

**oerlikon**

hrsflow

# Hot Runner Solutions for Technical Applications

**HIGH STRUCTURAL PERFORMANCE,  
OUTSTANDING PROCESS REPEATABILITY.**



# TECHflow HRS:

the dedicated line for  
high performance industries.

Our TECHflow HRS line is specifically designed to process **challenging techno-polymers**, with mechanically or chemically abrasive fillers, tight process window and high molding temperatures.

Engineered with advanced PVD coatings and stainless steel components for maximum corrosion resistance, it features a specialized heater configuration ensuring superior thermal uniformity across the manifolds.

## **Need precision for compact components?**

Our nozzle range delivers exceptional accuracy, even for small parts and hard-to-reach gate locations.

## **KEY BENEFITS**

- Wide process window and easy restart capabilities
- Great wear and corrosion resistance
- Maximum process repeatability
- Superior surface quality and optimal gate finish
- Structural performance of the molded part



# Technical innovations:



## 1. Valve gate end rings for enhanced wear resistance

Our TECHflow HRS line is equipped with dedicated solutions to process challenging polymers like **PA6, PA66, PBT, POM, PPA, PPS and PEEK**. These polymers are widely used in technical components such as gears and structural parts for the automotive, electronics, domestic appliance, and other industries.

### END RINGS: MAIN BENEFITS

- Enhanced wear resistance of the hot runner components
- Lower material degradation risk thanks to an optimized process window
- Greater flexibility in the injection point seat owing to the end ring's small diameter

## TAKING A CLOSER LOOK AT THE TWO TECHNOLOGIES:

### External End Ring

for the Tp/Vp nozzle series allows for efficient handling of engineering materials by enabling easy restarting at low temperature, balanced filling of the cavities. It is ideal for applications demanding high structural property of the part with aesthetic quality at the injection point.



External End Ring

**Through-the-Cavity End Ring (TTC)** for the Tp/Vp nozzle series features special geometry that ensures a uniform temperature near the gate, providing an excellent process window, good restarts at lower temperatures. Its reduced end ring diameter - 4 or 5 mm depending on the nozzle series - allows for greater flexibility in the injection point seat and simplifies manufacturing and maintenance operations. This design results in faster setup times and improves overall productivity.



TTC End Ring: reduced end ring diameter of 4 mm or 5 mm, based on the nozzle series



PBT

PEEK

## 2. Precision for hard-to-reach gate locations with **Up nozzle series**

Designed for tight-space applications with low shot weights, the Up nozzle series enables direct gating in areas with limited access. Suitable for processing demanding technical polymers, including **PA** and **PBT**.

### **KEY BENEFITS**

- Compact 15 mm gate-to-gate pitch
- Optimized for hard-to-reach gating areas
- Exceptional performance with low-weight parts
- Successfully used in electronic parts to eliminate the cold runner in most applications



Compact cut-out of Ø12mm

# Experience the results of our technology firsthand.

## Case study: Cable Holder

High structural performance, outstanding process repeatability.

### HOT RUNNER SYSTEM FEATURES

Molded Material	PA66 + 30%GF
Cavities N°	16
Injection Type	Torpedo
System Type	16 drops system Sa series

### PART DESCRIPTION

Sector	Automotive underhood
Molded Part	Cable Holder
Part Weight	1.2 g
Part Thickness	2 mm



### HIGHLIGHTS

- Geometrically balanced filling
- A dedicated solution from the TECHflow HRS line processes PA66+30% GF
- Wide process window and easy restart capabilities
- Optimal wear and corrosion resistance to flame retardant additives
- Excellent dimensional stability and high structural performance of the part

# Case study: Gear

Optimal system balance for challenging low shot weights.

---

## HOT RUNNER SYSTEM FEATURES

---

Molded Material	PBT+20% Glass Bead
Cavities N°	8
Injection Type	Torpedo
System Type	8 drops system Sp series

---

---

## PART DESCRIPTION

---

Sector	Technical & Electronics
Molded Part	Gear
Part Weight	1 g
Part Thickness	1.5 mm

---



## HIGHLIGHTS

- Achieving optimal system balance for handling challenging low shot weights
- Specific solution from TECHflow HRS line designed to process PBT with reinforced material
- High process repeatability

# Customer Support

Our team provides 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.

## TEST - LAB EQUIPMENT AT YOUR DISPOSAL

- Prototype tools available to try your most challenging polymers
- Full range of nozzles and flow types based on your specific application
- Injection Molding Machines from 170 to 300 tons



### Oerlikon HRSflow Italy

Production Plant  
Headquarter  
Via Piave, 4 - San Polo di Piave  
31020 Treviso  
Phone +39 0422 750 111  
[info.hrsflow@oerlikon.com](mailto:info.hrsflow@oerlikon.com)

### Oerlikon HRSflow China

Production Plant  
INglass Tooling & Hot Runner  
Manufacturing (China) Co. Ltd  
No. 385, Road No. 18, Xiasha,  
Hangzhou Econ. & Tech. Devel. Area  
Zhejiang 310018  
Phone +86 571 86686900  
[china.hrsflow@oerlikon.com](mailto:china.hrsflow@oerlikon.com)

### Oerlikon HRSflow USA

Production Plant  
Oerlikon HRSflow USA, LLC  
920 74th Street - 49315 Byron  
Center, MI  
Phone +1 616 228 6900  
[usa.hrsflow@oerlikon.com](mailto:usa.hrsflow@oerlikon.com)

