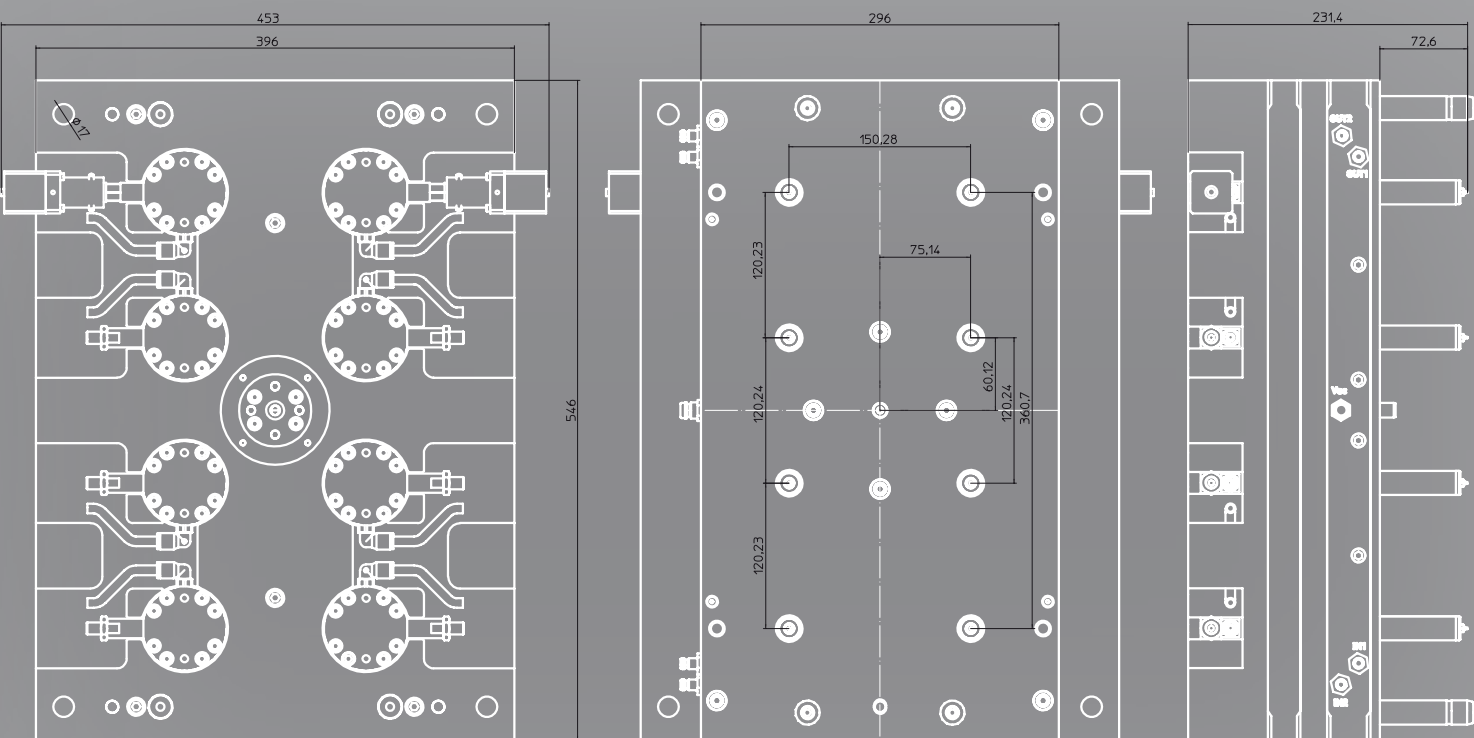
|  |                        |
|--|------------------------|
| Cavity distance (cold) / nozzle distance X | 150,00 mm / 150,288 mm |
| Cavity distance (cold) / nozzle distance Z | 150,00 mm / 150,288 mm |
| Nozzle length Y                            | 72,60 mm               |
| Perfectly usable as of beam distance       | 320,00 mm              |
| Number of cooling water circuits           | 2                      |
| Number of vacuum connections               | 1                      |



# 6-CAVITY COLD RUNNER



# 8-CAVITY COLD RUNNER



|  |                        |
|--|------------------------|
| Cavity distance (cold) / nozzle distance X | 230,00 mm / 230,440 mm |
| Cavity distance (cold) / nozzle distance Z | 200,00 mm / 200,388 mm |
| Nozzle length Y                            | 72,60 mm               |
| Perfectly usable as of beam distance       | 420,00 mm              |
| Number of cooling water circuits           | 2                      |
| Number of vacuum connections               | 1                      |

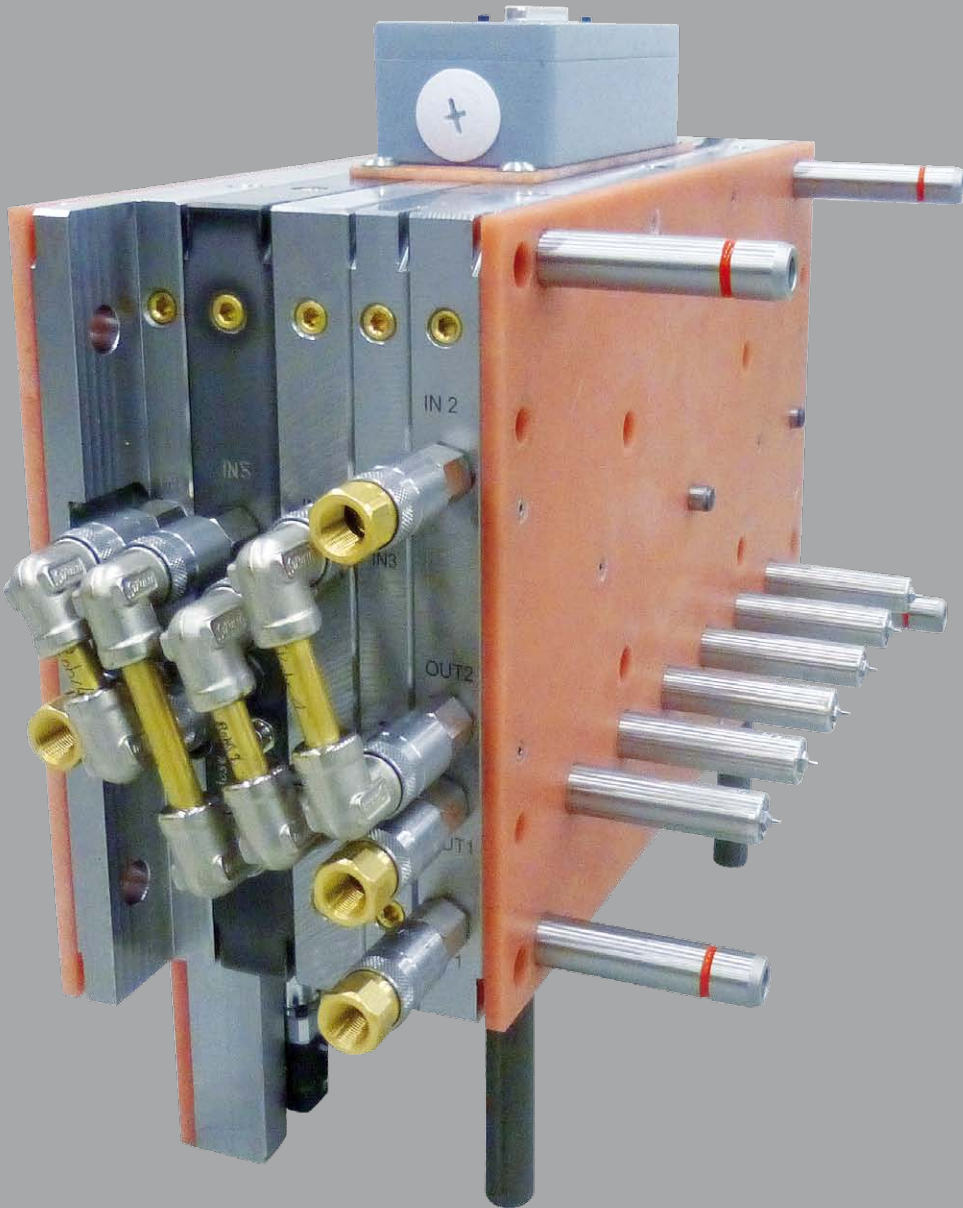


|  |                        |
|--|------------------------|
| Cavity distance (cold) / nozzle distance X | 150,00 mm / 150,288 mm |
| Cavity distance (cold) / nozzle distance Z | 120,00 mm / 120,240 mm |
| Nozzle length Y                            | 72,60 mm               |
| Perfectly usable as of beam distance       | 470,00 mm              |
| Number of cooling water circuits           | 2                      |
| Number of vacuum connections               | 1                      |

# CUSTOMISED

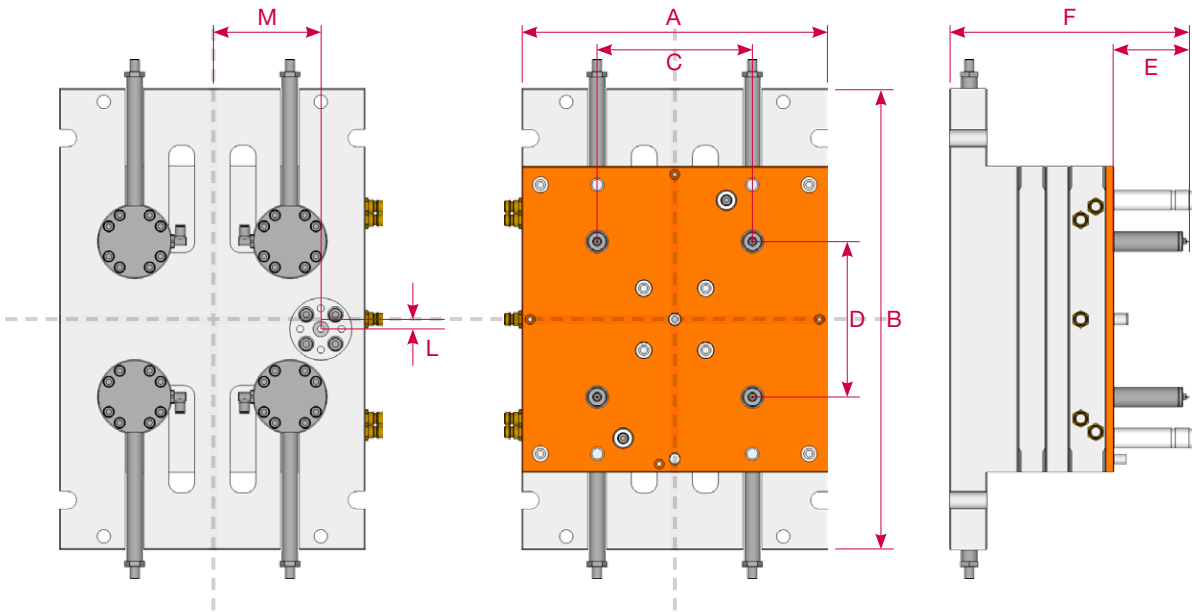
Most known applications can be implemented with the standardised cold runners in this brochure and on the homepage [www.elmet.com](http://www.elmet.com). The small-batch production enables ELMET to offer the cold runners at the best price-performance ratio and with optimised delivery times.

For special requirements, ELMET also offers customised solutions that are aligned with customer requirements and technical feasibility only. Whether cavity number, nozzle placement, parts weight, elastomer type or tool size – Everything is possible.



Customised 6 cavities cold runner for HCR processing

- Eccentric nozzle set-up in a row
- Customised cooling water connectors
- Electrical regulation of the valve gate nozzles



The modular build permits adjustment of the standard cold runners to special customer needs within the system limits:

To determine technical feasibility, contact the ELMET sales team or one of our partners.

## CHANGE OF THE OUTER CONTOUR

**E** Outer plate dimensions: A =  B =  /

**E** Clamping situation:

**E** Position of centring bolts:

**E** Countersinking of water or vacuum connections:

**E** :

## CHANGES TO THE BASIC DESIGN

**E** Nozzle distance: C (min. 50mm) =  D (min. 50mm) =  /

**E** Nozzle position:

**E** Nozzle number:

**E** Position of the material supply: L =  M =  /

**E** Cooling position:

**E** Parts weight < 5g:

**E** Elastomer type:



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