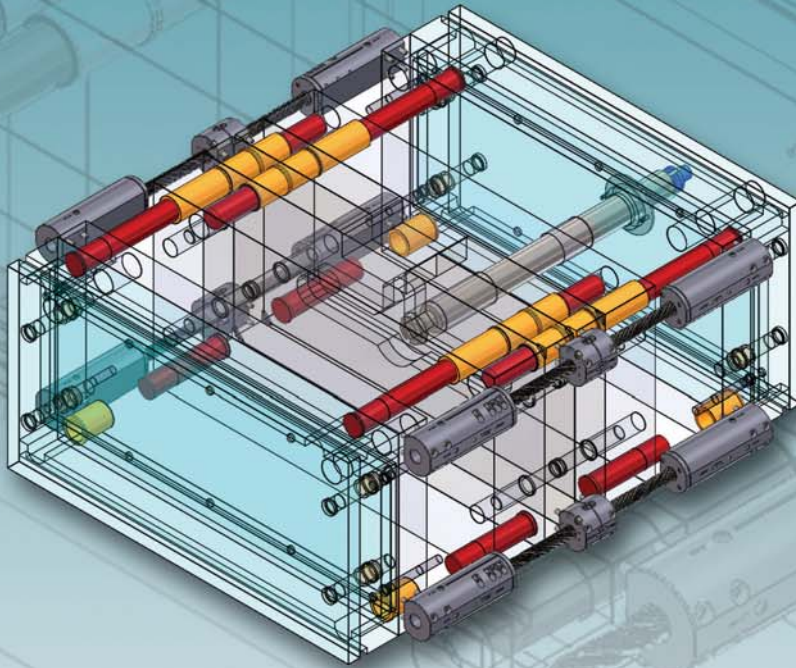


# DME Stack Mold Guidelines

**Design and  
Assembly Guide**

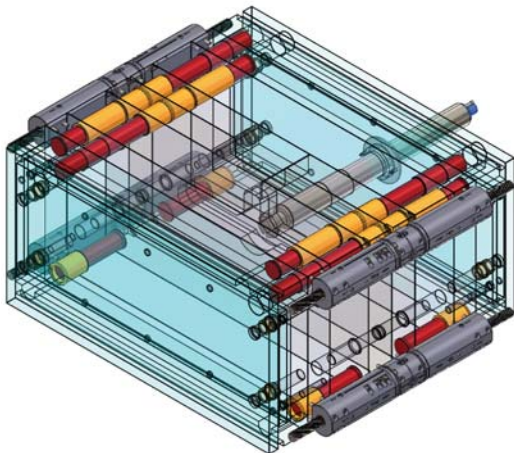


# DME Stack Mold Design Guidelines

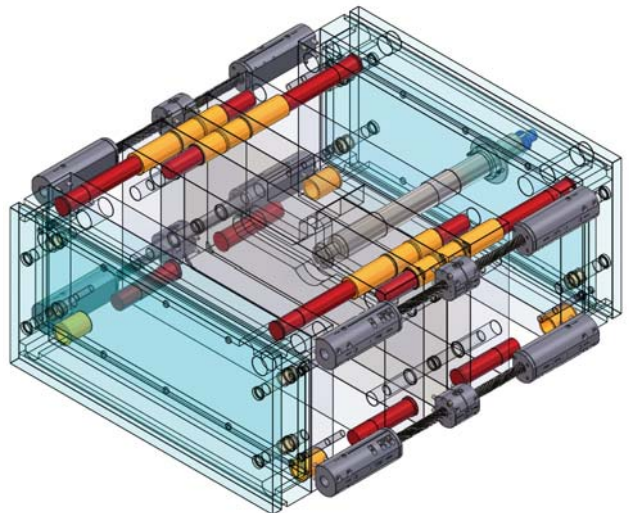
DME Stack Mold Centering Devices synchronize the two parting line openings of a stack mold.

The Centering Devices only work properly if all three portions of the stack mold are stable and fully aligned in both closed and open positions. DME Centering Devices do not substitute the function of leader pins for alignment, and the center supports for load bearing.

Alignment is the function of leader pins, and they must stay engaged in mold fully open position. A possible leader pin configuration is shown in the images below. The top leader pins are long; their arrangement is staggered in order to overlap each other in the center portion. They are pressed into the mold portions that are clamped to the stationary and moving platens, respectively. There are leader pin bushings for all four top leader pins in the center portion. This enables the leader pins to remain engaged when the mold is fully open. The bottom leader pins can be short so they do not interfere with the falling parts. It's important to note that misalignment in the mold could cause component breakage or failure. Hence, proper alignment and the engagement of the leader pins in the open position are absolutely essential conditions to ensure trouble-free operation of the centering device.

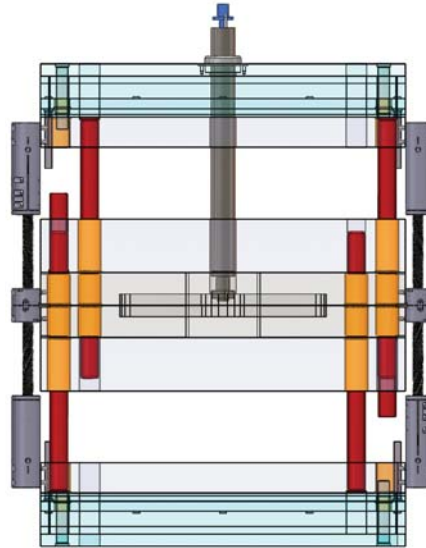
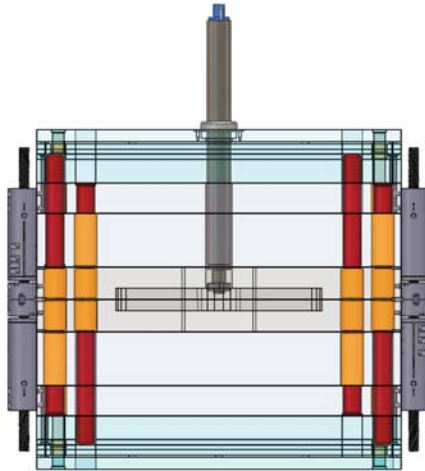


**MOLD CLOSED**



**MOLD OPEN**

# DME Stack Mold Design Guidelines



DME Centering Devices do not support the weight of the center portion of the stack mold. Center supports (or mold carriers) must be used for transferring the weight of the center portion of the mold to the tie bars or machine ways. If sliding surfaces (pads) are used, the sliding surfaces should be adjustable to compensate for the wear, and proper lubrication should be applied to reduce the frictional forces and wear.

DME has three Helical Gear Centering Device Series available:  
**HG28-1000, HG38-1200, & HG38-1500**

The '28' and '38' represent the nominal outside diameters of the helical gear shaft in mm. The '1000', '1200' and '1500' represent the maximum lengths of the helical gear shafts (and the maximum lengths of the total Helical Gear Assemblies). In this maximum length state, the maximum opening per parting line for each series is as follows:

**HG28-1000 => 376mm, HG38-1200 => 445mm,  
HG38-1500 => 595mm**

Each mold needs a minimum of two assemblies. If a side-entry robot and/or a secondary injection unit are/is used from the side, or there is other obstruction on the side of the stack mold, four assemblies are needed, and placed at the corners. Symmetrical arrangement is recommended: If two centering devices are used, they should be positioned to the middle of the sides. A catercorner arrangement could introduce undesirable twisting movement on the stack mold and is not recommended.

DME offers Helical Gear Centering Devices with either Nylon Nuts or Bronze Nuts. Nylon Nuts have shock-absorbing properties to dampen the initial inertia forces. Bronze Nuts

can withstand higher loads than Nylon Nuts. If the operating temperature of the centering device could rise above 45° Celsius (113° Fahrenheit), Bronze Nuts are recommended instead of Nylon Nuts because the strength of Nylon Nuts significantly drops above this temperature, risking potential failure. DME provides thermocouple holes in the nut housings for monitoring temperature, and offers optional thermocouple installation.

DME also has Rack & Gear Centering Devices in three sizes and different configurations (Greaseless and Wear Plate types) with nominal pitch diameter of the spur gears of 80mm, 120mm and 160mm.

In addition, DME offers tools for configuring the custom components of the Helical Gear or Rack & Gear Centering Devices. These tools give the output dimensions of the custom components based on customer input. The tools also show the overall and mounting dimensions.

It is good mold design practice if the ejection actuators are the same on the moving platen and stationary platen sides, and the injection press knock-out system is not used. The identical actuators provide identical ejection dynamics for both of the parting lines.

DME requires a mold layout indicating the outside dimensions, plate thicknesses, and the maximum parting line openings per side. This data may be sent to [mechanical\\_eng@dme.net](mailto:mechanical_eng@dme.net) in neutral 2D or 3D formats, or in native SolidWorks formats. After application review, DME returns the corresponding customized 3D data to scale with a valid configuration sheet for approval.

Find more Stack Mold information at: <http://www.dme.net> under the Product Spotlight, or click on - [http://www.dme.net/dme/resources/New\\_Prod\\_pgs\\_Promos.html](http://www.dme.net/dme/resources/New_Prod_pgs_Promos.html) - and scroll down to the **Multi-Parting Line and Stack Molds** section.



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