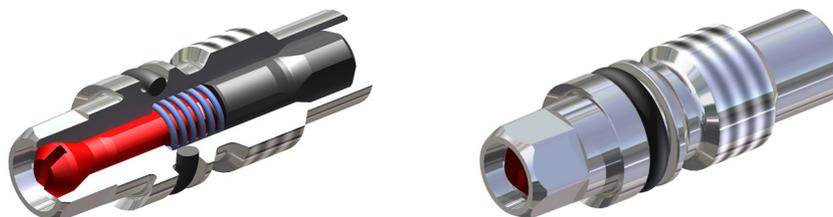


## Mold-Injectors for Gas Assisted Injection Molding (GAIM)

Type GKR for back-gassing through the injector

Type GK without back-gassing



### Applications:

In the mold, directly at the cavity

### Characteristics:

- Conical sealing injector based on the non-return / check valve principle
- With or without back-gassing
- Gassing with maximum flow rate

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## Technical description

### Gas injection technology

With gas injection technology, gas is injected into the plastic melt usually at the end of the injection process. The injected gas displaces the melt depending on the injector's location.

**Short shot**, cavity is partially filled with plastic melt. The plastic melt is pressed against the mold wall with the injected fluid.

**Full shot**, entire cavity is filled with plastic melt. The injected fluid forces the melt into an adjoining cavity.

**Full shot back pressure procedure**, entire cavity is filled with plastic melt. The injected fluid forces the melt through the sprue bushing back into cylinder vestibule.

### Advantages

- Cycle time reduction
- Contact force reduction
- Increased part rigidity
- Weight reduction
- Remove part distortion
- Improved surface quality
- Eliminate sunken areas



## Design and function of the injector

One or more injectors are installed directly in the mold, depending on the size and geometry of the molded part as well as the viscosity of the melt.

The regulated gas, usually nitrogen, is fed through bores in the mold to the injector and through this into the molded part. The back-gassing or gas pressure release goes through the same injector (type GKR) back to the gas feed.

The gassing of the cavity is only possible when the gas injection pressure is higher than the opposing pressure in the cavity. The gas injection pressure moves the pin which opens the injector completely, allowing for high volumes to be achieved. The back-gassing goes through cross-shaped surfaces on the sealing area of the pin. The gap is large enough to allow the gas to flow through, but small enough to prevent the melt from seeping in.

Maintenance of the injector can be carried out simply and quickly when the mold is open.

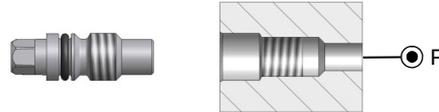
## Advantages of Herzog injectors

- Small dimensions
- Back-gassing (gas pressure release) with type GKR
- Ensures high process stability
- Self cleaning function
- Low maintenance
- Assembly / disassembly at the mold interface level
- Operating temperature range: -30°C to 180°C

## Installation variation

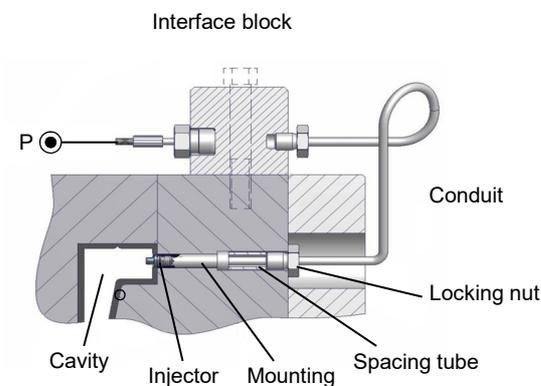
### Installed directly in the mold

The injector opening is directly in the mold.  
Gassing occurs by means of drill holes in the mold plate.

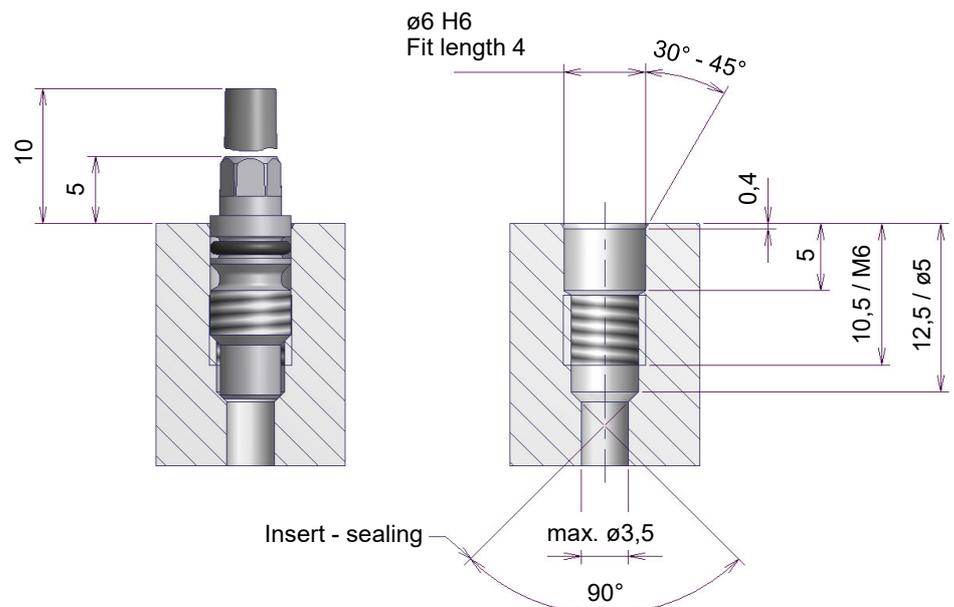


### Using a mounting and conduit

The injector opening is in a mounting which is allowed into the mold.  
A conduit runs from the injector mounting through the mold to the interface block.



## Injector bore dimensions



### Upgrading from GB to GK(R) type injectors

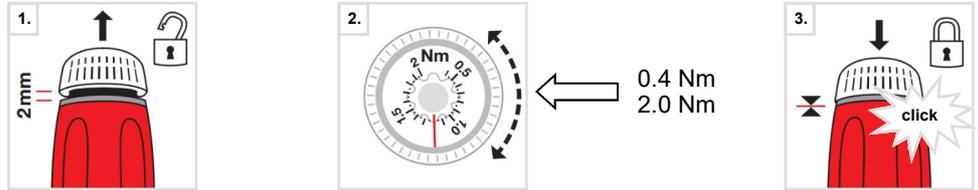
Existing GB injector bore may need to be re-worked according to the above drawing in order to fit the GK(R) injector correctly. Please pay special attention to the bevelled edge and the insert sealing.

## GK & GKR service set instructions



Detailed instructions in installation and servicing manual: **Mold injector for Gas Injection Technology (GIT) - Instructions - Service Set.** See [www.herzog-ag.com](http://www.herzog-ag.com)

## Torque wrench adjusting

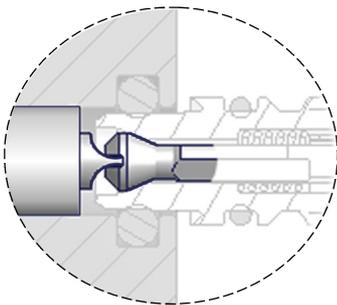


## Install / remove injector

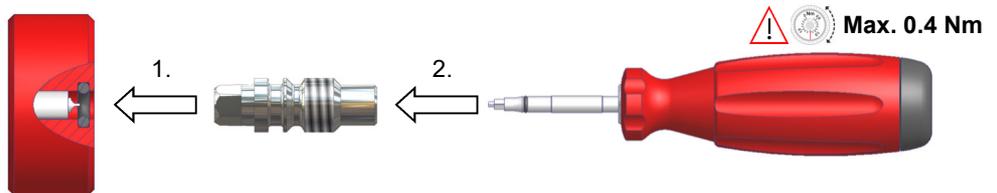
Clockwise = tighten  
Anticlockwise = loosen



## Assembly / disassembly

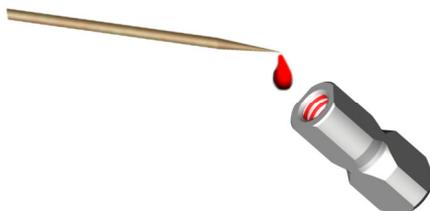


**Attention!**  
Counter tool must be fully inserted into the pin slit.  
Heat the injector to approx. 80°C to make loosening easier.



## Screw retention (glueing)

1. Clean and degrease pin and thread
2. Apply only little glue (using a toothpick) to insert thread
3. Assembly injector. Excess glue collects inside the insert. **Attention!** Glue must not run into the injector
4. Drying time: 6 hours
5. When disassembling: Heat the injector to approx. 80°C to make loosening easier



Apply only little glue to thread!

## Cleaning the injector casing



Dimension sheet for enquiry	or order	GIT mold injector GK & GKR
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Company:
Street:
City / Zip:
Land:

Contact person:
Tel.:
Fax:
E-Mail:

### Upgrading from GB to GK(R) type injectors

- Min. 10 bar gas pressure is required to overcome the spring force and open the GK(R) injector
- Gas flow rate of GK(R) must be regulated (max. throughput 12kg/h)

### Standard dimensions / Characteristics

Installation thread	<b>M6</b>
Injector opening in molded part	Ø 4.6mm
Injector length from cavity	5mm or 10mm
Back-gassing through the injector (GKR)	Standard
Operating temperature range	-30°C to 180°C

### Please indicate

Injector length from cavity in mm	<input type="checkbox"/> 5	<input type="checkbox"/> 10
<b>Without</b> back-gassing through the injector (GK)		
*Service set GK & GKR		

\* We recommend using our specially designed tool for installation and cleaning



### Note

- Technical modifications reserved
- We need additional information for requirements, which vary from our standard range e.g. drawing sample. Our customer services will be pleased to help you