

Ultra Valve Gate Technology



Ultra 350 nozzles for direct access gating of small parts.

Valve gating advantages

Customers choose Ultra valve gates for applications that require superior gate quality and wide processing windows. Valve gating offers several benefits to the injection molder including:

- Superior gate quality
- Elimination of drool and gate string
- Improved physical properties with lower molded-in stress
- Fast cycle times
- Ability to balance family molds and control weld line location with sequential valve gating
- Added process control with valve gating

Continuous improvements and new technologies have established the Husky® hot runner product portfolio as one of the most advanced and reliable in the industry. The Ultra nozzle family provides an unmatched combination of reliability and performance featuring superior gate quality, fast cycle times, wide operating windows and easy start-up over a wide range of applications. As one of the largest manufacturers of hot runners and temperature controllers worldwide, we continue to invest in our global infrastructure to build strong relationships with customers. No company delivers more valve gated nozzles than Husky on an annual basis and our customers trust Husky to provide the most reliable systems available.

Added control with valve gating

Molders gain control over gate opening and closing using a valve gated hot runner. The gate is positively sealed with the use of a valve stem. The actively controlled valve stem moves forward and seals the gate opening. The valve stem remains in the closed position during mold open and part ejection, preventing drool and stringing. The molded part separates from the gate without breaking or shearing plastic, leaving a small witness ring. Unlike thermal gating, gate quality remains consistent over a wide range of process conditions. Physical properties of the molded part are also improved with the use of valve gates. Due to larger gate diameters, valve gates generate less shear compared to smaller thermal gates. The result is a part with less molded-in stress, reduced warpage and better physical properties.

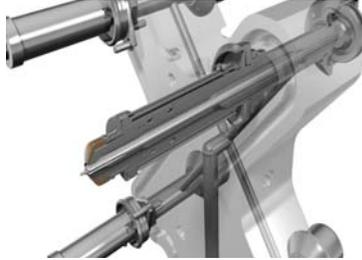
HUSKY®

Keeping our customers in the lead

Ultra valve gate technology



UltraGuide—precisely pre-aligns the valve stem with the gate for superior gate quality results and longevity.



Ultra nozzles—feature wide operating windows.



UltraFlow—up to 50% faster color change compared to traditional nozzles.

Ultra valve gate technology

Reliable valve gating solutions

Valve gating for plastics applications is an evolving technology offering the molder and moldmaker more choices than ever. Valve gating is the preferred method for molders to improve gate quality, shorten cycle times, process resins that require wide operating windows and to achieve precise part tolerances. Husky Ultra hot runner solutions address these requirements with exclusive technologies:

- UltraGuide® technology pre-aligns the valve stem with the gate precisely, for superior gate quality results and longevity

- UltraSeal® technology provides a wide operating window of up to +/- 100°C (+/- 212°F) and Husky guarantees the hot runner to be leakproof for three years
- UltraFlow® technology provides up to 50% faster color change compared to traditional nozzles
- UltraSync™ technology allows 100% synchronized stem movement for high precision and tight pitch molding

Husky valve gates come in a wide range of sizes and gating options—being able to handle parts from less than 1.0 gram to parts as large as 3.0 to 5.0 kg. The Ultra 350 nozzle is ideal for applications that require

either close nozzle spacing or difficult to access direct gating, such as medical parts or flip top closures. Ultra 500 and Ultra 750 nozzles can handle a wide range of applications from 10 grams to 350 grams/per drop.

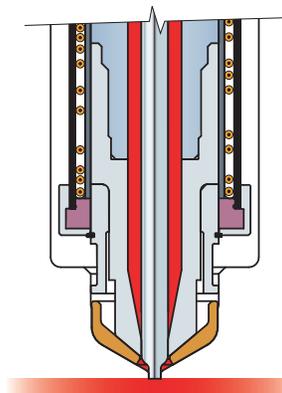
Ultra valve gate nozzles are available in a number of gating options that include either cylindrical or tapered gate shut off options.

Cylindrical shut off provides the best gate quality and Husky technologies, such as UltraGuide, assures that gate wear is minimized.

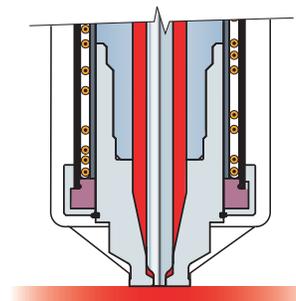
Resin compatibility

Ultra valve gate nozzles are compatible with most resins, however, resin properties will dictate the nozzle tip configuration.

Ultra nozzle valve gates have been successfully used with abrasive resins containing fillers such as glass, mineral and carbon fiber. Husky utilizes wear-resistant materials for the valve stem and nozzle tip to prolong tip life. A replaceable nozzle tip with an integral gate seal is the most appropriate choice for abrasive resins. The nozzle tip can be replaced at a lower cost than replacing a gate insert.



Amorphous



Semi-crystalline

Valve gating solutions for amorphous and semi-crystalline resins.

Specialty valve gating solutions



A 64-drop UltraSync system.

Specialty valve gating solutions to suit customer needs

We offer a wide range of options to address the specific requirements of the molder and their applications such as, UltraSync plate actuation (either hydraulic or electric), back-to-back valve gating options and single cavity valve gates ideal for prototype tooling, among others.

UltraSync technology

The answer for tight pitch applications, Husky UltraSync technology offers part-to-part consistency through precise simultaneous gate closing and can be used in clean room applications. This precision is achieved by using either an electric servo motor, hydraulic cylinder or pneumatic cylinder. All versions are configured to provide

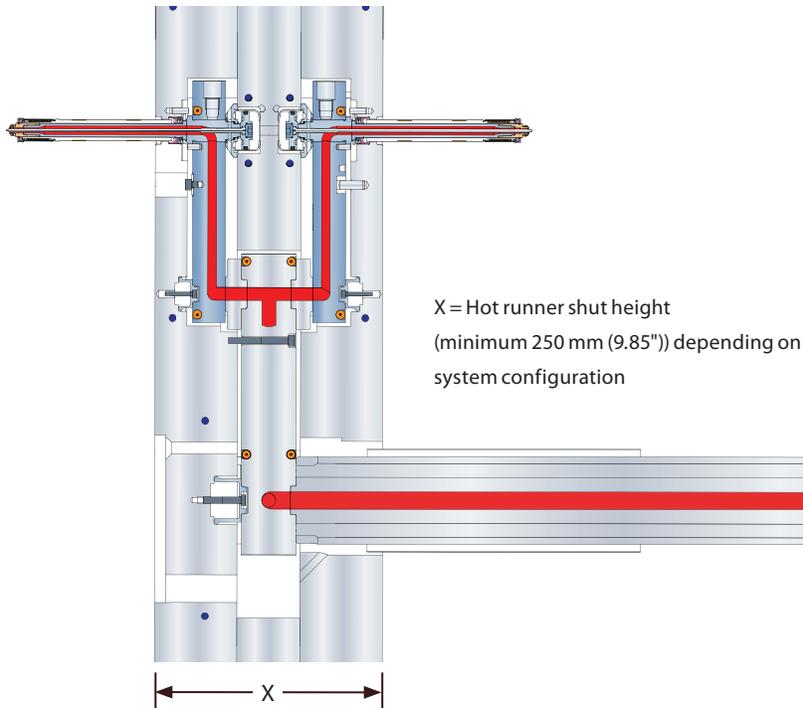
high stem force for good gate quality. In the case of the electric actuated design the control for the servo motor is integrated and provided directly from an Altanium® controller.

UltraSync technology is available with Ultra 350, Ultra 500 and Ultra 750 nozzles.

- UltraSync technology allows for a minimum nozzle spacing of 18 mm (0.71")
- Ideal solution for the high precision molding of small parts
- Unique plate actuation mechanism requires limited maintenance
- Wear is eliminated by using bearings for the moving components
- Entire actuation unit, including stems, is easily accessible for any required maintenance

Back-to-back valve gating

With Husky back-to-back stack valve gate systems, molders are able to make twice as many parts while never compromising gate quality or machine capabilities. High and low cavitation solutions provide a lot of flexibility to the molder and can be tailored to almost any application, while maintaining quality parts and superior gate quality.



Product specifications

Nozzles		Gating Styles	Throughput	Design Specifications			Unique Features
				g/sec		mm	
Ultra 350		Valve Gate (VG, VG-X)	Up to 20	Maximum channel ø Nozzle spacing Bore ø Seal-off ø	6.4 25.4 16.0 8.0	0.25 1.00 0.63 0.31	<ul style="list-style-type: none"> Valve gate for small pitch applications Cylindrical valve gate shutoff
Ultra 500		Valve Gate (VG, VX, VG-X)	Up to 20	Maximum channel ø Nozzle spacing (VG-SX) (VG-LX) Bore ø Seal-off ø	8.0 25.4 50.0 23.8 10.0	0.31 1.00 1.97 0.94 0.39	<ul style="list-style-type: none"> Valve gates available in large and small pitch options Extended tip for improved gate access
Ultra 750		Valve Gate (VG, VX, VG-R, VG-UF)	Up to 250	Maximum channel ø Nozzle spacing (VG-LX) (VG-EX) Bore ø Seal-off ø	11.5 50.0 59.0 31.0 18.8	0.45 1.97 2.32 1.22 0.74	<ul style="list-style-type: none"> Cylindrical or tapered stem Extended tip for improved gate access
Ultra 1000		Valve Gate (VG, VX)	Up to 450	Maximum channel ø Nozzle spacing Bore ø Seal-off ø	16.0 75.0 42.0 25.4	0.63 2.95 1.65 1.00	<ul style="list-style-type: none"> Tapered valve gate shutoff Single-cavity valve gate available

Single-cavity valve gates

Husky single-drop valve gates are ideal for prototype tooling or single cavity production molds. They offer a wide range of gate configurations with throughputs from 0.1–750 grams/sec. Simple installation and fast delivery times makes for fast start-ups.

Altanium controllers

Husky is the only hot runner manufacturer with a line of integrated temperature controllers. Altanium® controllers are recognized throughout the industry for accuracy, ease of use and flexibility. Our proprietary Active Reasoning Technology (ART) controls hot runner heat zones—maintaining precise set point temperatures for high quality parts.

Early consultation leads to long-term success

The key to success with any injection molding project is to ensure customers are using optimum technology for specific applications. Early consultation with a Husky hot runner specialist can be invaluable in assessing customer needs and designing an optimum solution.

Contact Husky today for more information on our hot runners.

Husky Injection Molding Systems
www.husky.ca

Head Office Canada • Tel. (905) 951 5000 • Fax (905) 951 5384
Asia China • Tel. (86) 21 3850 8000 • Fax (86) 21 5048 4900
Europe Luxembourg • Tel. (352) 52 11 51 • Fax (352) 52 60 10

*HUSKY, HUSKY KEEPING OUR CUSTOMERS IN THE LEAD & DESIGN, ULTRAGUIDE, ULTRASEAL and ULTRAFLOW are registered trade-marks of Husky Injection Molding Systems Ltd. in the United States and other countries, and may be used by certain of its affiliated companies under License. ULTRASYNCR and other HUSKY product or service names or logos referenced in these materials are trade-marks of Husky Injection Molding Systems Ltd. and may be used by certain of its affiliated companies under License. © 2012 Husky Injection Molding Systems Ltd. All rights are reserved.