oerlikon
hrsflow

Multicavity Systems for Caps & Closures

FAST CYCLE TIME.
INCREASED PRODUCTIVITY.

For attractive, functional and sustainable molded parts

We offer premium hot runner solutions that maximize design flexibility, while meeting the most demanding requirements for sustainable and lighter-weight plastic caps.

MARKET NEEDS

- Short cycle times
- Fast color change
- High production volume
- Superior vestige quality
- High performance results even with special polymers
- Sustainable solutions

Our advanced solutions for caps and closures

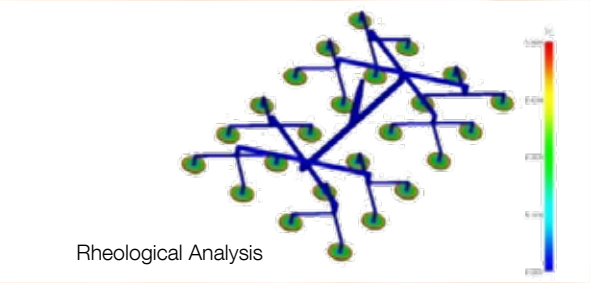
Proven performance, with maximum reliability. We offer dedicated nozzle solutions for each specific sector, ensuring an unmatched control of cavity filling and balance.

HIGH RELIABLE STANDARDS FOR BEVERAGE

The **Vf nozzle series** was specifically developed for carbonated and non-carbonated beverages, as well as liquid and powdered concentrates with weights **from 0.5 g to 8 g.**

HIGH SYSTEM DURABILITY

Suitable for high production volumes, the special material used for the nozzle tip improves wear resistance of our hot runner system, ensuring extreme durability.



Rheological Analysis

FAST COLOR CHANGE

- Advanced **rheological analysis** to find the optimal hot runner layout and balance between the required injection pressures and color change performance.
- Reduction of stagnation areas due to **sealing caps**, which enhance system durability.
- Complex systems for multi-component parts with a **separate internal channel in the manifold** to manage two (or more) colors at the same time.

Bi-color Flip Top Best Practice

While manufacturing of this flip-top for beauty & personal care industry, a 4+4 drop system with separate manifold channels was used.

This solution was engineered to produce the white and blue components at once, thus minimizing downtime and material waste.

FAST CYCLE TIME

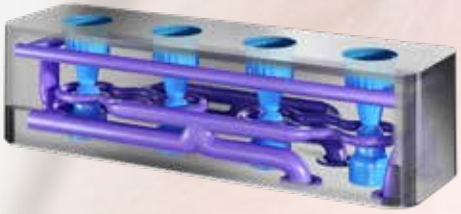
Nozzle tips of **different lengths and materials** according to the specific application in order to ensure the best temperature profile and speed-up cycle time.

IN-HOUSE SLM TECHNOLOGY FOR CONFORMAL COOLING

Used in case of advanced parts, for example for the medical sector, optimising mold cooling results in:

- Reduced cycle times
- Flawless part surfaces due to uniform thermoregulation
- Reduced residual stress and any potential warpage of the finished part

Ophthalmic Cap Best Practice



To produce this ophthalmic cap, SLM Technology ensures homogeneous cooling conditions among the 16 cavities close to the gate point (higher thickness 2.2). Precision and dimensional accuracy are guaranteed.

SUPERIOR VESTIGE QUALITY

- Nozzle tips equipped with an **extended land** for an optimal conditioning. This solution, specifically used for beauty & personal care, holds the injection point inside the cap enhancing part quality.
- Dedicated systems with long nozzles for **reverse injection** equipped with a specific unscrewing mechanism.

IMPECCABLE PARTS EVEN WITH SPECIAL MATERIALS

Hot runner systems engineered for high-performance processing capabilities even with **special polymers** such as **transparent or glittered** materials.

Vf nozzle series

Glittered Flip Top Best Practice

For the production of this flip top, using a 4+4 drop hot runner system avoids any flow lines despite the use of glittered material.

The excellent vestige quality is ensured even with free flow tip.

Committed to a Green Future

Sustainability is a prominent element of engineering modern caps and closures. We provide hot runner solutions to:

- Process post-consumer resins (PCR) and biopolymers
- Reduce part weight without compromising product integrity
- Maximize production efficiency and minimize scrap

Eco-friendly applications

Due to the high thermal and shear sensitivity of bio-based and biodegradable polymers, the main challenges with these materials are eliminating the risk of material degradation and the shortening of the cycle time by yielding a good gate quality.

The optimal solution is a balanced hot runner system characterized by a proper gate configuration, correct channel dimension and uniform thermal profile.

Customer Support

Our team will provide you with **complete support**, from the rheological analysis and design phase to try-out and maintenance. For special applications we can define the optimal system configuration and predict part quality through advanced hot runner systems available in our **Test Lab**.

Plastic samples according to the weight, thickness and geometry of your application can be delivered for a preliminary analysis.

EQUIPMENT AT YOUR DISPOSAL

- Demo tools available to try your most challenging polymers
- Injection Molding Machines from 50 to 300 tons
- Full range of nozzles and flow types based on your specific application

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