

# STARgate HRS®

**Neue Wege in der Heißkanaltechnik ergänzen  
bewährte Technologien**

March 2025

Our newest product shows a **RADICAL CHANGE**

**ærlikon**  
hrsflow



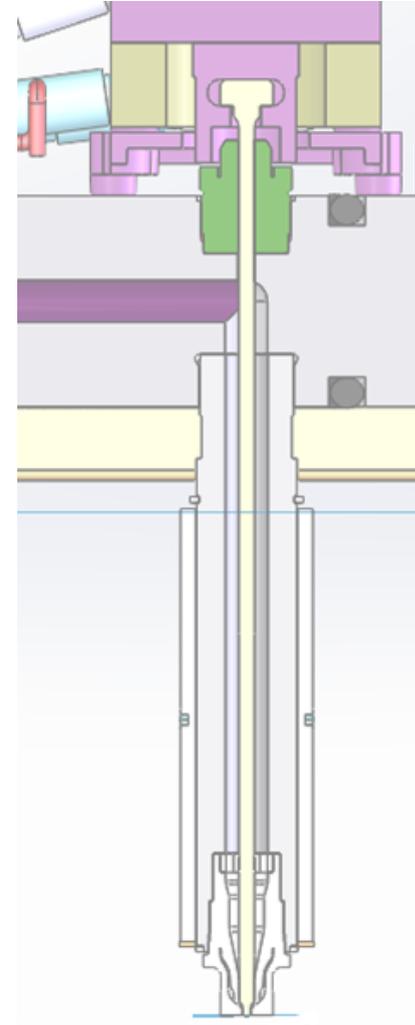
**STARgate HRS**

It was always in front of us.  
We just had to see it differently.  
New eyes. Same world.  
**Radical change.**

**PATENTED**  
**PATENTED**  
**PATENTED**

Radical because ... there is no needle!

# STARgate HRS® ... pin-less, fast, revolutionary





The radical change in the actuator's position enables a space-saving design.

Its pin-less configuration allows for a smaller nozzle size and mold pocket compared to standard valve gate systems.

**STANDARD**  
Valve Gate Solution

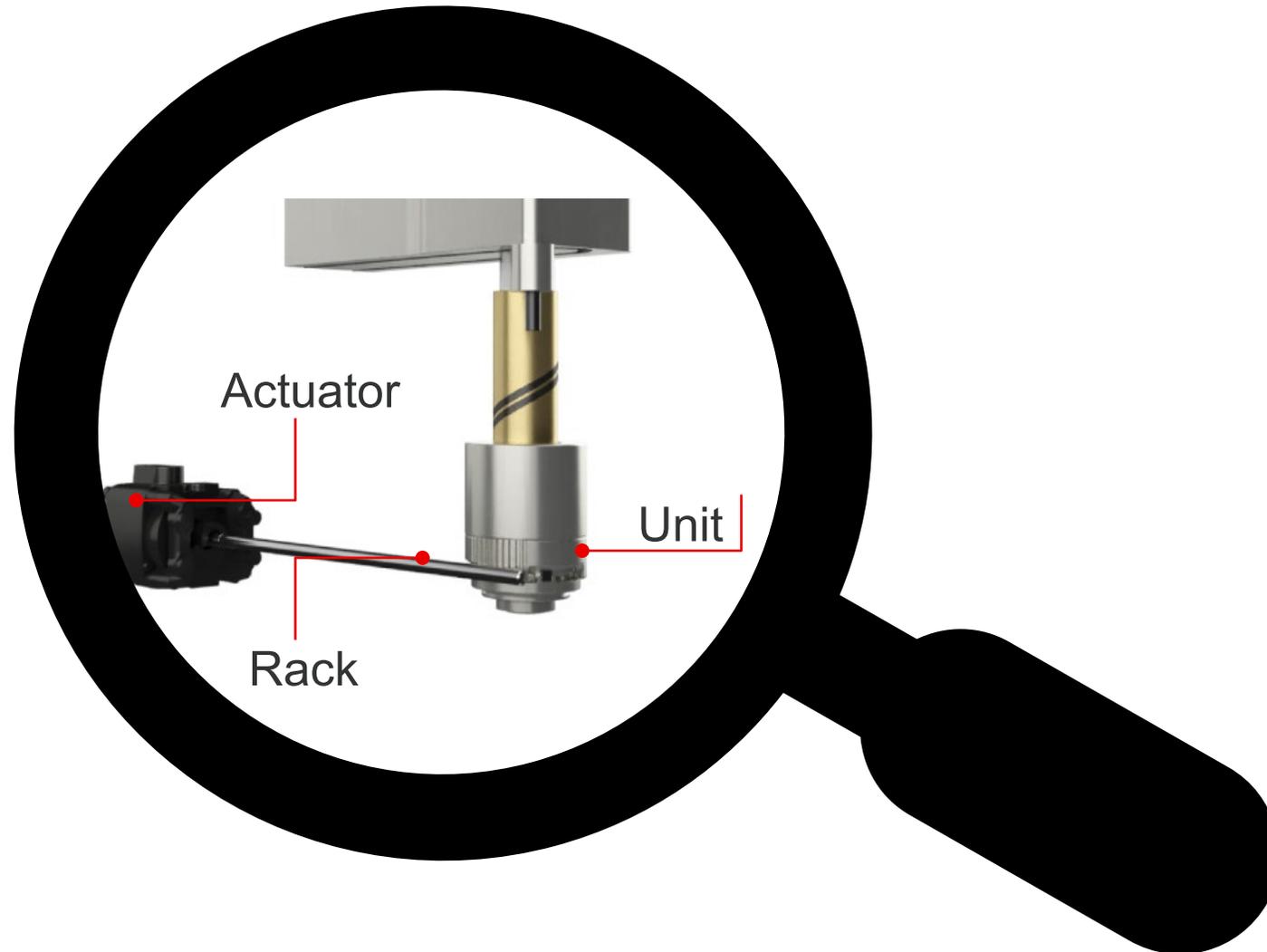


**STARgate HRS®**



Fig.2 Actuator's position change

# Benefits of STARgate HRS® technology: Compact solution





The valve gate's position changes radically, paving the way for a pin-less design.

This ensures smoother plastic flow at a consistent melt speed, enabling faster color changes.

**STANDARD**  
Valve Gate Solution



**STARgate HRS®**





- Significant reduction of cycle time thanks to the optimum cooling performance of the new closure technology
- Pin-less design ensures smoother plastic flow at a consistent melt speed, enabling faster color changes
- Optimized circular flow minimizes pressure loss for more efficient injection
- Quick color changes
- Minimized plastic waste
- Smaller nozzle size and mold pocket made possible by the innovative pin-less configuration
- Simplified maintenance with easy-to-replace gate inserts
- Energy saving design with external actuator. No cooling required.

**STANDARD**  
Valve Gate Solution

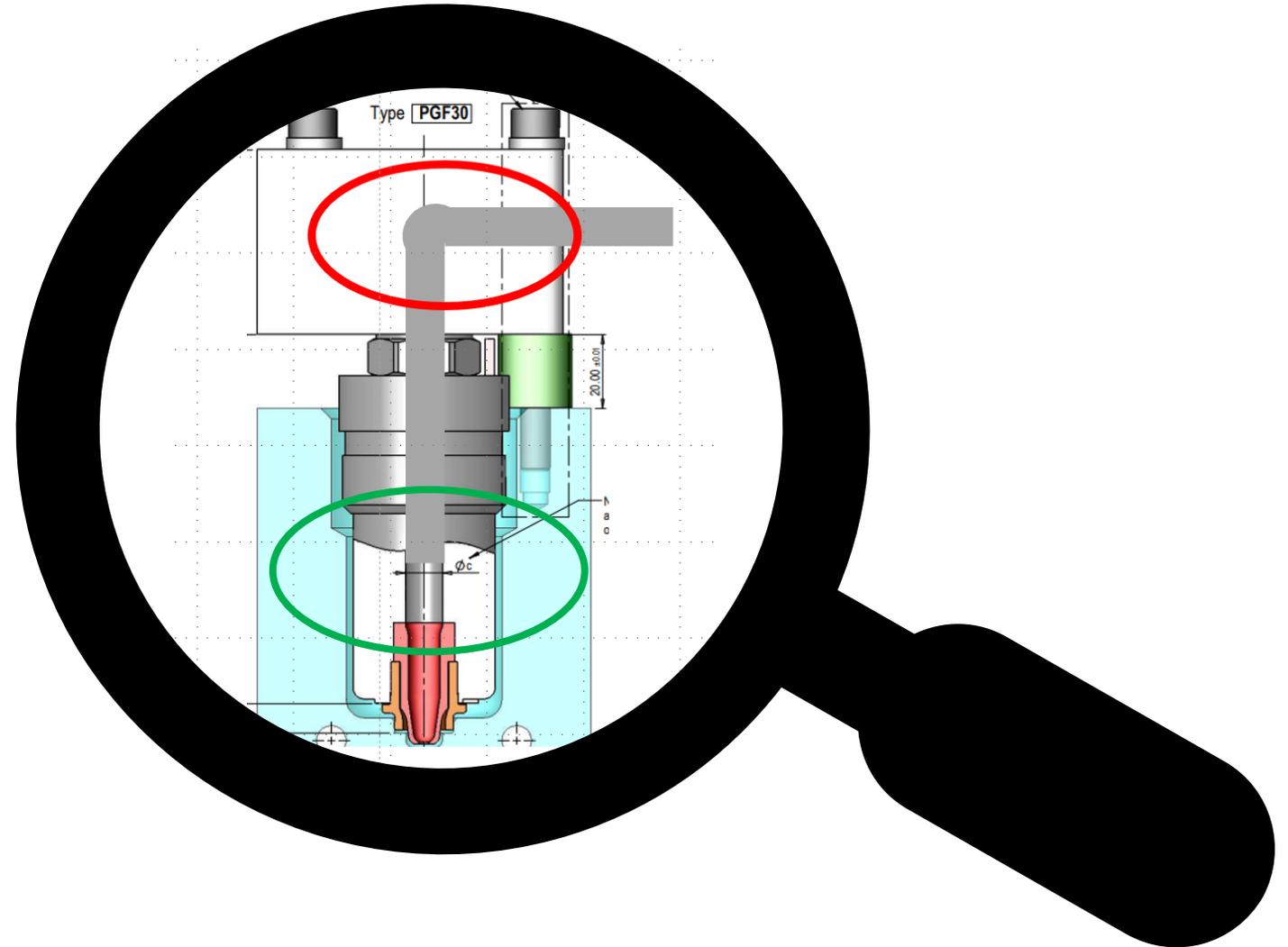


**STARgate HRS®**



## Benefits of STARgate HRS® technology: Pin-less design

- Smoother material flow (red marked)
- Lower pressure lost in the hot runner system
- Higher shot volume per nozzle (green marked)
- Easier maintenance

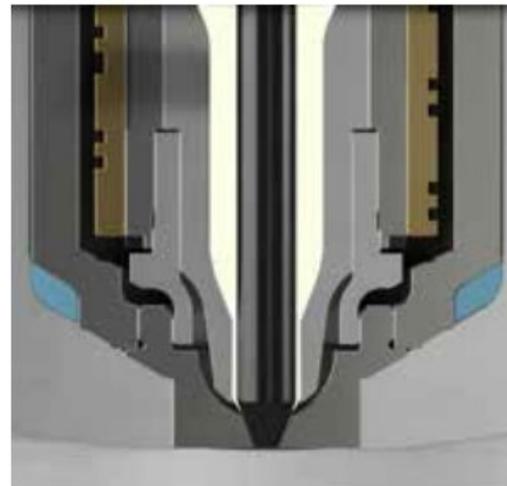


# Benefits of STARgate HRS® technology: Optimal cooling performance

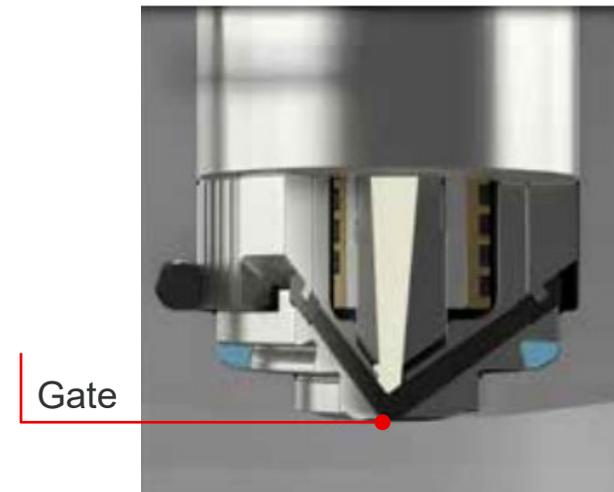


- Integrated cooling insert
- No heated valve pin
- Gate diameter from 3.1 mm up to 4.1 mm

**STANDARD**  
Valve Gate Solution



**STARgate HRS®**

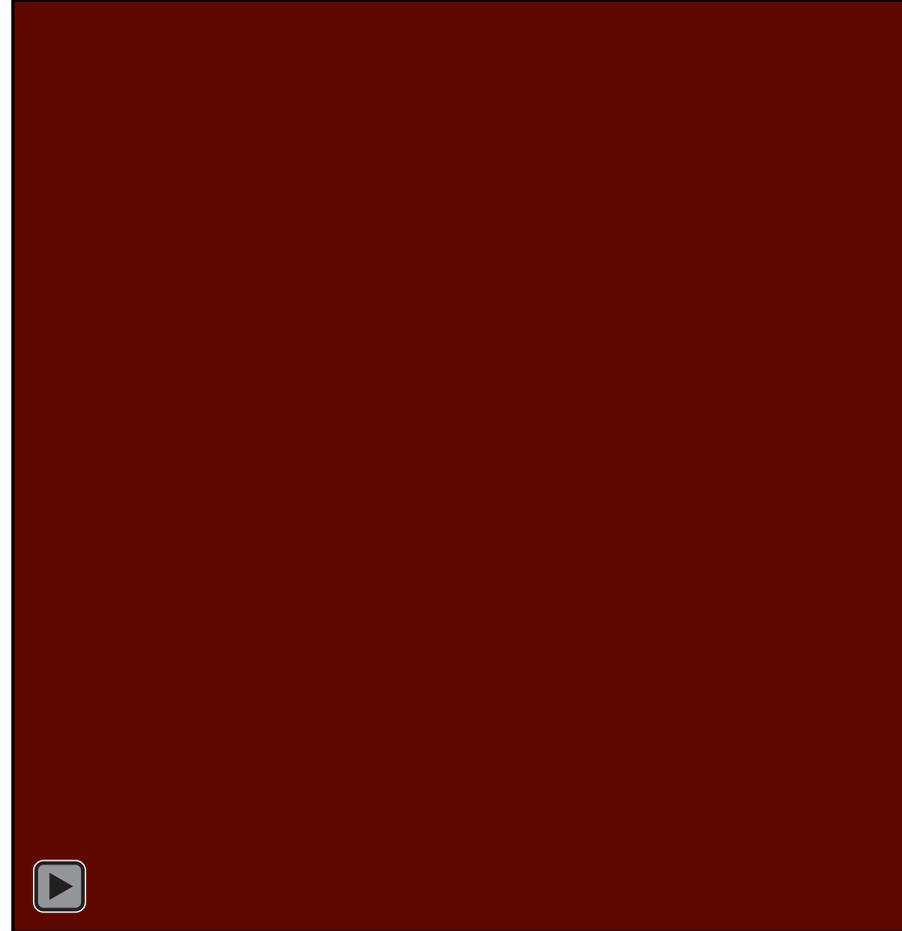


# STARgate HRS®



*Function*

# STARgate HRS® technology: Function (video)

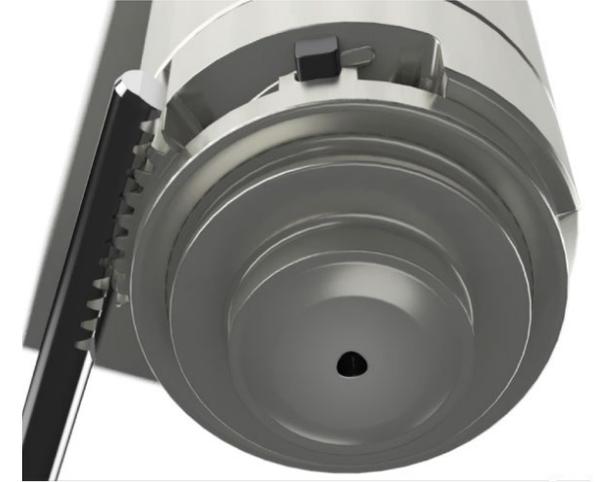
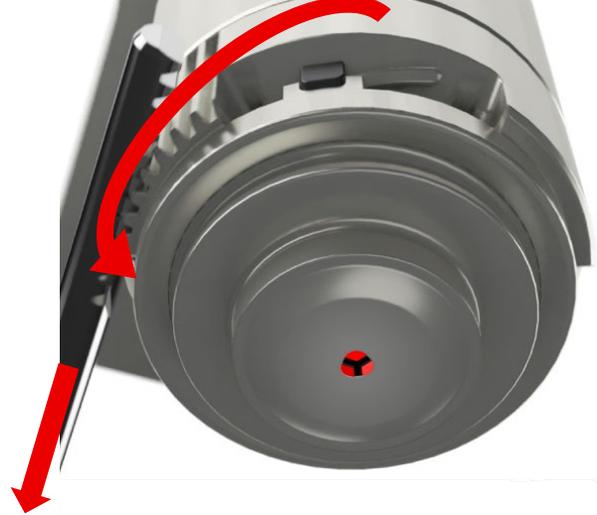


# STARgate HRS® technology: Function (pictures)

FULL CLOSE

OPENING

FULL OPEN



# STARgate HRS®



## *Case study*



## Part description:

Application:	Bucket
Sector:	Thin wall packaging
Part dimensions:	6.6 l
Part weight:	200 g
Part wall thickness:	1.1 mm
Cycle time:	6.2 s



## Hot runner system features

Molding material:	PP (post-consumer recycled, MFR40)
No. of cavities:	2
System type:	STARgate HRS® - 2 drops, M nozzle series



## Results of the project

(live seen at K show 2025 in Düsseldorf at the stand of IMM producer BMB/Italy)

- Significant cycle time reduction
- Pin-less design
- Space saving solution
- Lower pressure loss
- Faster color change

# STARgate HRS®



## *Status Quo*



- R&D and test phase is finished
- Start of production and delivery: April 2026
- Market requirements are determined in discussions with customers (sizes, applications, materials, ...)

# THANKS!

*Andre de Vries*

**[Andre.deVries@oerlikon.com](mailto:Andre.deVries@oerlikon.com)**