



UP TO  
**13%**  
UNDERCUT

WITH  
**SINGLE STAGE  
S-CORE**

UP TO  
**23%**  
UNDERCUT

WITH  
**TWO STAGE  
S-CORE**



# DME S-CORE Collapsible Core

**PREMIUM UNDERCUT SOLUTION**  
**THE NEXT LEVEL OF PERFORMANCE**

## DME S-CORE TYPES

### AN ADVANCED SOLUTION TO MOLDING THREADS AND UNDERCUTS

**More options more capabilities.** The New DME S-Core is a dynamic design that can be produced in 6, 8 or 12 segments enabling parts to be produced as small as 6mm and as large as 400mm. The length and depth of the part feature dictates the number of segments required to release the undercut.

DME Engineers will review each part model and design a DME S-Core for your specific application. Each DME S-Core utilizes **safety stops** preventing the folding segments from touching each other during ejection or over travel. This results in a longer lasting collapsible core that produces higher quality parts.

The DME S-Core Dovetail Cores allow for: simplified smaller molds, faster cycle times, improved part quality and reduced mold maintenance over traditional devices. It also helps reduced mold maintenance over traditional unscrewing devices. Making it a better choice for your threading or undercut application.

### THE DME S-CORES CAN BE MANUFACTURED IN DIFFERENT VERSIONS.

The DME S-Cores can be manufactured in multiple versions depending on part geometry.

#### 6 Segments

Three (3) large and three (3) small slide segments each. Provides sufficient collapse for undercuts up to 600mm.



Ready to Mold



Collapsed for Ejection

#### 8 Segments

Four (4) large and four (4) small slide segments each. Used for intermediate (medium) undercuts.

**DME S-Core's can be designed in Oval and Square shapes to compensate for part deformation/shrink.**



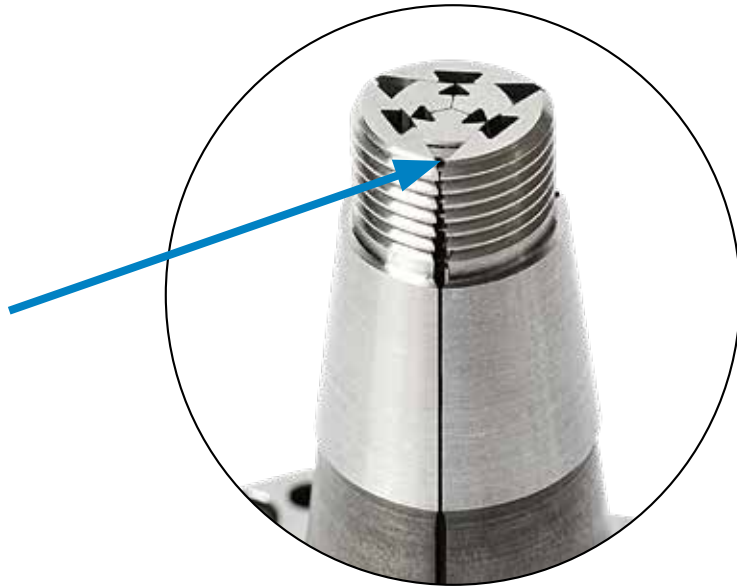
Ready to Mold



Collapsed for Ejection

## DME S-CORE WITH SAFETY STOPS

**DME S-Core Safety Stop**  
protects the folding segments  
from colliding when fully  
opened or over traveled.



- Unlike other products on the market, the DME S-Core has safety stops built into the corners of the folding segments to prevent them from colliding with one another in the event of over travel.
- The safety stop is incorporated in all of the folding core segments in the head area (between the three retaining rings).
- Folding segments are made from 420 stainless steel and the center guide is made from H13.
- **Safety stops come standard on all DME S-Cores.**

## DME S-CORE RETAINING RINGS

**Want to produce more parts in a smaller space?** The DME S-Core Rack System allows for cores to be placed closer together by utilizing a common retaining ring. This is an important feature when space in the mold is limited. This allows designers to create smaller molds to run on smaller presses - saving time and money. Rack systems can be made with up to 8 cores and a minimum spacing of 30mm, however this is dependent on the size of the product being produced and the required under cut depth.



Square Retaining Ring



Round Retaining Ring



Rack System

## DME S-CORE ADDING DETAIL MADE EASY

DME can provide the DME S-Core ready to install with the complete thread or undercut detail already machined in, however in some cases customers like to complete this detailed work. The new DME S-Core is designed with a flat bottom (shown below). When the core is positioned flat it is at location "zero" or "molding position" allowing for ease of setup to perform final machining or EDM.

**NOTE:** Manufacturing fixture available upon request at no additional cost when purchasing all DME S-CORES.



DME S-Core is designed  
with flat bottom



DME S-Core with machined  
undercut detail

## DME S-CORE STYLES EXAMPLES



**STANDARD**



**CUSTOM**



**RECTANGLE OPENING**



**DLC COATED**

When designing your mold base for a given product many of the choices of materials and components are based on the expected life cycle/required part count of the mold. If the mold is to be ran for years to come or you are simply trying to maximize the cycles between PM, adding DLC (Diamond-like-carbon) coating to your DME S-Core you will obtain a superior component that will last.

DLC is an amorphous carbon layer that provides a very high hardness and an extremely low friction coefficient providing the following benefits: extends the life of the core, reduces the resins ability to adhere to the core and protects the core from corrosion caused by exhaust gases.



**DME S-CORE RACK SYSTEM  
(30MM SPACING)**

Up to 8 cores can be racked as close as 30mm apart depending on part size. Providing less footprint required ultimately reducing the overall mold base/press size required.



## DME S-CORE NEW TECHNOLOGIES FOR A NEW WAY TO DESIGN

In the example below the core is being actuated from the side without the use of cylinders. We are demonstrating how the use of horn/angel pins are used to delay the opening of the large slide carrier. This is accomplished by slotting the horn/angle pin holes in the back end of the large carrier. The horn/angle pins do not engage in the large slide carrier to move the carrier back until after the small slide is all the way in the back position. This provides a "two stage sequence" action from the side.

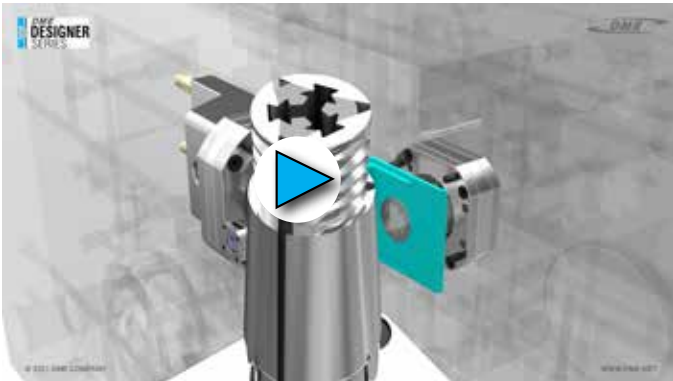
### Sequence:

1. When the mold opens the inside slide retracts back the DME S-Core causing the folding segments to collapse to the open position.
2. Slotted holes in large carrier are there to create a delay in movement until the small slide is in the back position.

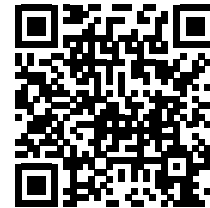


### 3 DIFFERENT S-CORES IN 1 MOLD

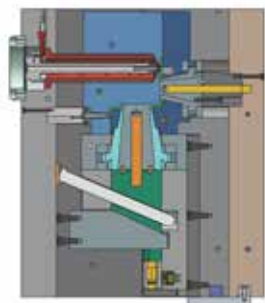
DME S-Cores can be designed to be used in complex mold geometries.



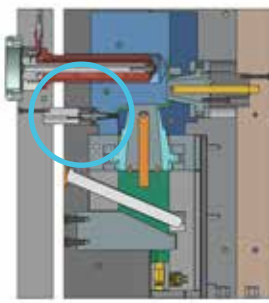
SEE IT IN ACTION: [dme.net/s-core](http://dme.net/s-core)



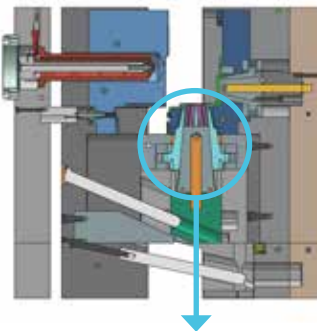
### MULTIPLE S-CORES PIGGY-BACK SEQUENCING



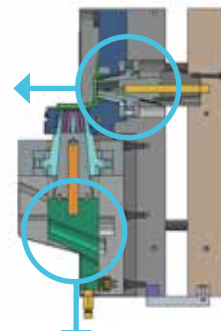
SECTION A-A  
Mold Closed



SECTION B-B  
Top Clamp Plate Moves 17.5mm  
Top DME S-Core Retracts

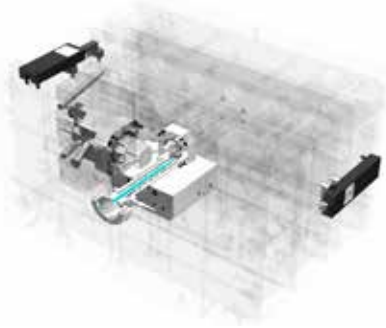


SECTION C-C  
Inner DME S-Core Retracts



SECTION E-E  
Mold Fully Opens Both Slides Retract 10mm  
B-Side + Ejector Plates Move Forward  
Allowing The Core Side DME S-Core To Retract

## REZ-LATCH COMPLETE YOUR MOLD DESIGN WITH REZ-LATCH LOCK SYSTEM



The **DME REZ-LATCH** Lock is the easy solution for all plate control application including three plate molds, two-stage ejection and early plate return.

The DME REZ-LATCH is the ideal solution to pair with the DME S-Core making your mold simple and reliable in multiple applications.

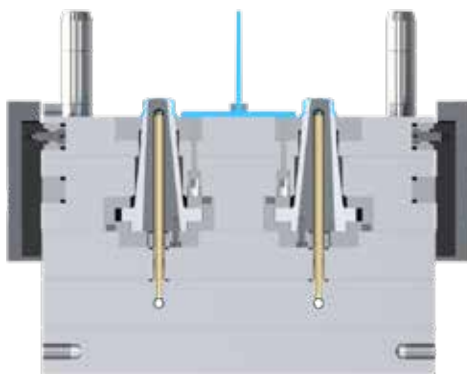


### Application Example 1:

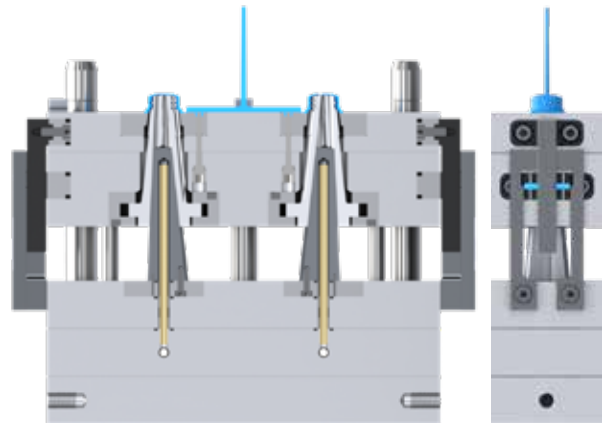
Example one does not require rails or an ejector box. All action is controlled by the REZ-LATCH. As the mold opens, the center guide withdraws, collapsing the core, and the stripper plate ejects the part.



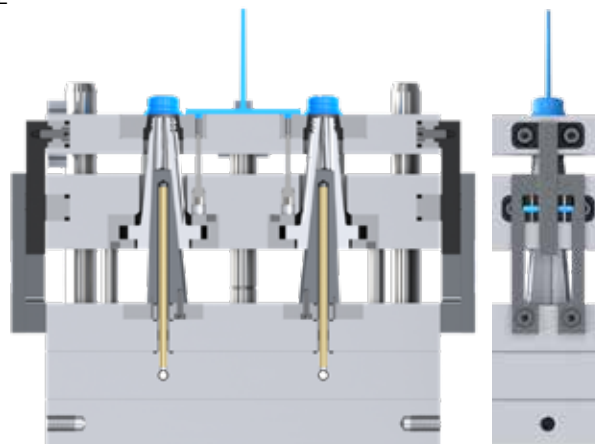
The **DME REZ-Latch System** is recommended and designed for proper sequencing of plates when using DME S-Cores.



MOLD CLOSE



OPEN - 1



OPEN - 2

## REZ-LATCH COMPLETE YOUR MOLD DESIGN WITH REZ-LATCH LOCK SYSTEM



### Application Example 2:

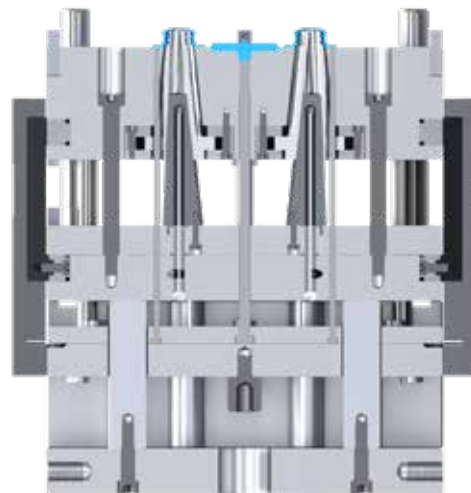
Example two is a traditional stripper plate with ejection. As the mold opens, the REZ-LATCH allows the B-plate and the ejector plate to move simultaneously forward to the open position. When the B-plate reaches the stop position, which is controlled by the latch locks, the ejector plate continues forward to evacuate the part from the mold.



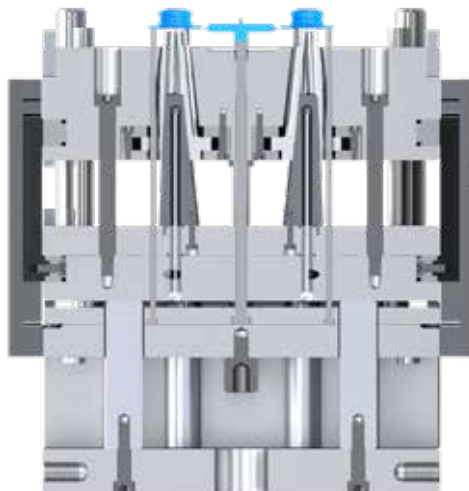
The **DME REZ-Latch System** is recommended and designed for proper sequencing of plates when using DME S-Cores.



MOLD CLOSE



OPEN - 1



OPEN - 2





## REZ-LATCH COMPLETE YOUR MOLD DESIGN WITH REZ-LATCH LOCK SYSTEM

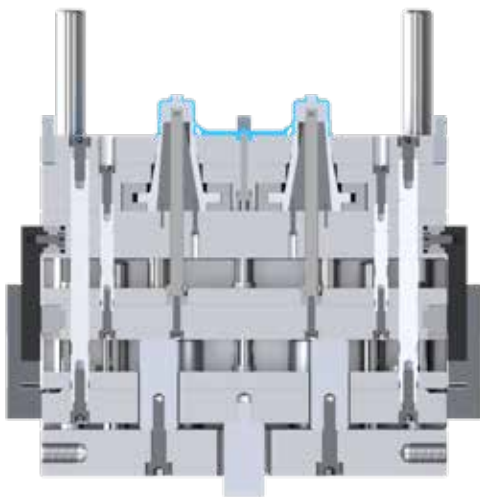


### Application Example 3:

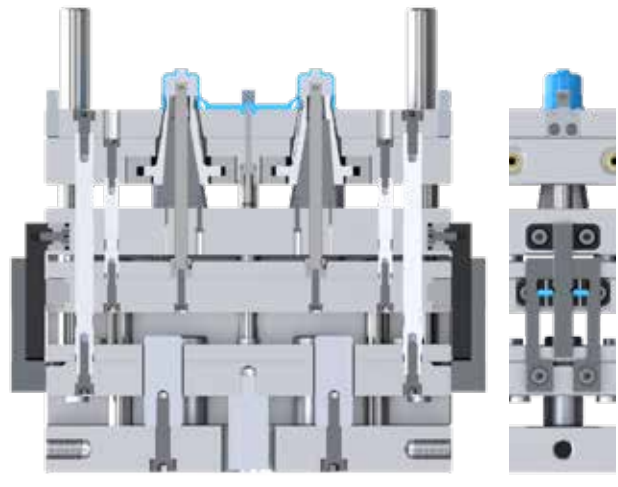
Example three is also a two-stage ejection. The mold is opened, retracting the core's center guide. The REZ-LATCH keeps the stripper plate together with the "B" plate. The ejector plate is then pushed forward and actuates the stripper plate.



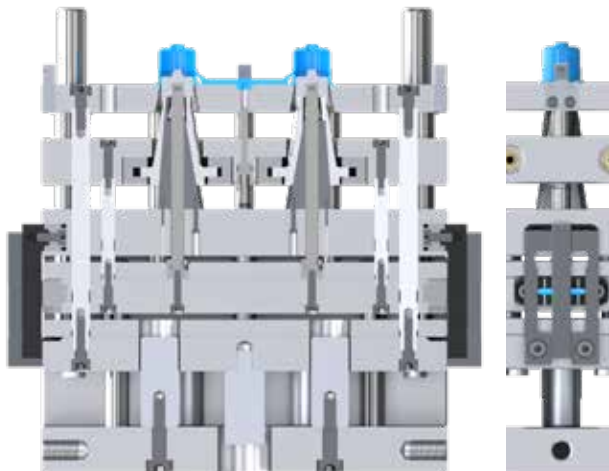
The **DME REZ-Latch System** is recommended and designed for proper sequencing of plates when using DME S-Cores.



MOLD CLOSE



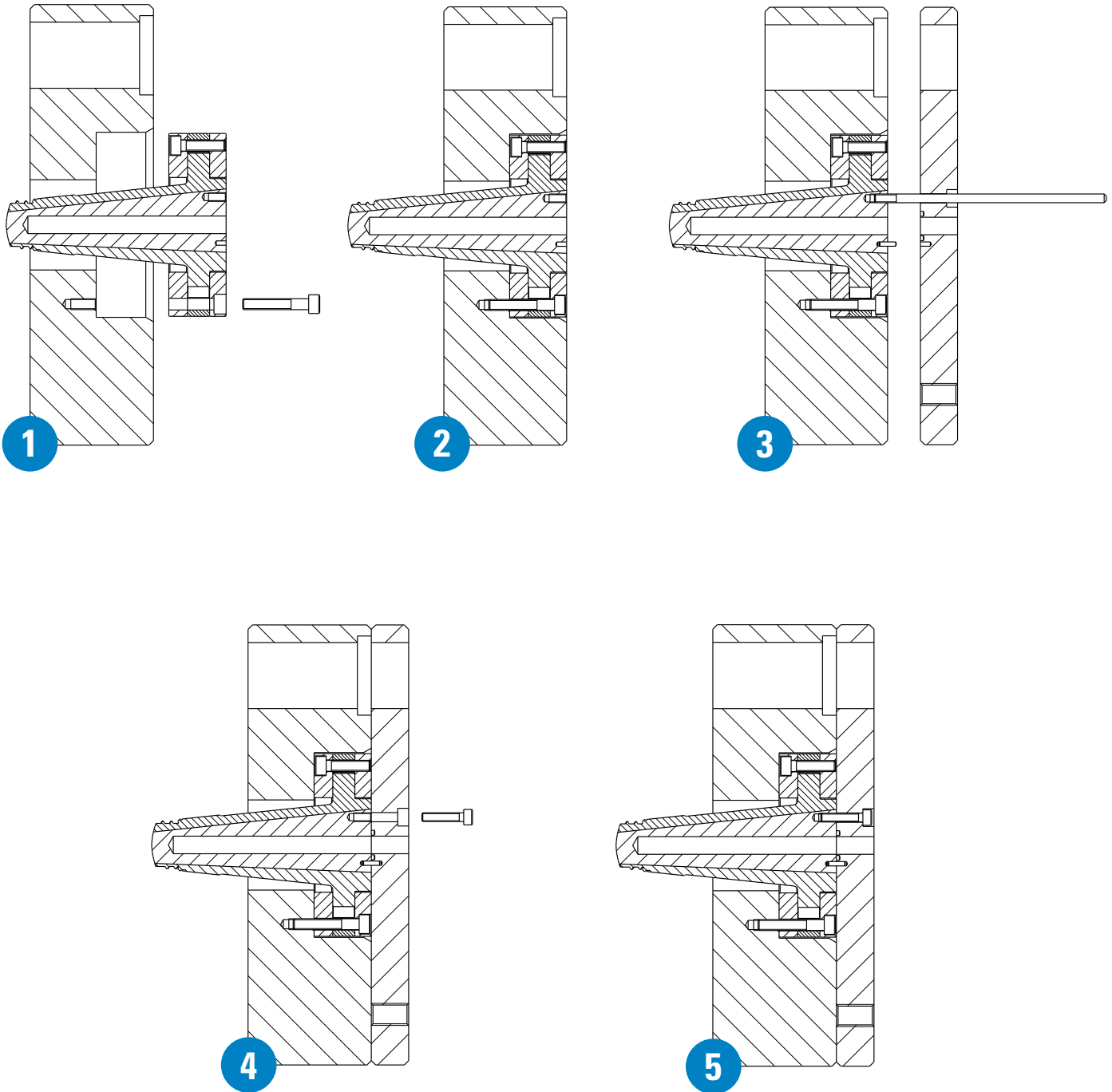
OPEN - 1



OPEN - 2

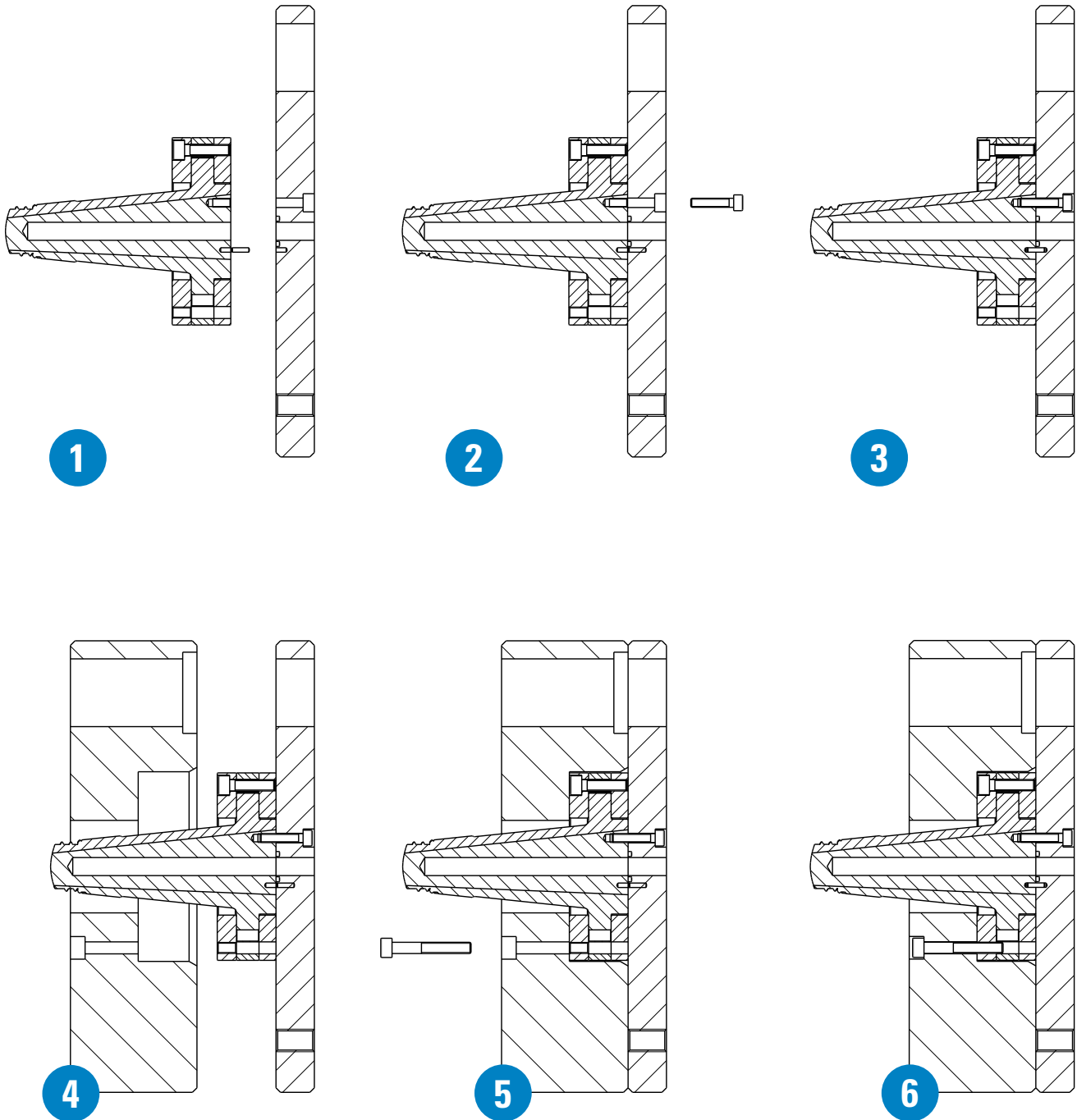
## DME S-CORE

### ASSEMBLY (EXAMPLE 1 OF 2)



## DME S-CORE

### ASSEMBLY (EXAMPLE 2 OF 2)



## DME 2-STAGE S-CORE

ACHIEVE UP TO 23% DEEPER UNDERCUTS WITH OUR 2-STAGE COLLAPSIBLE CORE

**Introducing the next evolution in undercut release technology** - the 2-Stage S-Core. Designed specifically to tackle the most challenging geometry in injection-molded components, this innovative solution employs an advanced two-step release mechanism to free threads and complex undercuts prior to final ejection. By gradually collapsing in stages, **the system achieves an undercut release of up to 23%.**

DME Engineers will review each part model and design a DME 2-Stage S-Core for your specific application. All DME S-Cores utilize **safety stops** preventing the folding segments from touching each other during ejection or over travel. This results in a longer lasting collapsible core that produces higher quality parts.

The DME S-Core Dovetail Cores allow for: simplified smaller molds, faster cycle times, improved part quality and reduced mold maintenance over traditional devices. Making it a better choice for your threading or undercut application.



**PART WITH UNDERCUT  
MORE THAN 13%**

## DME 2-STAGE S-CORE

### 2-STAGE RELEASE MECHANISM



READY TO MOLD



FIRST STAGE COLLAPSE  
(PARTIAL RELEASE OF UNDERCUT)



SECOND STAGE COLLAPSE  
(COMPLETE RELEASE OF UNDERCUT)

## 2-STAGE REZ-LATCH BAR LOCKS

### COMPLETE YOUR MOLD DESIGN WITH 2-STAGE REZ-LATCH BAR LOCK SYSTEM



#### Application Example:

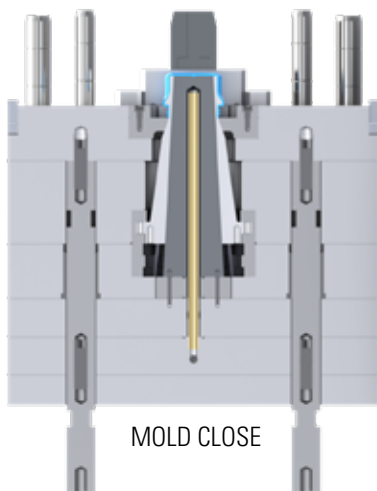
In this design, no external rails or an ejector box are needed. Instead, every movement is precisely coordinated by the REZ-LATCH BAR LOCK. The process unfolds in three steps: as the mold opens, the center guide retracts first, triggering the initial stage of collapse. Next, a set of core segments withdraw to complete the second stage, fully collapsing the core. Finally, once the core is completely collapsed, the stripper plate advances and cleanly ejects the finished part.



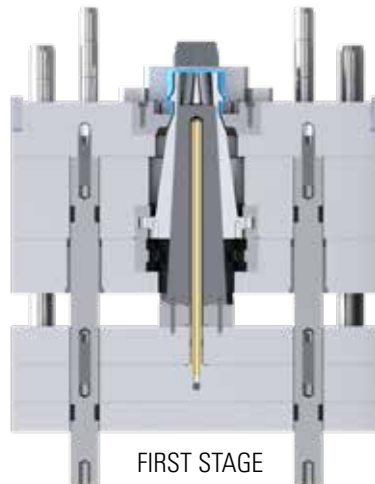
The **DME REZ-Latch Bar Lock System** precisely sequences and guides floating plates without extra components, making it ideal for molds using DME S-Cores.

Available via special order.

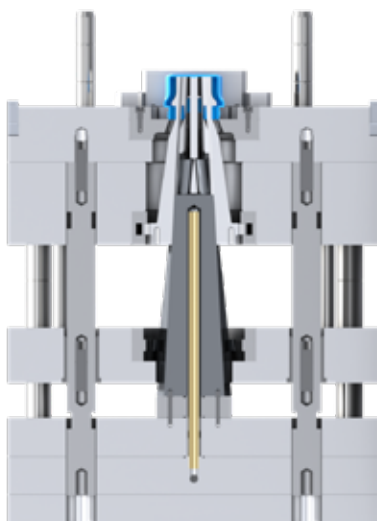
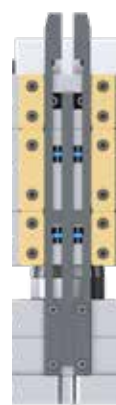
Please contact [mech\\_eng@dme.net](mailto:mech_eng@dme.net) for more information.



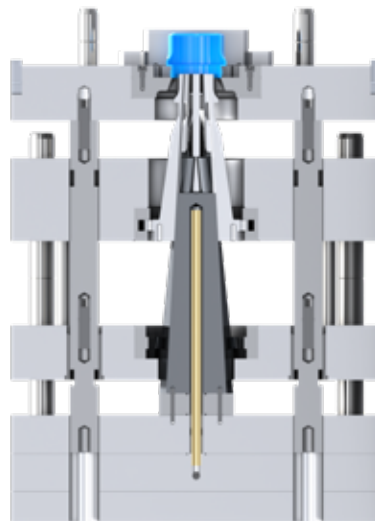
MOLD CLOSE



FIRST STAGE  
COLLAPSE



SECOND STAGE COLLAPSE

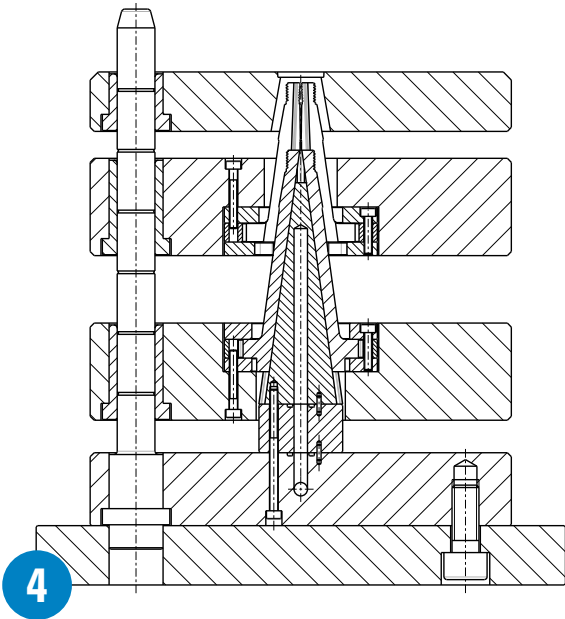
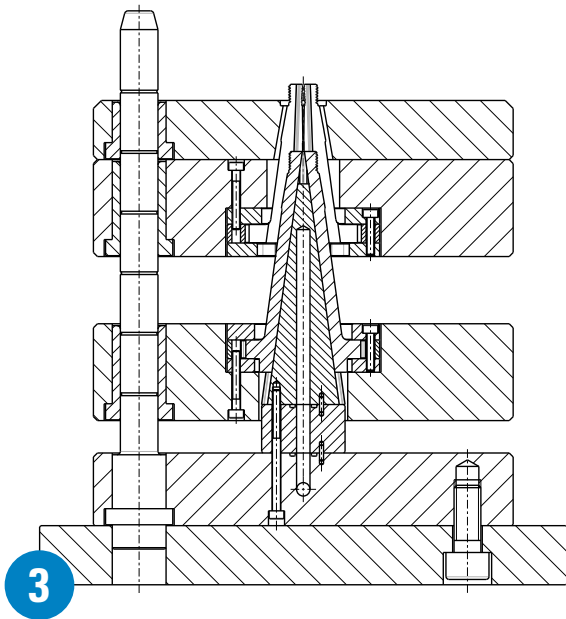
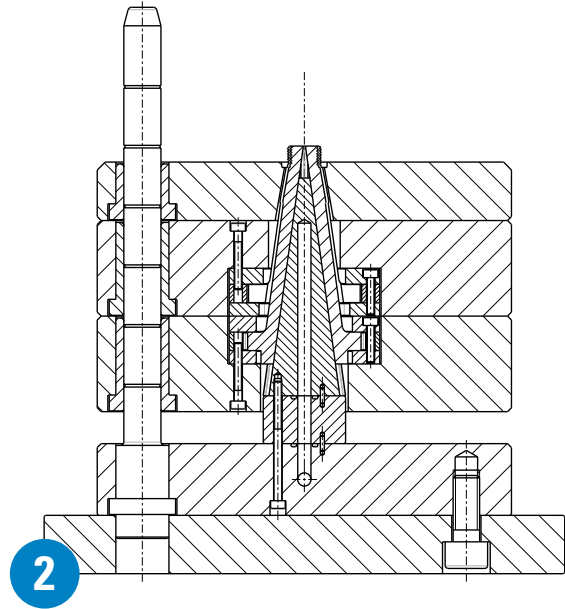
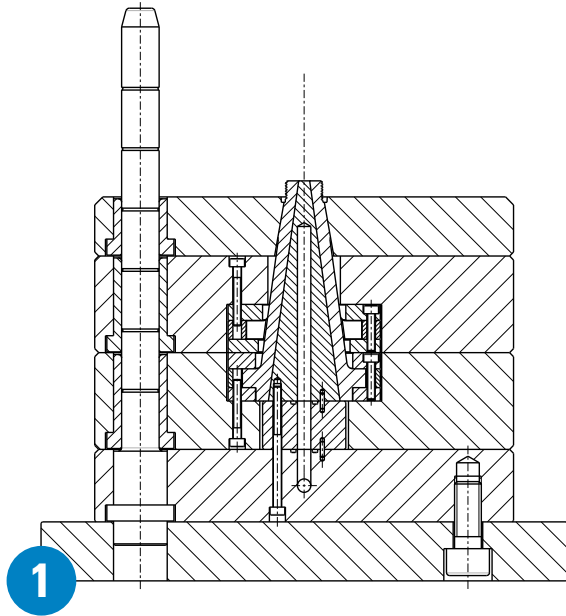


STRIPPER PLATE EJECTION





## DME 2 STAGE S-CORE ASSEMBLY EXAMPLE



## S-CORE SOLUTIONS FOR YOUR APPLICATION

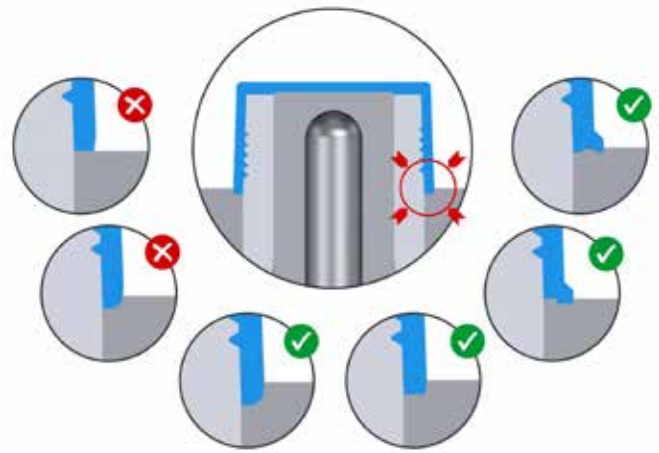
### DESIGNED TO FIT YOUR UNIQUE NEEDS

**DME engineers will review your part model and design a S-Core for your specific application.** Send us your part model in **STEP format**, and we'll evaluate its feasibility, create the S-Core design, and provide recommendations for any part changes needed to ensure compatibility with the S-Core.

## DME DESIGN TIPS FOR COLLAPSIBLE CORE MOLDS

### LOCK THE PART SECURELY IN POSITION DURING COLLAPSE OF THE CORE

- Use tabs, ridges, or indentations to lock parts in place, preventing movement during collapsing of the core.
- Sink parts into the B-side for increased holding area and stability.
- If the part has a radius at the bottom, avoid placing the parting line at the radius's tangent point. Instead, sink the part further to secure enough bearing surface.
- Unsecured parts may damage the core and result in defective molded parts.



## DME S-CORE

### ADDITIONAL INFORMATION

- Collapsible cores have a maximum speed of 100mm / sec. during movement.
  - Collapsible cores should be dismantled and cleaned as part of the PM of the mold.
  - Before assembly, all guide surfaces should be greased with a high-quality grease such as DME's Krytox™ or Super Grease
  - Preventive maintenance of the Collapsible cores must be carried out repeatedly during their lifetime.
  - Collapsible cores without a coating have a service life of approx. 500,000 cycles\*.
  - Collapsible cores with DLC coating have a service life of approx. 1,000,000 cycles\*.
- \*Depends on the plastic material used.



**With tens of thousands of products to choose from, DME is your one-stop shop for everything molding.** From complex undercuts solutions and plate control to standard pins, bushings and interlocks, the DME line of mold components will help you build or rebuild your mold base inside out, top to bottom. Industrial Supplies, Mold Bases, MUD Quick-Change, Control Systems, and Hot Runner solutions round out our extensive offering to truly be your one-stop shop.



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