

# Hot Runners for Technical Applications

Using advanced technology to mold precision components



Husky hot runners are able to mold a wide variety of technical parts.

## Technology advantage

- Deliver small part weights without melt degradation to the cavity
- Have balanced melt delivery to each cavity
- Provide easy start-up for a wide range of technical resins, filled with or without glass fiber or flame retardant
- Feature wide operating windows
- Deliver consistent gate quality
- Allow tight gate access, limited pitch spacing, small shut height
- Offer reliability and reduced wear using filled resins

## Robustness

- Easy start-up for a wide range of technical resins
- Cold start leak protection
- Wide operating window to maximize process flexibility
- 3 year leakproof guarantee

## Application know-how

Every year, Husky builds over 3000 hot runner systems for the technical market ranging from small connector components to thinwall cell phone parts.

The wide range of Husky Ultra hot runner nozzles and multiple gating methods are ideally suited to process technical resins such as PBT, PC, PA glassfilled, ABS and PEEK. Valve gate, and thermal gating options are available.

Every hot runner system is optimized for its specific application, by using engineering processes, such as melt channel sizing and thermal analysis. Our nozzles are optimized for temperature control of the gate area.

## Technological leadership

Over the past 10 years, Husky has built a reputation as the technology leader in the demanding cell phone components market. Our nozzles are optimized for high pressure thinwall cell phone components. Small nozzles with diameters of less than 15 mm (0.59") can withstand pressures of up to 2759 Bar (40000 psi). Under these extreme conditions, thermal uniformity, excellent gate quality and wear resistance are key requirements for successful injection molding.

We have applied this know-how to many other technical parts, including connectors, under the hood automotive components and medical parts.

**HUSKY**<sup>®</sup>

*Keeping our customers in the lead*

### Reliability and improved wear resistance using filled resins

Ultra Nozzle tips and valve stems are manufactured to handle high wear materials. Technologies such as the UltraGuide® system, prevent collisions between the valve stem and gate when using cylindrical gates, ensuring a positive alignment of the valve stem to the gate opening, reducing wear between the stem and the tight tolerance orifice resulting in extended production life of the hot runner.

Our experience and analysis of melt stream volumes, resin viscosities, flow speeds, channel sizing and length, along with temperature control of the melt, allows us to design and deliver hot runner systems that provide consistent part-to-part quality and repeatability.

Our hot runners are designed for easy serviceability and feature:

- Easy-to-access components including in-machine maintenance
- Backing plate removal allows access to valve gate piston O-ring
- Minimized heat loss
- Plates at equal temperature via water or oil cooling

### System advantage

Husky's focus on the application of technical resins has allowed us to gain a tremendous amount of tooling and processing experience in this area. We offer a variety of solutions, which range from custom hot runners with integrated Altanium® controllers, to process optimization software that improves customer process monitoring to our tailored support services. The combination of our experience and solutions helps ensure the success of our customers' technical molding projects.

### Cold runner conversion

Properly designed hot runners can handle any technical resin that can be injection molded. While there is a large percentage of small cavitation technical molds still operating with cold runners, our experience has shown that even on a small cavitation mold, the savings of converting a cold runner application to a hot runner can be significant.

Contact Husky today for more information on hot runners for technical applications.



Ultra 350 nozzles allow for tight gate access.

### Example:

4-drop cold runner	
Runner weight	19.5 grams
Resin usage	US \$10687/day
Full hot runner—Direct gated	
Resin usage	US \$10114/day
Resin savings	US \$17200/month
Productivity	28% cycle time improvement

**Husky Injection Molding Systems**  
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