

# HyCAP System for Beverage Closures

Optimized for speed, quality and consistency

## Benefits

- Ideal for new lightweight, shorter caps
- Industry-leading cycle times
- Precision and repeatability for high quality production
- Better melt control—balance, temperature
- Integrated system—machine, hot runner, mold, temperature controller, automation
- Additional products and services to help customers maintain the lowest part cost by maintaining the highest level of operational efficiency now and in the future



The HyCAP™ system is based on the proven Husky® Hyletric® machine platform and has been designed for the specific needs of high output beverage closure manufacturing. HyCAP offers the industry's fastest cycles without sacrificing part quality or consistency. It helps closure manufacturers achieve productivity levels that match or exceed compression molding, with tighter tolerances and significantly more part design flexibility.

### Fastest cycle times

Husky is known for continually advancing technology to achieve the fastest cycle times. HyCAP has specific advancements that take speed to the next level, including faster clamp dry cycles, features to reduce melt temperature and therefore cooling time, and tighter integration of hot run-

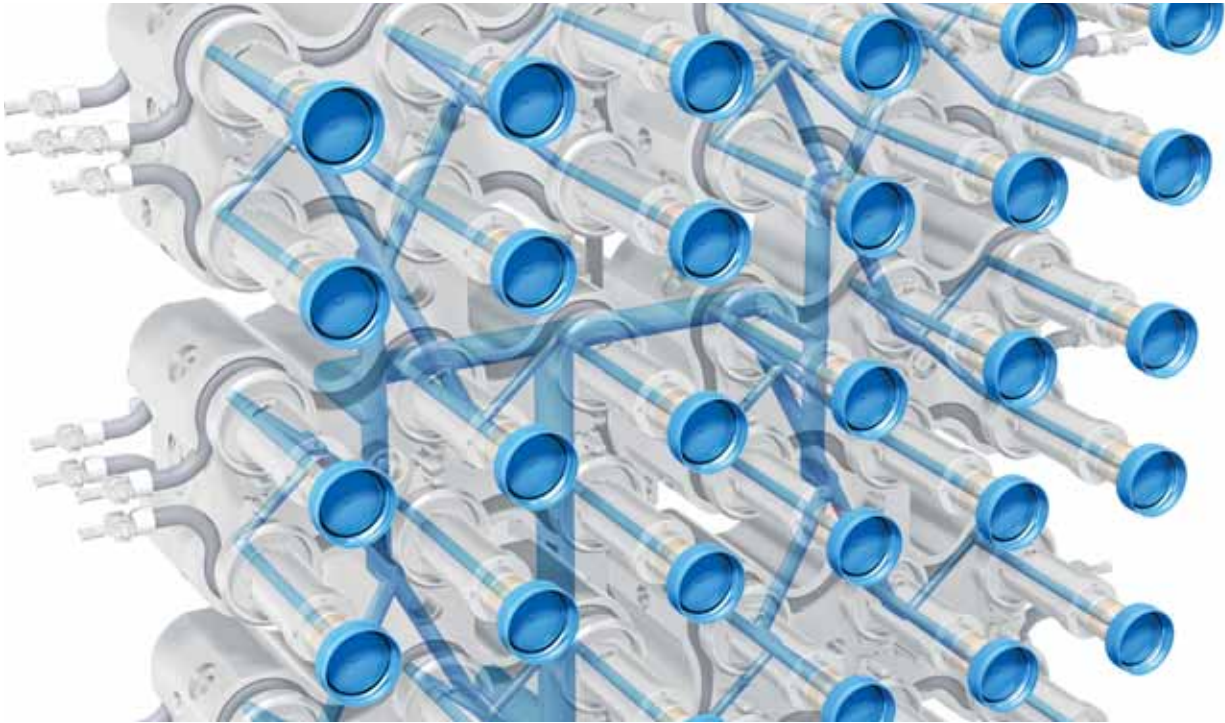
ner control. With these enhancements, a 72-cavity HyCAP system is capable of running 2.5 second cycles to produce a lightweight 26 mm closure weighing less than 1.0 gram. This is a significant improvement from the industry standard of 3.5 to 4.0 second cycles on a 1.5 to 1.6 gram closure.

### Meeting the challenges of new, shorter, lighter caps

Producing a high volume of closures is one thing, producing high quality, lightweight closures consistently is another challenge altogether. HyCAP's injection accuracy and hot runner balance reduce part weight variation, improve processing window limits and provide more consistent part dimensions—all critical factors as parts become lighter and thinner. For example, HyCAP

**HUSKY®**

*Keeping our customers in the lead*



HyCAP is designed to provide complete melt stream control.

has been shown to maintain consistency of  $\pm 0.08$  mm on the bore seal of a 96-cavity lightweight 30/25 closure.

Specific modifications have been made to accommodate the requirements of closure resins, which are often viscous and challenging to mold. Husky® closure systems and family of Ultra hot runner nozzles offer a solution by helping to open the process window.

The HyCAP machine and Ultra hot runners have been modified to create the ideal molding conditions in terms of temperature, pressure, clamp force and balance. An example is our Reflex® platen technology coupled with the Ultra hot runner, which work together to minimize overall mold deflection and ensure the same clamping force is delivered to each cavity. Comparisons in a production environment

have shown a significant tonnage reduction compared to other high performance injection molding machines.

All of these benefits combine to make HyCAP the ideal system to produce the new, shorter, lightweight caps. In the case of lightweight, one-piece water closures, Husky systems produce more consistent, higher quality closures than those produced using competitive processes.

#### **Better melt control**

HyCAP systems are specifically designed to meet the requirements of closure manufacturing. All components in contact with the melt—screw, barrel, shut-off nozzle, manifolds, nozzles—have been scrutinized to ensure the lowest cycle and best part quality. The melt is prepared at the ideal temperature and delivered to the mold cavities uniformly and with minimal stress. Our

hot runner nozzles offer generous access to cooling water, resulting in reduced cooling times and better gate quality, ultimately yielding better part control and consistency. Reduced pressures that result from our optimized melt channel sizing in both the injection unit and hot runner provide the benefit of less wear on the system and ease of processing.

**One-stop shopping for a complete beverage packaging solution**

Unlike other equipment suppliers, Husky designs all elements required for complete melt stream control—machine, hot runner, Altanium® temperature controller, as well as offering the industry’s most comprehensive after sales support program. Having Husky supply the complete system also improves ease of start-up by simplifying and stan-

darizing interfaces among all workcell components, as well as providing a level of streamlined integration that reduces the workcell’s physical footprint.

HyCAP is one element of our complete beverage packaging solution. Our customers can look to us to be their single-source supplier who can coordinate all elements—neck finish, bottle and closure—so they

work together as a complete package. This eliminates the time required to manage multiple suppliers and results in better coordination of package redesigns or light-weighting initiatives.



A HyCAP 300 RS65/60, 72-cavity system for lightweight water closures.

## HyCAP highlights

### Speed

- HyCAP offers industry-leading dry cycle times through a combination of performance improvements, including faster machine movements with closed loop control and overlapping functions
- Our new closures screw, which has been optimized for one-piece closures, is combined with a low restriction rotary shut-off nozzle that reduces melt temperature and decompression
- HyCAP features a high output drive that provides up to 50% improvement on plasticizing rates
- Altanium temperature controller, even force distribution and balanced hot runners ensure the same process conditions at each cavity and contribute to reduced hold and cool time through more precise filling

### Excellent part quality

- HyCAP's screw design ensures quality and homogeneity of melt leading to cavity-to-cavity consistency and prevents resin overheating
- Recognized for delivering accuracy, ease-of-use and flexibility, our Altanium controller uses Active Reasoning Technology (ART) to maintain precise set point temperatures for consistent, high quality parts
- Thermally optimized hot runner manifolds provide even heat distribution, which improves part quality and gate vestige, as well as drop-to-drop temperature consistency
- Ultra nozzles are optimized to maximize gate quality and offer a wide operating window

### Manufacturing efficiency

- All system elements, including auxiliaries, are integrated through our Polaris® HMI
- Optimized workcell interfaces to accelerate system start-up

Contact Husky today for more information on HyCAP systems.

**Husky Injection Molding Systems**  
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