



Cold runner systems
ColdFlow



6 Cold runner systems

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ColdFlow

We configure cold runner systems for processing the inorganic, two-component elastomer material LSR (liquid silicone rubber) with the same passion we have for designing and manufacturing hot runner systems. Simple construction, modular nozzle design and excellent thermal separation between the nozzle and cavity are the key features for our exceptional cold runner system solutions that we continue to refine with you in mind.



COLD HALF

4-drop valve gate

COMPLETE COLD HALF AS A STANDARD PART

GÜNTHER offers a complete cold half that can be purchased as a standard part and efficiently integrated into corresponding tools.

To ensure thermal separation between the hot cavity plate and the cold half, the contact surfaces on the nozzle parts of our nozzles are as small as possible. Moveable fixation helps compensate for thermal expansion. What's more, the flow quantity of the cooling medium offers an optimal temperature profile.

COLD RUNNER VALVE GATE NOZZLES

The GÜNTHER product portfolio offers you two kinds of cold runner nozzles. You can use the nozzles either singly or in a collection housing for tighter cavity spacing.



SYSTEM COLD RUNNER NOZZLE TYPE NKW

The NKW valve gate cold runner nozzle is used with a manifold. The nozzles can be individually tempered. Plug-in couplings enable easy mounting and dismounting of the cooling hoses. The modular system configuration ensures quick and easy cleaning.



SYSTEM COLD RUNNER NOZZLE TYPE NMW

The valve gate cold runner nozzle type NMW is also used with a manifold. Up to four nozzles can be controlled in one cooling circuit and placed close together.

COLD RUNNER MANIFOLDS

The design of the manifolds is customised. Ease of maintenance and a channel layout that gently guides the material are the primary factors in the design of the manifold systems. Balancing is based on the requirements of the respective application.

YOUR BENEFITS AT A GLANCE

- + Good thermal separation of the cold runner nozzles to the hot cavity plate
- + Moveable fixation of needle guiding elements
- + Universal applicability of all nozzles individually or in collection housing
- + Variable needle stroke to compensate for filling differences
- + Split manifold with runner design that is gentle with the material
- + Easy assembly and disassembly
- + Easy maintenance and cleaning
- + Convenient replacement of wear parts

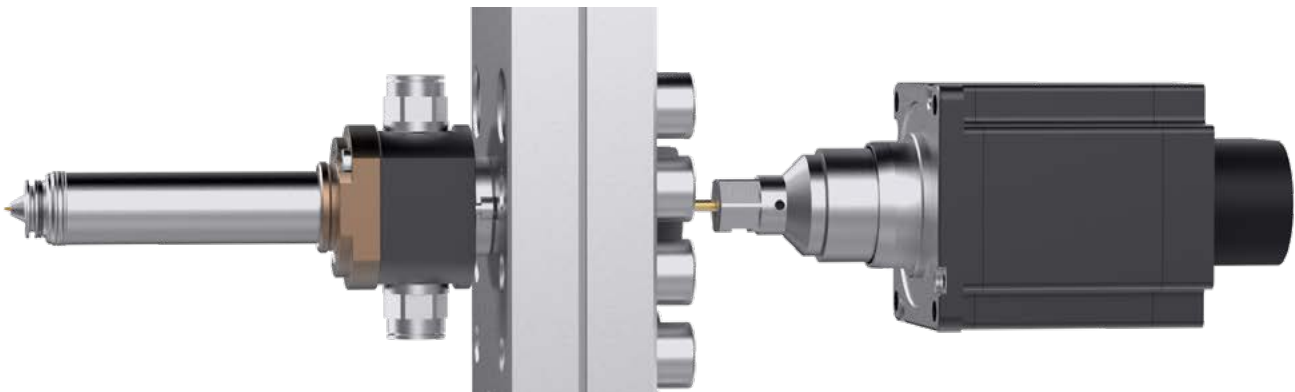


- 1** **Collection housing**
Example of arrangement on a pitch circle



Needle actuators

GÜNTHER needle actuators enable precise and intelligent needle control with simple installation and connection technology. Uniform opening of the individual valve gate nozzles enables a reliable injection process, even with the smallest shot weights.



STEPPER MOTOR TYPE SMA 10

The drive can be used for complex applications with up to four different needle positions per cycle. With the DPE control unit, up to 16 SMA 10 stepper motors can be controlled with high precision. This allows the position of each shut-off needle in the tool to be set individually. Needle adjustments can be implemented in the range of 1/100 mm.

Drive type:  electric

YOUR BENEFITS AT A GLANCE

- + Precise opening and closing
- + Reliable injection process
- + Individual cavities can be shut off
- + Optimally adjusted needle
- + Precise and intelligent needle control
- + All moving parts can be replaced by the customer
- + Saves time

Our Application Technology Consulting Service will be happy to help you find the right drive solution for your application. You can find installation dimensions for the various drive units in Chapter 3.5 Needle actuators.

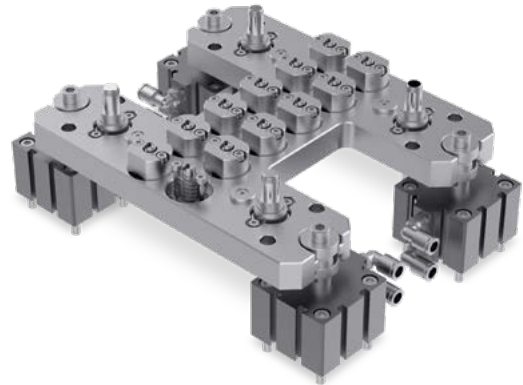
If you have any questions, please contact the Application Technology Consulting Service: Tel. +49 6451 5008-0



SINGLE-NEEDLE VALVE TYPE ENV

This type of drive unit allows movement of each needle. Cascade injection moulding is possible. The single-needle valve is mounted along with the housing in the clamping plate. The needle position can be adjusted while the tool is mounted.

Drive type:  pneumatic



STROKE MECHANISM TYPE ANEH



The exact simultaneous movement of the needles ensures a reliable injection process. The outer cylinders can be replaced without removing the tool. The needle position can also be adjusted while mounted on the machine.

Drive type:  pneumatic



SLIDING MECHANISM TYPE ANES

This drive technology enables precise and intelligent needle control with simple mounting and connection technology. The simultaneous movement of the individual valve gate nozzles ensures that the injection process is reliable even with the smallest shot weights. Sliding components are wear-resistant thanks to a special coating and can be replaced on site. The needle position can be adjusted while mounted on the machine. Many closely positioned nozzles can be controlled via a sliding mechanism.

Drive type:  electric  pneumatic



5NEW SINGLE VALVE GATE COLD RUNNER NOZZLE

The compact design of the single valve gate cold runner nozzle features easy assembly and disassembly as well as quick maintenance and cleaning. The compact pneumatic drive unit is mounted on the standard NKW system cold runner nozzle.

Drive type:  pneumatic



6.1 Single cold runner nozzles

SINGLE COLD RUNNER NOZZLES

Page



5NEW

Single valve gate cold runner nozzle ColdFlow
4.8 mm material channel diameter

20



5DEW

Open single cold runner nozzle ColdFlow
4.8 mm material channel diameter

30



Single valve gate cold runner nozzle type 5NEW

Cold runner nozzle for valve gate applications

TECHNICAL DATA

5NEW

Material channel Ød 4.8 mm

Gate point Ød 0.4/0.6/0.8/1.0 mm

Nominal length of the nozzle (L) in mm

50 | 80



Contact us for further nozzle lengths!

■ available

NOTES

A cooling circuit can supply up to four nozzles connected in series with a cooling medium.

The following parts are included in the scope of delivery:

- Plug-in cooling connectors
- 4 PTFE connection hoses (1 m), flexible
Internal Ø 6 mm
External Ø 8 mm
min. bending radius R40

For replacement purposes:

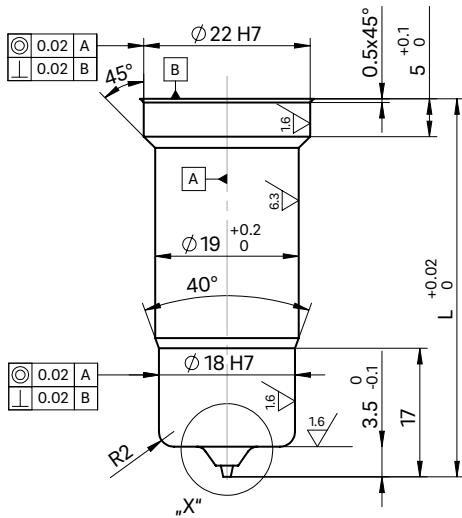
Order designation	Contents
80.774	Seal set
Z62/14 × 0.8/7.2	Plate spring



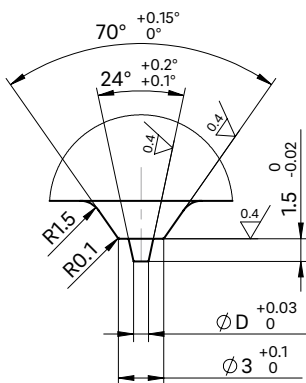
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61010



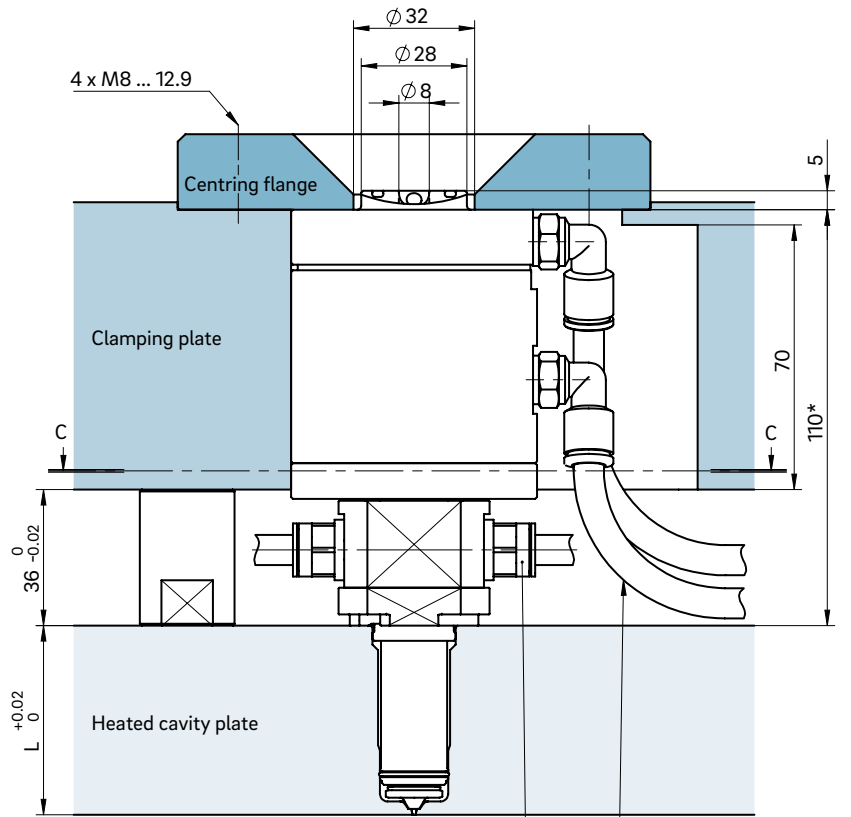
Prechamber design
Nozzle with needle guide



Detail X



INSTALLATION

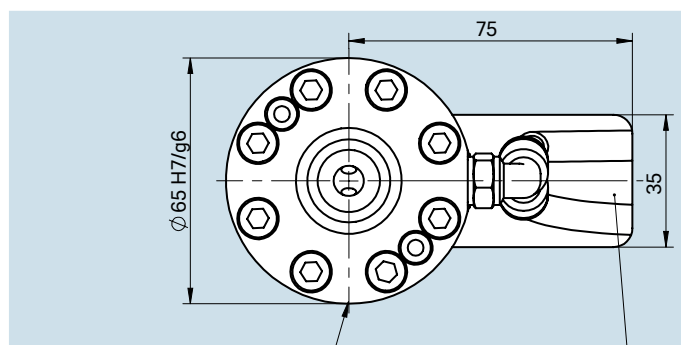


* The nozzle must be installed with a pretension of +0.02 mm to +0.03 mm.

Plug-in cooling connector

min. bending radius R40

Cross section C-C: recess for nozzle head and connection hoses



Mechanics are in circumferential contact with the cooled clamping plate

Recess for pneumatics
Attention: Observe bending radius!



Single cold runner nozzle type 5DEW

Cold runner nozzle for direct injection

TECHNICAL DATA

5DEW

Material channel Ød 4.8 mm

Gate point Ød 0.4/0.6/0.8/1.0 mm

Nominal length of the nozzle (L) in mm

50 | 80



Contact us for further nozzle lengths!

■ available

NOTES

A cooling circuit can supply up to four nozzles connected in series with a cooling medium.

The following parts are included in the scope of delivery:

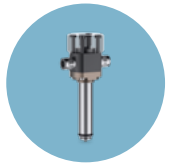
- Plug-in cooling connectors
- 2 PTFE connection hoses (1 m), flexible
 - Internal Ø 6 mm
 - External Ø 8 mm
 - min. bending radius R40

For replacement purposes:

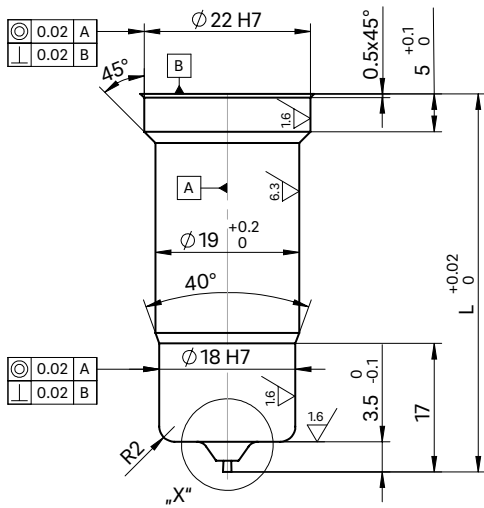
Order designation	Contents
80.774	Seal set
Z62/14 × 0.8/7.2	Plate spring



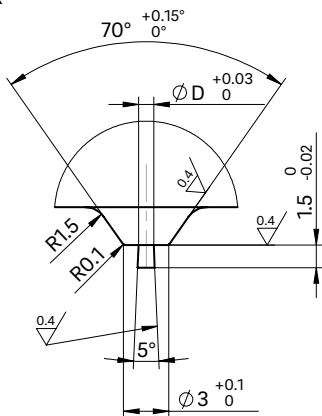
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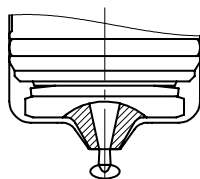
Prechamber design
Open nozzle



Detail X

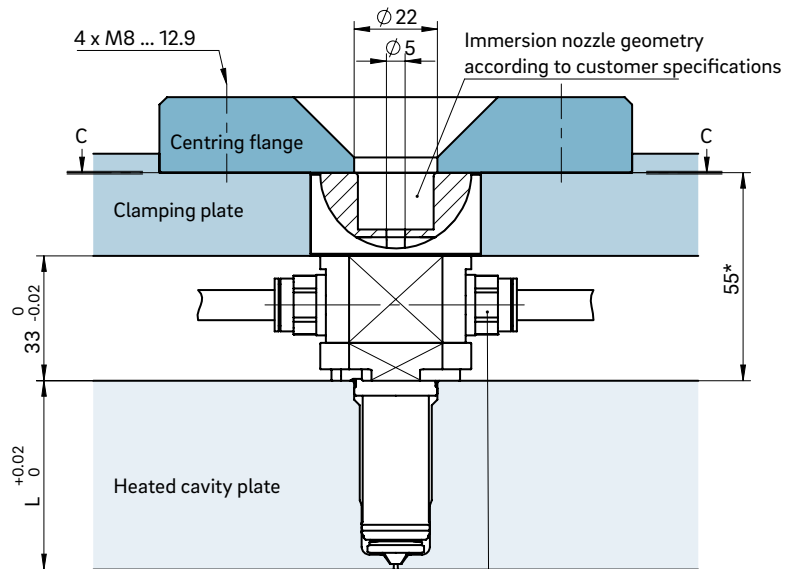


Design of the gate point for open cold runner systems



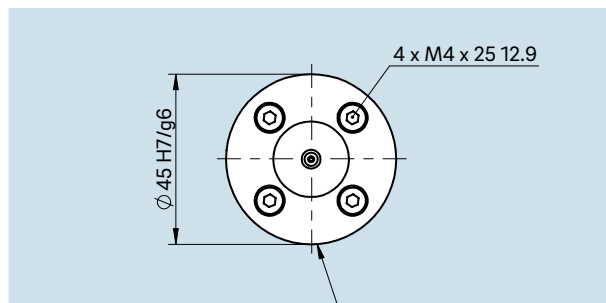
- Cylindrical section in gate point area
- Gate cone in mould insert opened conically in draft direction
- Plug catcher required
- Observe outline height

INSTALLATION



* The nozzle must be installed with a pretension of +0.02 mm to +0.03 mm.

Cross section C-C: recess for nozzle head



Adapter are in circumferential contact with the cooled clamping plate



6.2 System cold runner nozzles

SYSTEM COLD RUNNER NOZZLES

Page



5NKW

System cold runner nozzle ColdFlow
4.8 mm material channel diameter

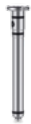
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8NKW

System cold runner nozzle ColdFlow
7.5 mm material channel diameter

30



3NMW

System cold runner nozzle ColdFlow
2.8 mm material channel diameter

40



5NMW

System cold runner nozzle ColdFlow
4.8 mm material channel diameter

50



System cold runner nozzle type 5NKW

Cold runner nozzle for valve gate applications

TECHNICAL DATA

5NKW

Material channel Ød 4.8 mm

Gate point Ød 0.4/0.6/0.8/1.0 mm

Nominal length of the nozzle (L) in mm

50 | 80



Contact us for further nozzle lengths!

■ available

NOTES

A cooling circuit can supply up to four nozzles connected in series with a cooling medium.

The following parts are included in the scope of delivery:

- Plug-in cooling connectors
- 2 PTFE connection hoses (1 m), flexible
 - Internal Ø 6 mm
 - External Ø 8 mm
 - min. bending radius R40

For replacement purposes:

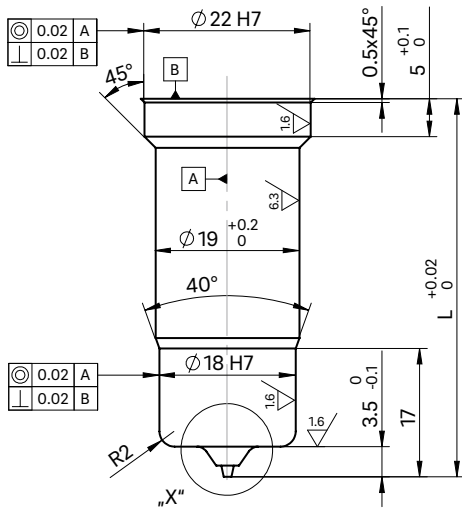
Order designation	Contents
80.774	Seal set
Z62/14 × 0.8/7.2	Plate spring



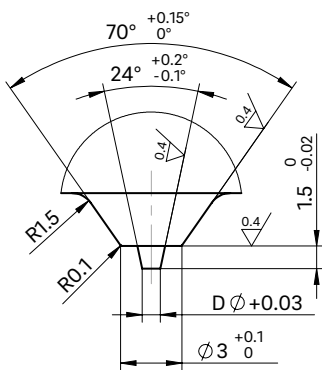
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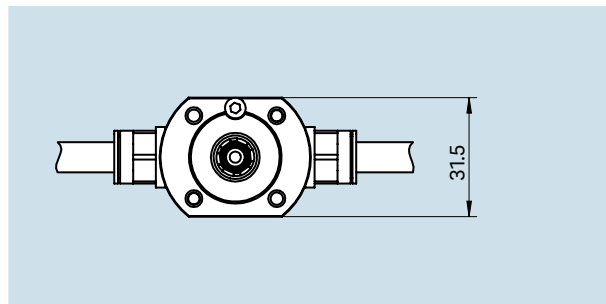
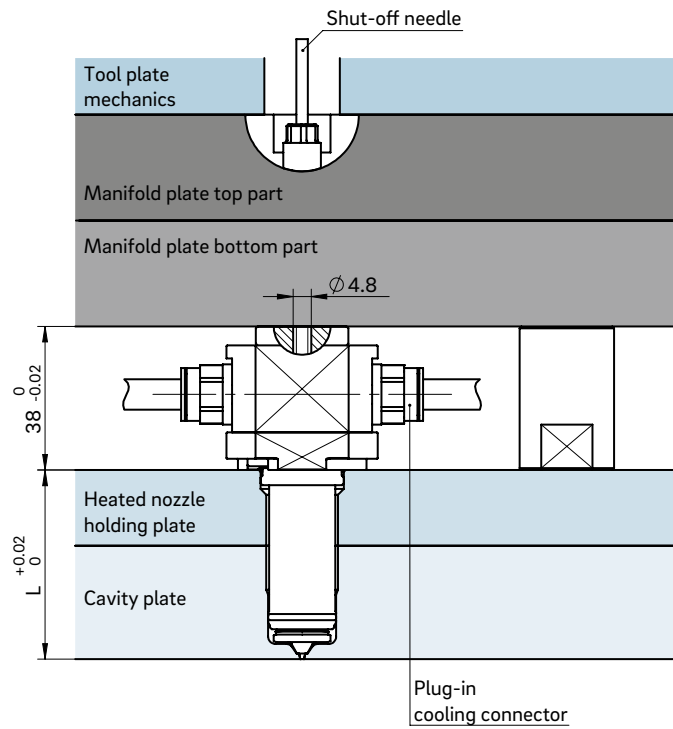
Prechamber design
Nozzle with needle guide



Detail X



INSTALLATION





System cold runner nozzle type 8NKW

Cold runner nozzle for valve gate applications

TECHNICAL DATA

8NKW

Material channel Ød 7.5 mm

Gate point Ød 0.8/1.0/1.2 mm

Nominal length of the nozzle (L) in mm

50 | 80



Contact us for further nozzle lengths!

■ available

NOTES

A cooling circuit can supply up to four nozzles connected in series with a cooling medium.

The following parts are included in the scope of delivery:

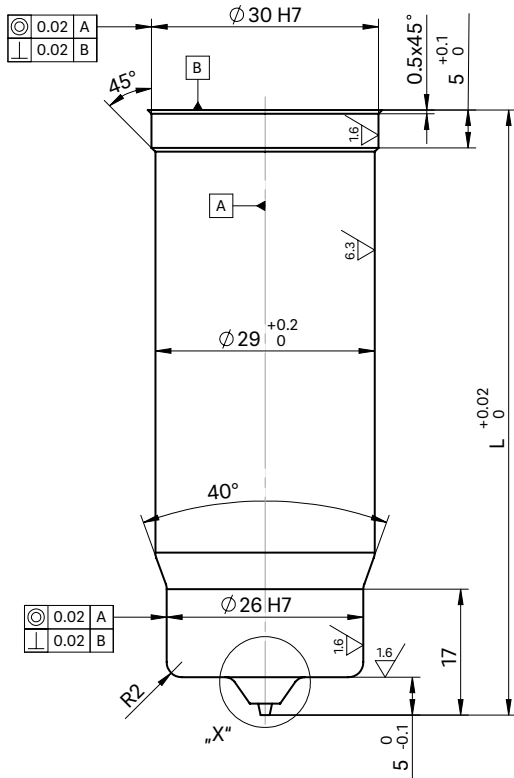
- Plug-in cooling connectors
- 2 PTFE connection hoses (1 m), flexible
 - Internal Ø 6 mm
 - External Ø 8 mm
 - min. bending radius R40



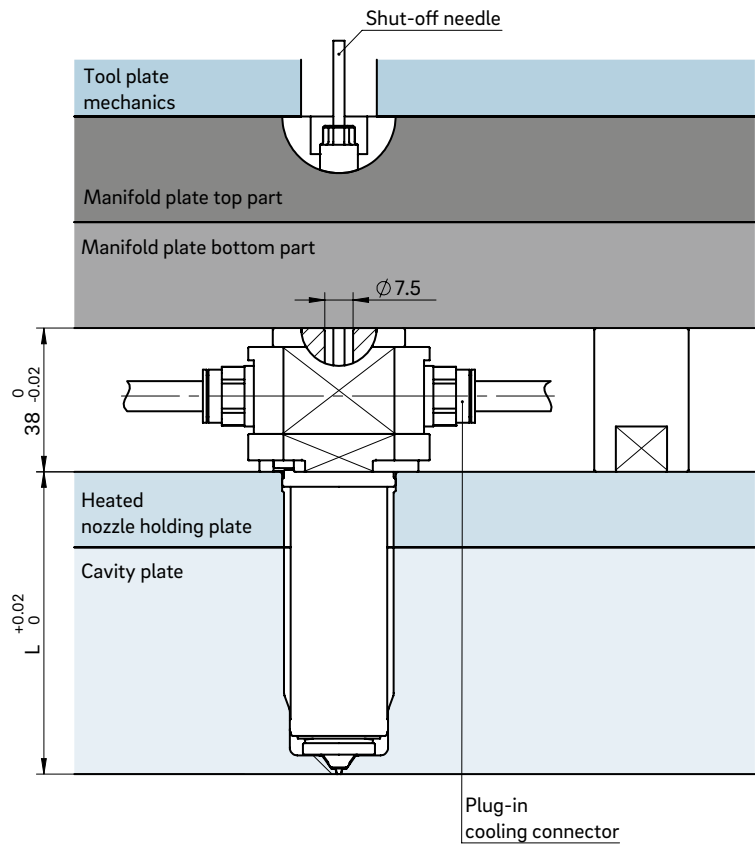
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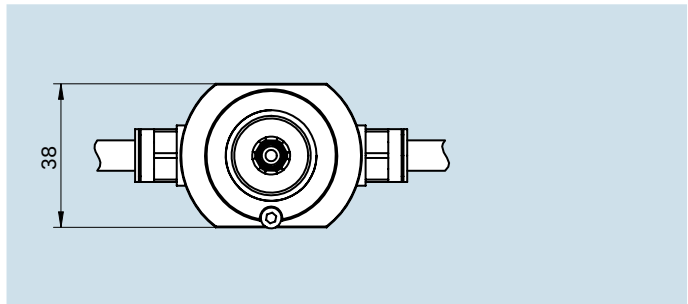
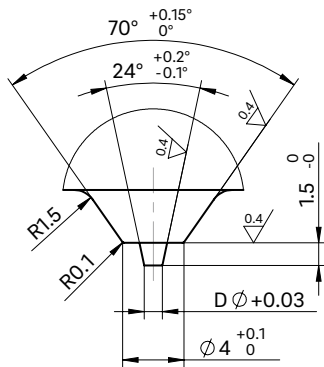
Prechamber design
Nozzle with needle guide



INSTALLATION



Detail X





System cold runner nozzle type 3NMW

Cold runner nozzle for valve gate applications

TECHNICAL DATA

3NMW

Material channel Ød 2.8 mm

Gate point Ød 0.4 / 0.6 / 0.8 mm

Nominal length of the nozzle (L) in mm

50 | 80

Contact us for further nozzle lengths!

On request

NOTES

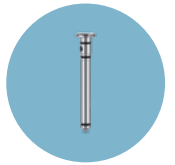
A cooling circuit can supply up to four nozzles connected in series with a cooling medium.

The following parts are included in the scope of delivery:

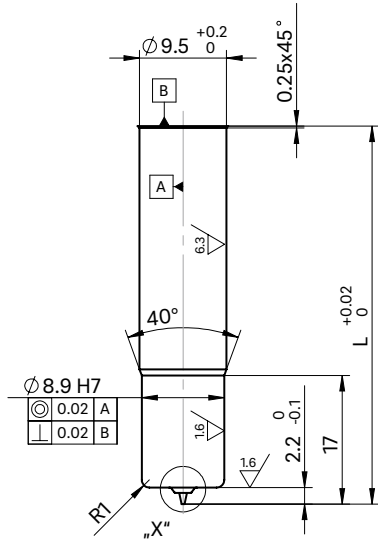
- Plug-in cooling connectors
- 2 PTFE connection hoses (1 m), flexible
 - Internal Ø 6 mm
 - External Ø 8 mm
 - min. bending radius R40



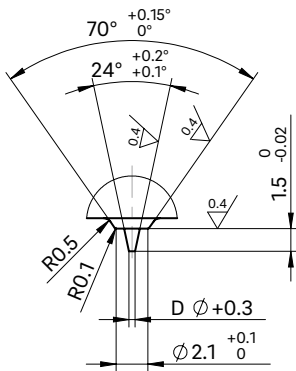
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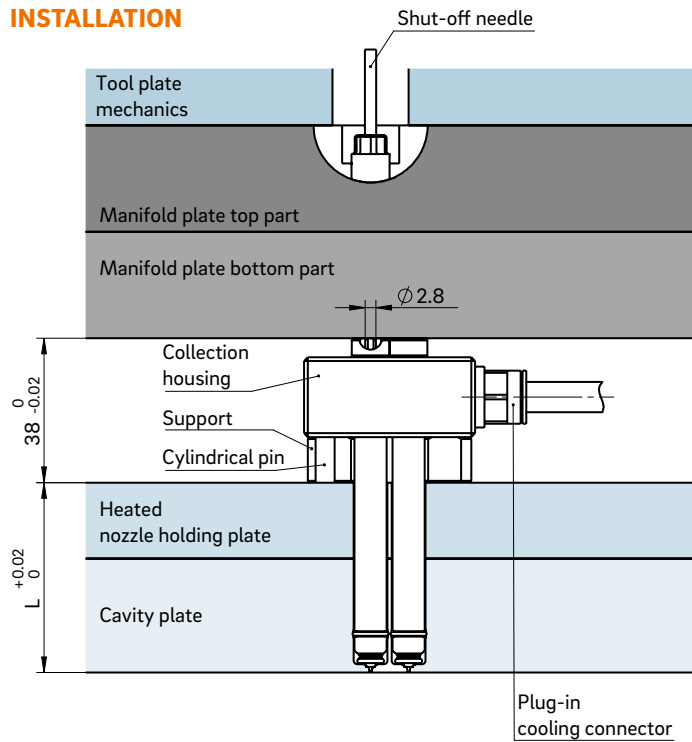
Prechamber design
Nozzle with needle guide



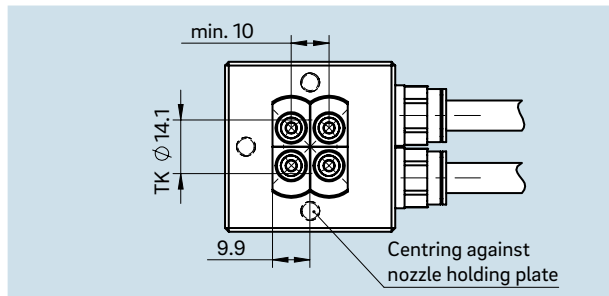
Detail X



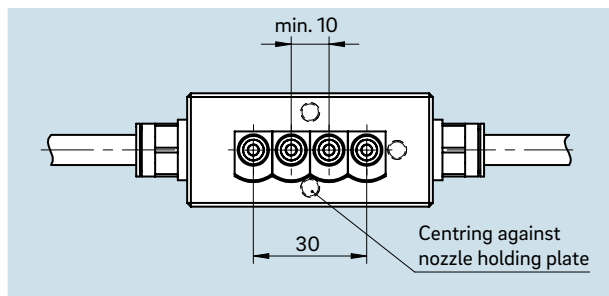
INSTALLATION



Collection housing
Example of arrangement on a pitch circle



Collection housing
Example of arrangement in series





System cold runner nozzle type 5NMW

Cold runner nozzle for valve gate applications

TECHNICAL DATA

5NMW

Material channel Ød 4.8 mm

Gate point Ød 0.4/0.6/0.8/1.0 mm

Nominal length of the nozzle (L) in mm

50 | 80



Contact us for further nozzle lengths!

■ available

NOTES

A cooling circuit can supply up to four nozzles connected in series with a cooling medium.

The following parts are included in the scope of delivery:

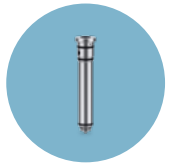
- Plug-in cooling connectors
- 2 PTFE connection hoses (1 m), flexible
 - Internal Ø 6 mm
 - External Ø 8 mm
 - min. bending radius R40

For replacement purposes:

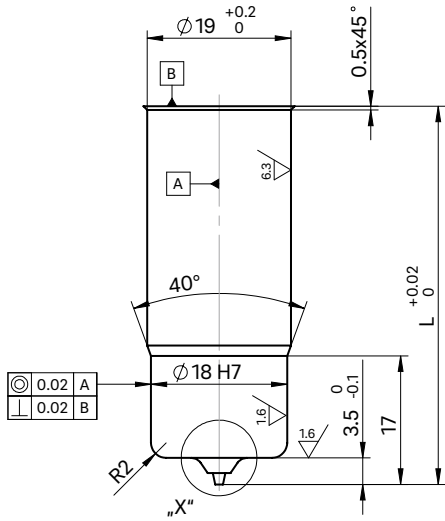
Order designation	Contents
80.774	Seal set
Z62/14 × 0.8/7.2	Plate spring



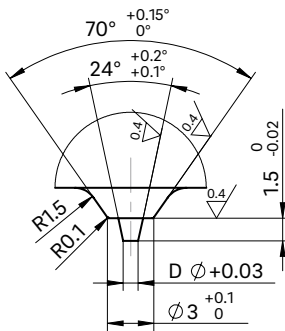
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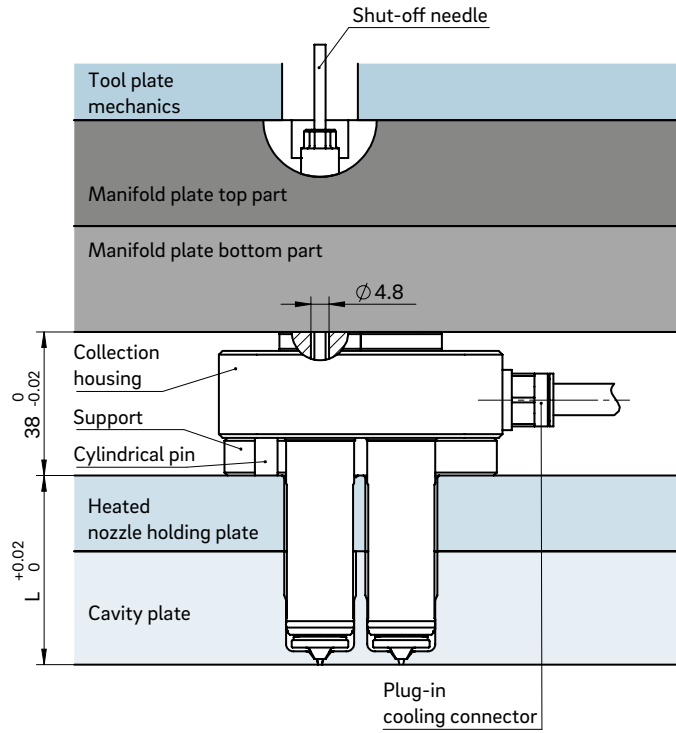
Prechamber design
Nozzle with needle guide



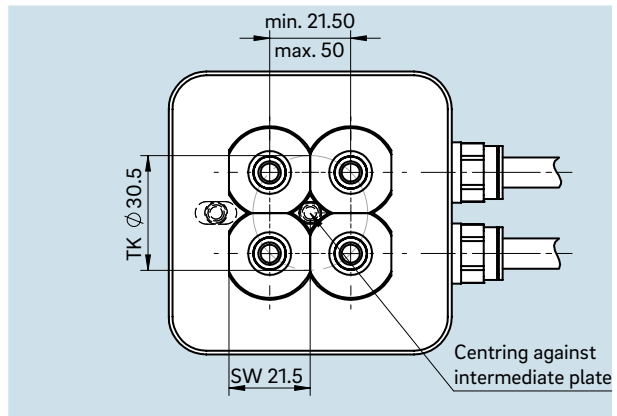
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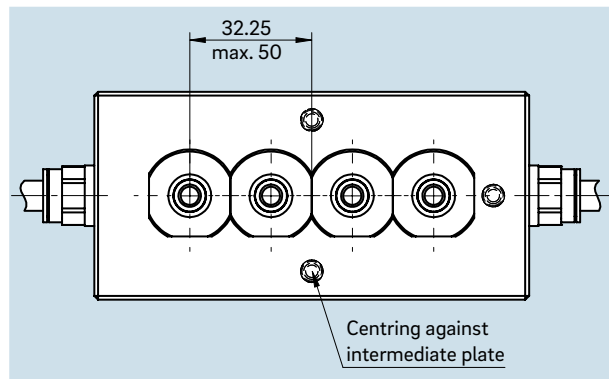
INSTALLATION



Collection housing
Example of arrangement on a pitch circle



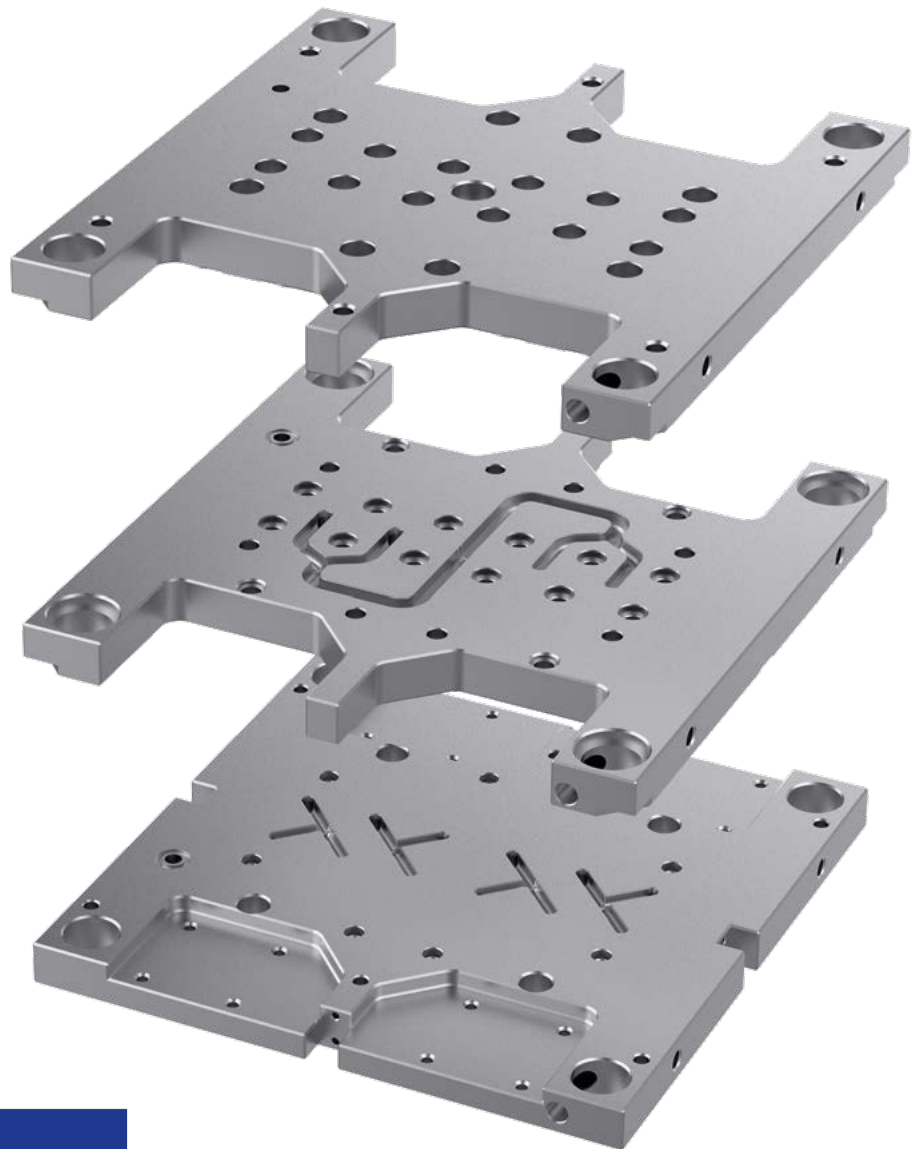
Collection housing
Example of arrangement in series





Cold runner manifolds

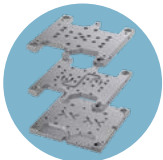
Cold runner manifolds are adapted to the individual design of the tool.



FEATURES

The manifold plates are available in all common standard sizes. Distributor balancing is based on the requirements of the respective application.

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Manifold type	Number of cavities	Balancing	Manifold type	Number of cavities	Balancing
Straight manifold	1		Cross manifold	4	
Straight manifold	2		Star manifold	3	
Straight manifold	4		Star manifold	6	
H-manifold	4		Star manifold	8	
H-manifold	8		T-manifold	2	
H-manifold	16		T-manifold	4	

For alternative numbers of cavities and balances, please contact the Application Technology Consulting Service:
 Phone +49 6451 5008 - 0



Connection element

Connection between machine nozzle and manifold

TECHNICAL DATA

AKK

Material channel Ød 8 mm

Adapter Straight (G)/Radius (R)/
Angle (W)/Immersion
nozzle (T)

**Nominal length of connection element (L)
in mm**

70	95	105	115	175	190
■	■	■	■	■	■

Contact us for further lengths!

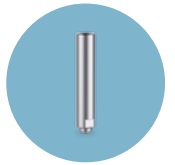
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NOTES

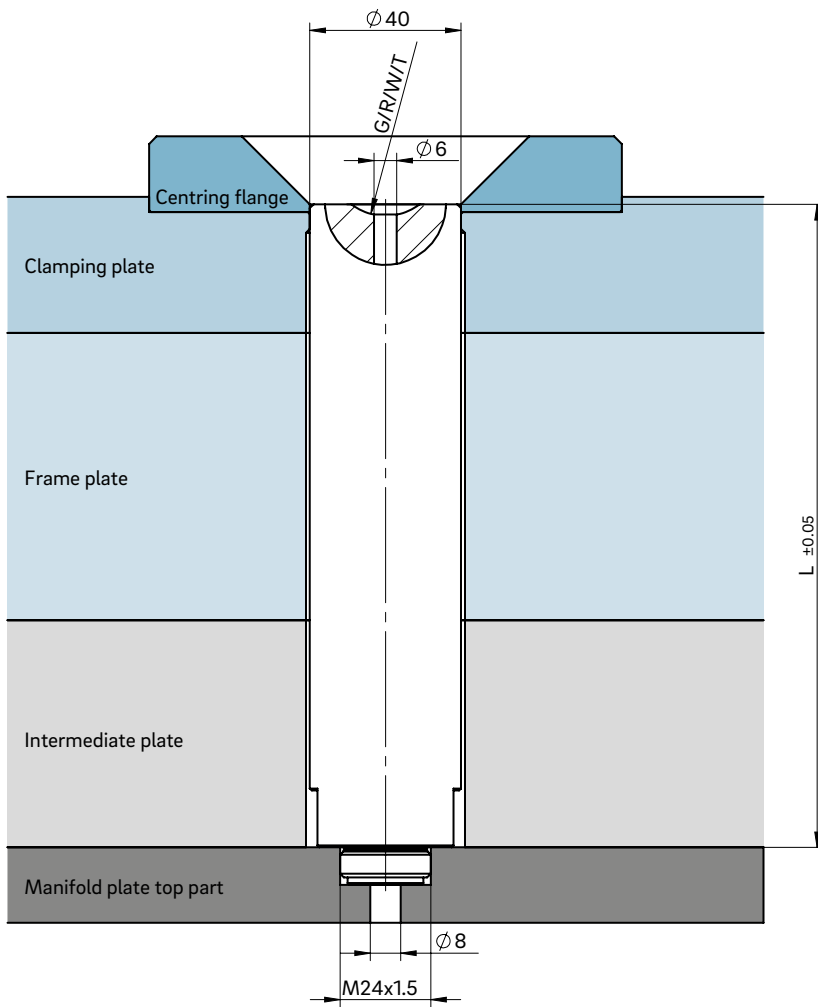
The geometry of the immersion nozzles can be integrated in the connection element according to customer specifications.



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INSTALLATION





Application examples

TECHNICAL DATA

Cold half 4-drop valve gate

Needle actuator	SMA
Drive	Stepper motor
Manifold data	NHEK4B
Nozzle type	5NKW80
Operating voltage	230 V _{AC} *

* Volt alternating current

Operating voltage only for the heated intermediate plate or nozzle holding plate, not for the nozzle.



TECHNICAL DATA

Cold half 16-drop valve gate

Needle actuator	SMA
Drive	Stepper motor
Manifold data	NHEK16B
Nozzle type	5NKW80
Operating voltage	230 V _{AC} *

* Volt alternating current

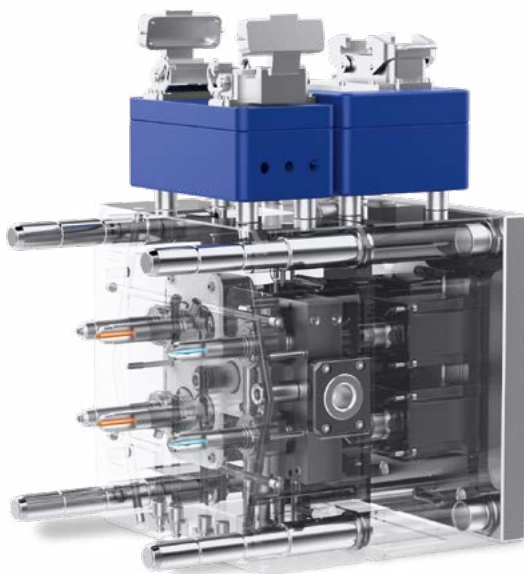
Operating voltage only for the heated intermediate plate or nozzle holding plate, not for the nozzle.



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65010



Note:
The temperature of the nozzle holding plate is controlled with water.



TECHNICAL DATA

Cold half 12-drop valve gate

Needle actuator	ANEH
Drive	Lifting plate
Manifold data	NHEK12B
Nozzle type	5NKW80

TECHNICAL DATA

Hot-cold half 6-drop valve gate

Needle actuator	SMA
Drive	Stepper motor
Manifold data	NGK2B NHCP4B
Nozzle type	5NKW80 5SHF80 5NHF80
Operating voltage	230 V _{AC} *

* Volt alternating current

Operating voltage only for the heated intermediate plate or nozzle holding plate, not for the nozzle.

NOTES

Fully assembled and wired – you always receive an installation-ready solution in proven GÜNTHER quality and at an attractive price-performance ratio.



Fax number for enquiries +49 6451 5008-59

Cold runner application information

CUSTOMER DATA

Customer No.:	Contact partner:	Final customer:
_____	_____	_____
Company:	Phone:	Deadline:
_____	_____	_____
Street and number:	Email:	Other information:
_____	_____	_____
Post code/town/city:	Date:	
_____	_____	_____

NECESSARY INFORMATION ON APPLICATION

Project name	
Article designation	
Industry	<input type="checkbox"/> Automotive <input type="checkbox"/> Electronics <input type="checkbox"/> Packaging <input type="checkbox"/> Consumer goods <input type="checkbox"/> Medical technology
Material designation (trade name/shore hardness)	
Shot weight per hot runner nozzle (g)	
Required injection time (sec.)	
Gate type (direct/indirect)	
Flow path length (mm)	
Wall thickness (mm)	
Colour change requirements	
Special features of application	

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info@guenther-heisskanal.de
www.guenther-hotrunner.com

NECESSARY INFORMATION ABOUT THE TOOL

Nozzle type	<input type="checkbox"/> NEW	<input type="checkbox"/> DEW	<input type="checkbox"/> NKW	<input type="checkbox"/> NMW
Material channel-Ød	<input type="checkbox"/> 2.8 mm	<input type="checkbox"/> 4.8 mm	<input type="checkbox"/> 7.5 mm	
Nozzle length (mm)	<input type="checkbox"/> 50 mm	<input type="checkbox"/> 80 mm		
Needle drive	<input type="checkbox"/> electric	<input type="checkbox"/> pneumatic		
Number of cavities / number of injections				
Nozzle position (x/y)				
Tool size/nozzle projecting end				
Multi-component mould				
Machine nozzle radius / immersion nozzle geometry				
Tool centring ring Ø				
Tool locking force				

YOUR SKETCH

Simple sketch of your mould / your tool

