

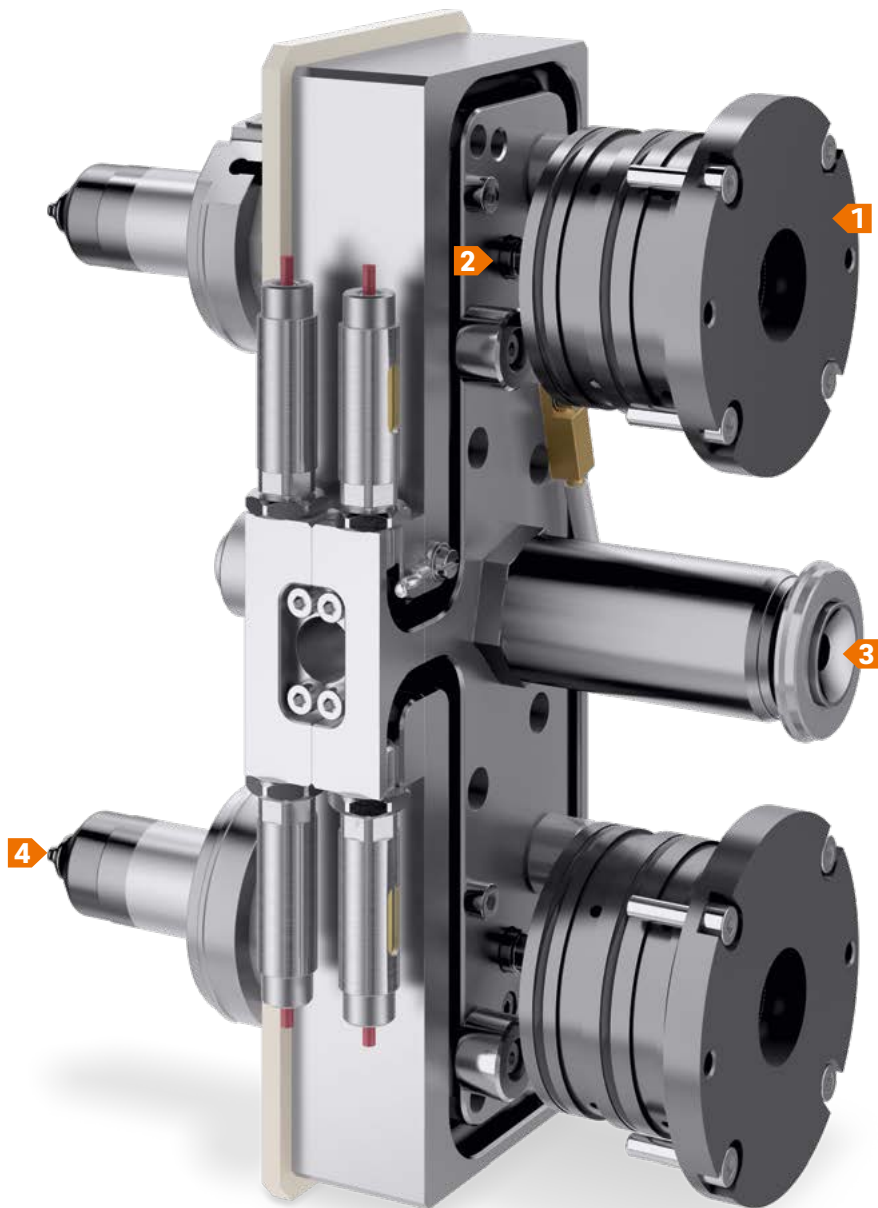


**Valve gate systems**



## Valve gate technology

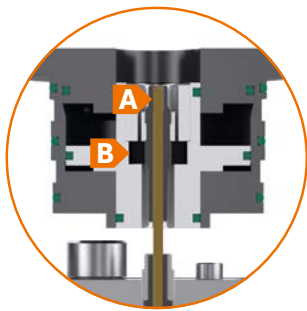
High visual requirements, a variety of applications, minimal shear stress, variable gate diameters and high process reliability. These are just a few of the requirements for which GÜNTHER valve gate technology has the right answer.



GÜNTHER's portfolio includes a variety of valve gate nozzles and needle actuation options. This enables perfect application-specific adaptation to the mould concept, both technically and financially. Both the smallest and large shot volumes and gate diameters from 0.8 to 4.0 mm can be implemented with valve gate technology.

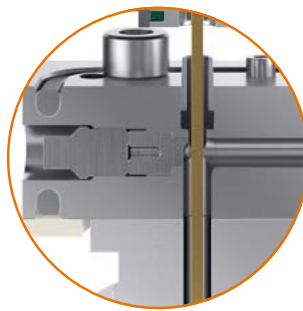
The innovative design of the needle guide and the optimised shut-off needle enable low-wear operation. During the shut-off movement, the needle is first led over a cone up

to the cylindrical pre-centring device for precise immersion into the cylindrical gate point. The needle guide is supported floating in the melt channel. In case of wear, the needle guide can be changed with minimal effort. Special openings in the mould clamping plate enable individual adjustment of the immersion depth of the shut-off needle from the outside. Depending on the application, highly filled plastics can be processed.



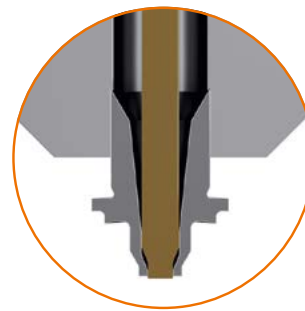
**1 ENV single-needle valve**

- A** Adjustment of the needle position
- B** Installation independent of heat expansion



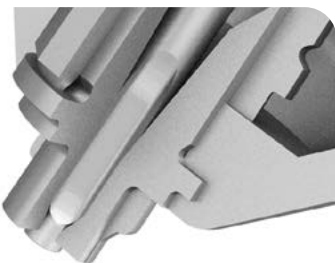
**2 Needle guide and sealing in the manifold**

**3 Heated connecting nozzle**



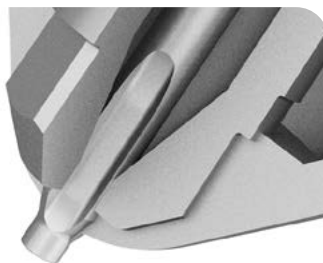
**4 Needle guide in the nozzle**

**POSSIBLE NEEDLE GUIDE DESIGNS**



**LA NEEDLE GUIDE**

Second mark on the part



**KA NEEDLE GUIDE**

Application-dependent use

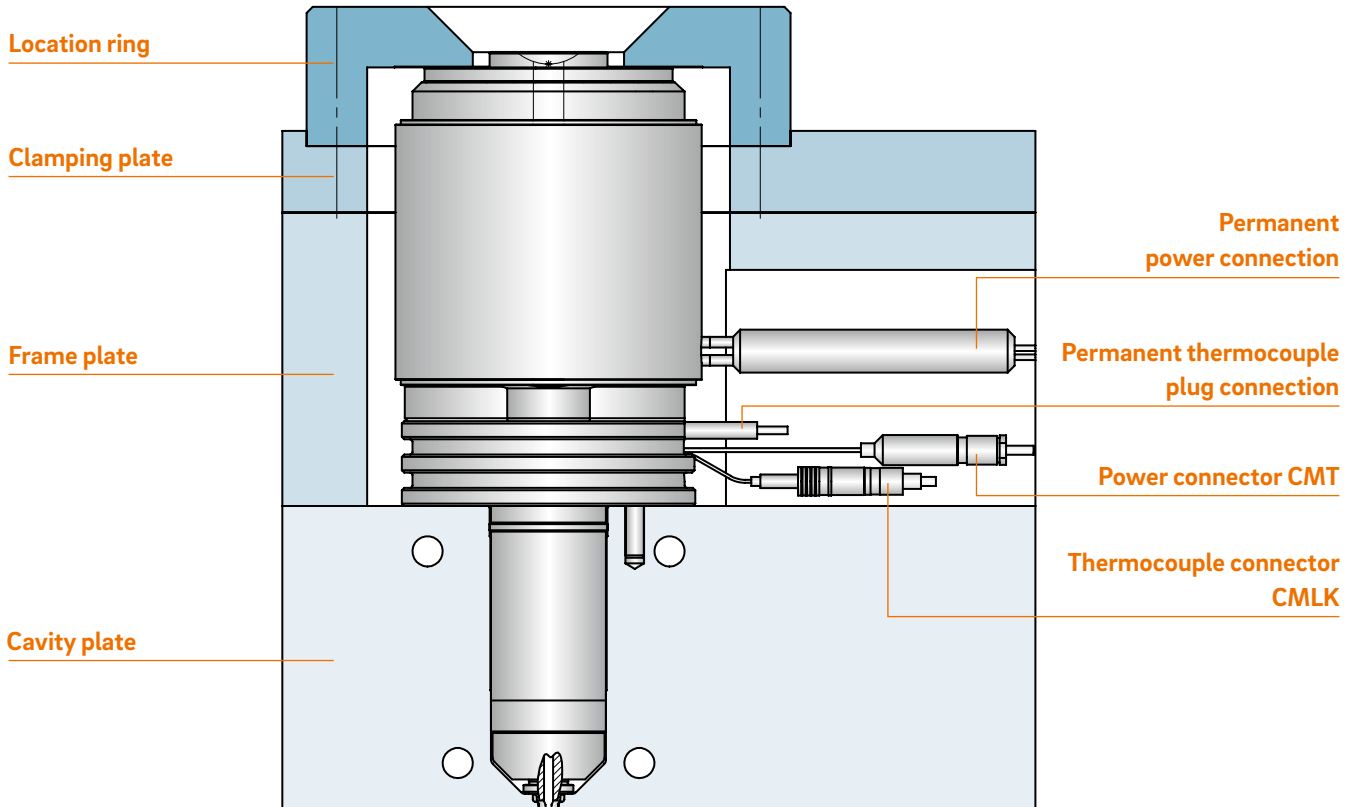
**THE ADVANTAGES AT A GLANCE**

- + Unambiguous opening behaviour
- + Consistent gate point quality
- + Sequential injection
- + Long needle guide service life
- + Time and cost savings
- + Wear parts are easy to replace



# Overview of overall design

## Single valve gate nozzles



## 3.1 Single valve gate nozzles

### SINGLE VALVE GATE NOZZLES

Page



#### **8NEST**

Single nozzle with conventional heating element and heated nozzle adapter, needle guide versions LA, LA with titanium ring, LAZ and KA

**20**



#### **12NEST**

Single nozzle with conventional heating element and heated nozzle adapter, needle guide versions LA, LA with titanium ring and KA

**30**



# Valve gate nozzle type 8NEST

Single nozzle with conventional heating element

## TECHNICAL DATA

### 8NEST

Needle Ød	3 mm						
Melt channel Ød	7.5 mm						
Gate point Ød	1.6, 2.0 or 2.5 mm						
Operating pressure	10 bar						
Operating voltage	230 V <sub>AC</sub> *						
Nominal length of the nozzle (L) in mm							
50	60	80	100	120	150	200	250
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Volts alternating current

■ available    □ on request

## NOTE

Power connector CMT and thermocouple connector CMLK are to be ordered separately.

### Feed and discharge lines for operating the needle

Preferably, channels with a minimum dia. of 6 mm and a minimum length of 200 mm are to be used. Feed/discharge lines are to be placed in the heated mould plate to prevent overheating of the compressed air. The temperature should lie between 40 °C and 70 °C.

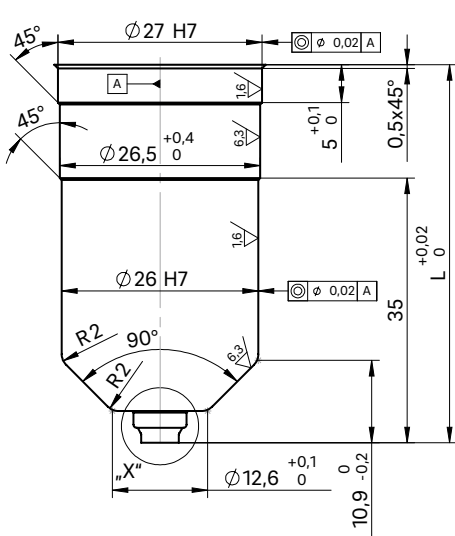
In the case of mould temperatures exceeding the thermal stress limit of the pneumatic valves, a separate air cooler is to be installed. Pneumatic hose inner dia. of 8 mm. Pneumatic valve size of 2000 l/min to 3000 l/min.



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31010

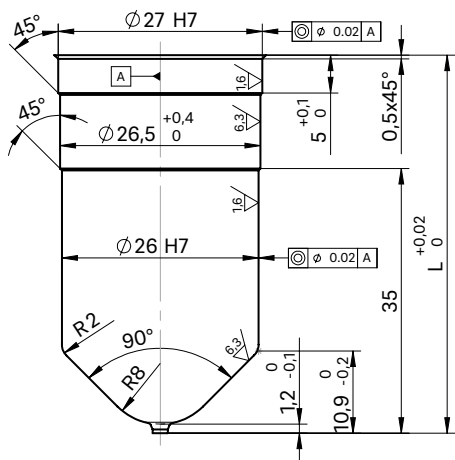


Nozzle with needle guide antechamber design LA

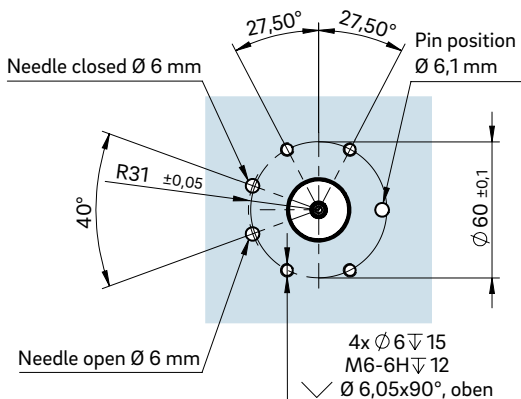


For "X" version of the needle guide see following page

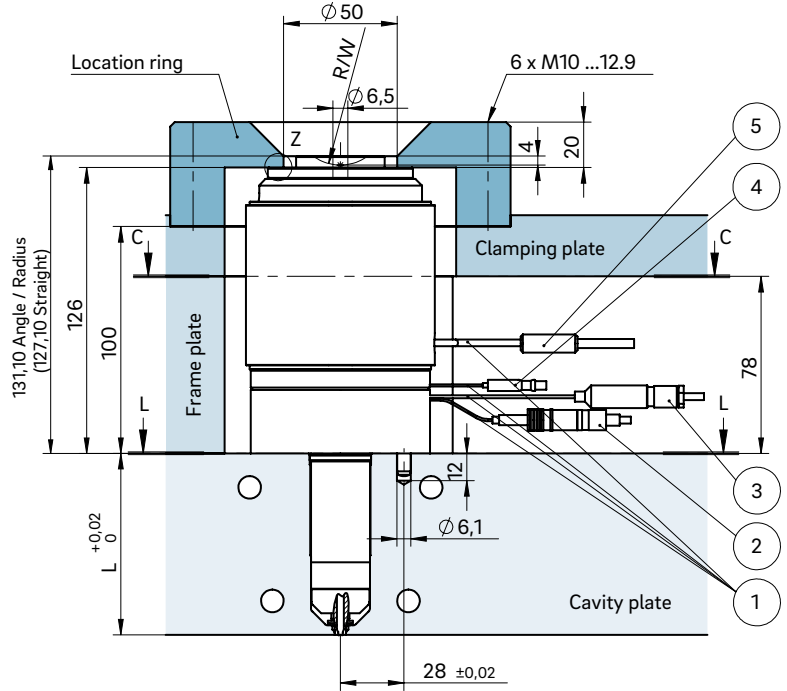
Nozzle with needle guide antechamber design KA



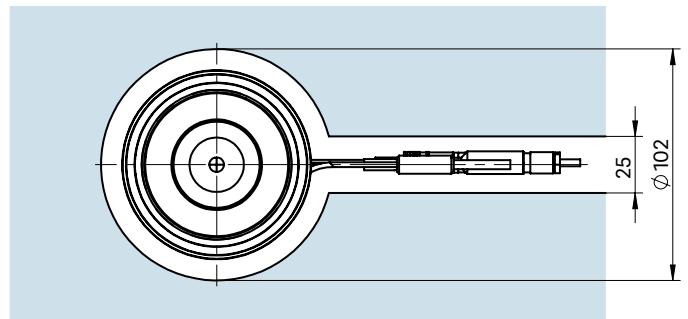
Cross-section L-L: Hole for feed/discharge air, fastening thread and centring/positioning pin



INSTALLATION

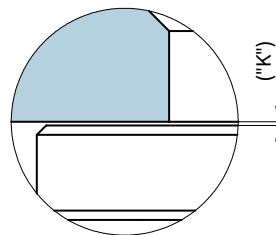


Cross-section C-C: Cutout for nozzle head, power and thermocouple plug connections



- ① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8
- ② Thermocouple connector CMLK
- ③ Power connector CMT
- ④ Permanent thermocouple plug connection
- ⑤ Permanent power connection

Detail "Z"



Dimension "K" required for heat expansion is to be ensured by grinding the location ring! Determine the difference between the height of the nozzle (with mount) and the height of the structure when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature! A pre-tension of 0.03 mm is taken into account for the K dimensions.

ΔT (°C)	100	150	200	250	300	350
K (mm)	0.09	0.16	0.23	0.29	0.36	0.42



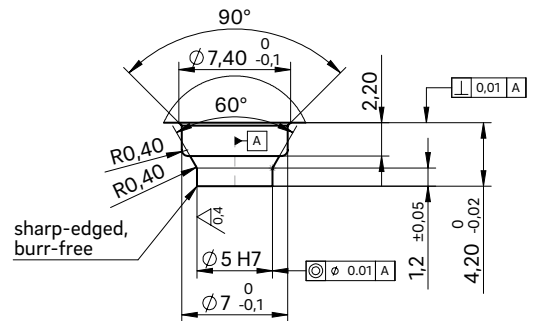
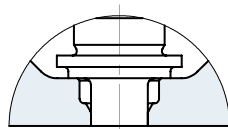
# Valve gate nozzle type 8NEST

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

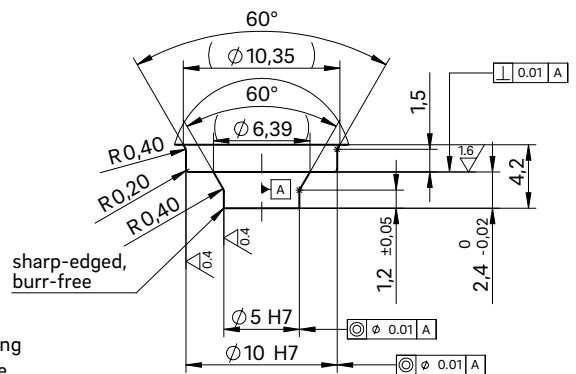
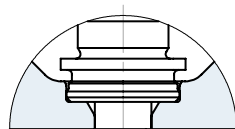
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



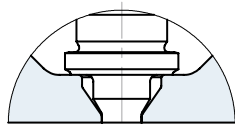


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t5	t6
1.6	3.0	0.63	0.77
2.0	3.5	0.63	1.07
2.5	4.0	0.58	1.43



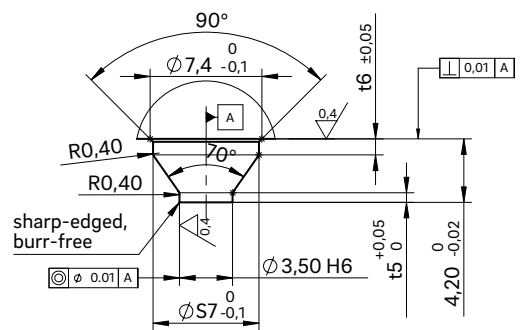
Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

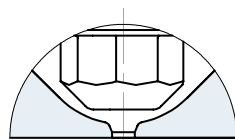


**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



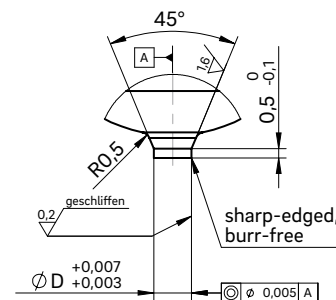
Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!





# Valve gate nozzle type 12NEST

Single nozzle with conventional heating element

## TECHNICAL DATA

### 12NEST

Needle Ød	5 mm					
Melt channel Ød	12 mm					
Gate point Ød	3.0, 3.5 or 4.0 mm					
Operating pressure	10 bar					
Operating voltage	230 V <sub>AC</sub> *					
<b>Nominal length of the nozzle (L) in mm</b>						
60	80	100	120	150	200	250
■	■	■	□	□	□	□

\*Volts alternating current

■ available □ on request

## NOTE

Power connector CMT and thermocouple connector CMLK are to be ordered separately.

### Feed and discharge lines for operating the needle

Preferably, channels with a minimum dia. of 6 mm and a minimum length of 200 mm are to be used. Feed/discharge lines are to be placed in the heated mould plate to prevent overheating of the compressed air. The temperature should lie between 40 °C and 70 °C.

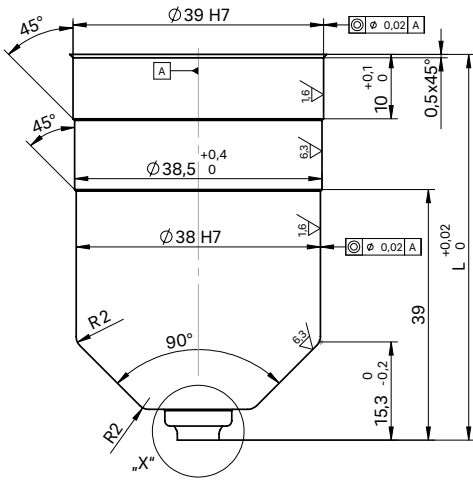
In the case of mould temperatures exceeding the thermal stress limit of the pneumatic valves, a separate air cooler is to be installed. Pneumatic hose inner dia. of 8 mm. Pneumatic valve size of 2000 l/min to 3000 l/min.



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31030

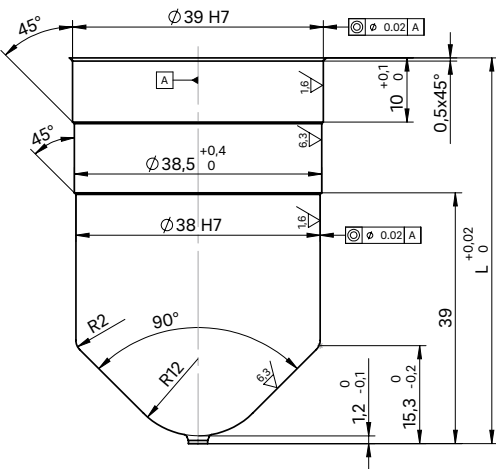


Nozzle with needle guide antechamber design LA

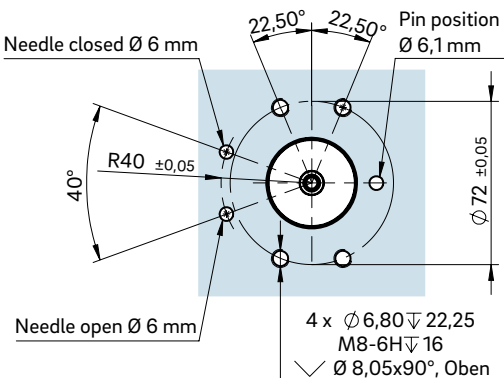


For "X" version of the needle guide see following page

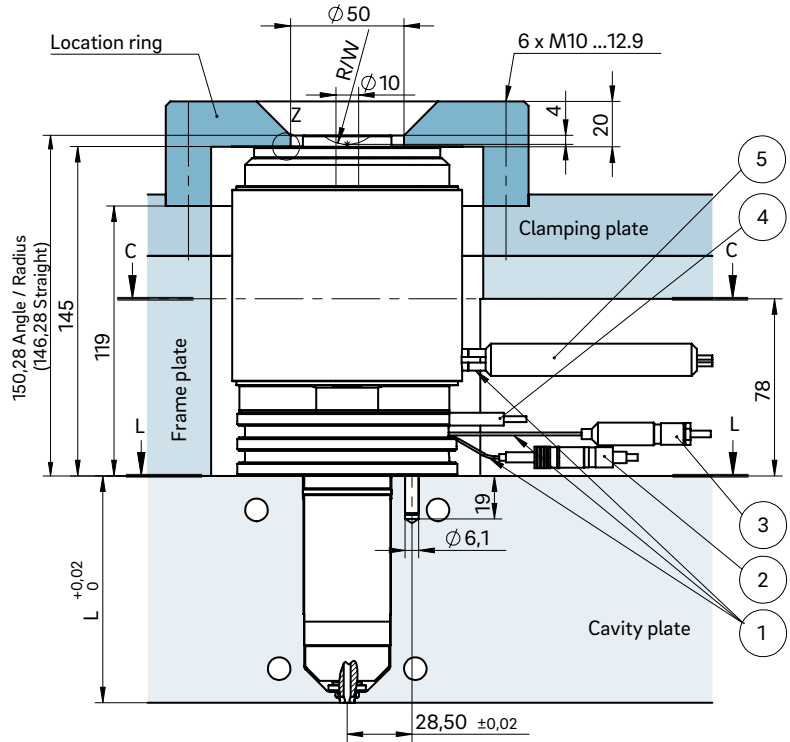
Nozzle with needle guide antechamber design KA



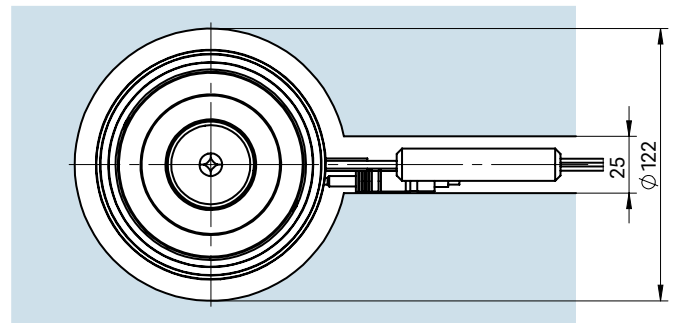
Cross-section L-L: Hole for feed/discharge air, fastening thread and centring/positioning pin



INSTALLATION

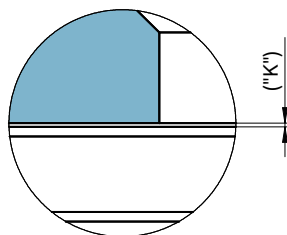


View C-C: Cutout for nozzle head, power and thermocouple plug connections



- ① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8
- ② Thermocouple connector CMLK
- ③ Power connector CMT
- ④ Permanent thermocouple plug connection
- ⑤ Permanent power connection

Detail "Z"



Dimension "K" required for heat expansion is to be ensured by grinding the location ring! Determine the difference between the height of the nozzle (with mount) and the height of the structure when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature! A pretension of 0.03 mm is taken into account for the K dimensions.

ΔT (°C)	100	150	200	250	300	350
K (mm)	0.11	0.19	0.26	0.33	0.41	0.48



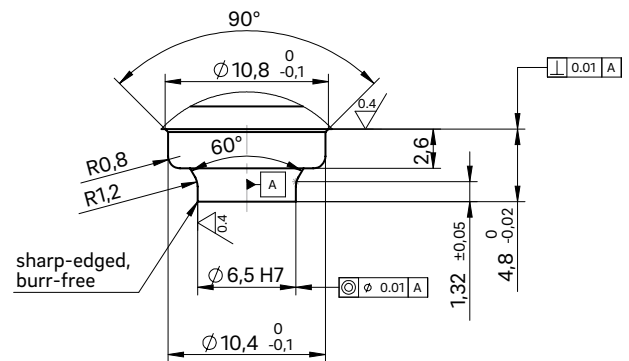
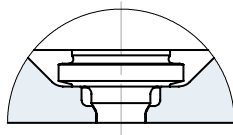
# Valve gate nozzle type 12NEST

Needle guide versions LA, LA with titanium ring and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

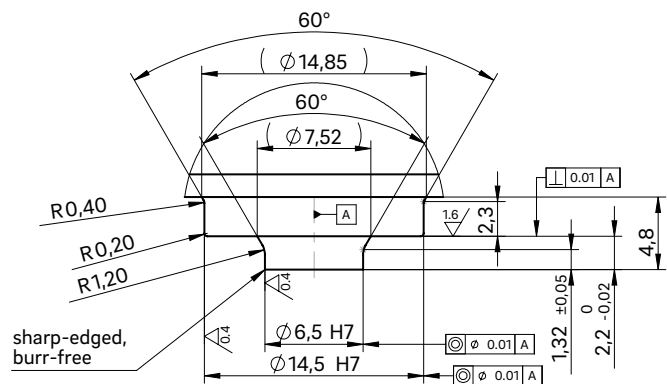
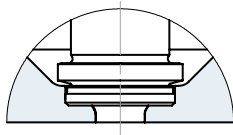
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

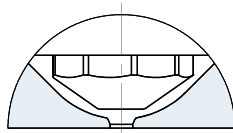
Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



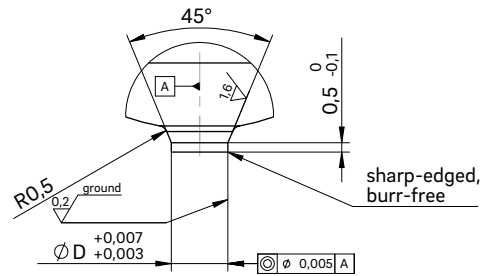
Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of  $64 \pm 2$  HRC is to be taken into account!







## 3.2 System valve gate nozzles

### SINGLE VALVE GATE NOZZLES

Page



#### 4NHF, 5NHF and 6NHF

System nozzle with thick-film heating element (BlueFlow®),  
screwed to the manifold,  
needle guide versions LA, LA with titanium ring, LAZ and KA

30, 40, 50



#### 5NHT and 6NHT

System nozzle with conventional heating element  
screwed to the manifold,  
needle guide versions LA, LA with titanium ring, LAZ and KA

60, 70



#### 8NHT, 10NHT and 12NHT

System nozzle with conventional heating element  
screwed to the manifold,  
needle guide versions LA, LA with titanium ring, LAZ and KA

80, 90, 100



#### 5NMT and 6NMT

System nozzle with conventional heating element, for minimal spacing  
not screwed to the manifold,  
needle guide versions LA, LA with titanium ring, LAZ and KA

110, 120



#### 4NTT, 5NTT and 6NTT

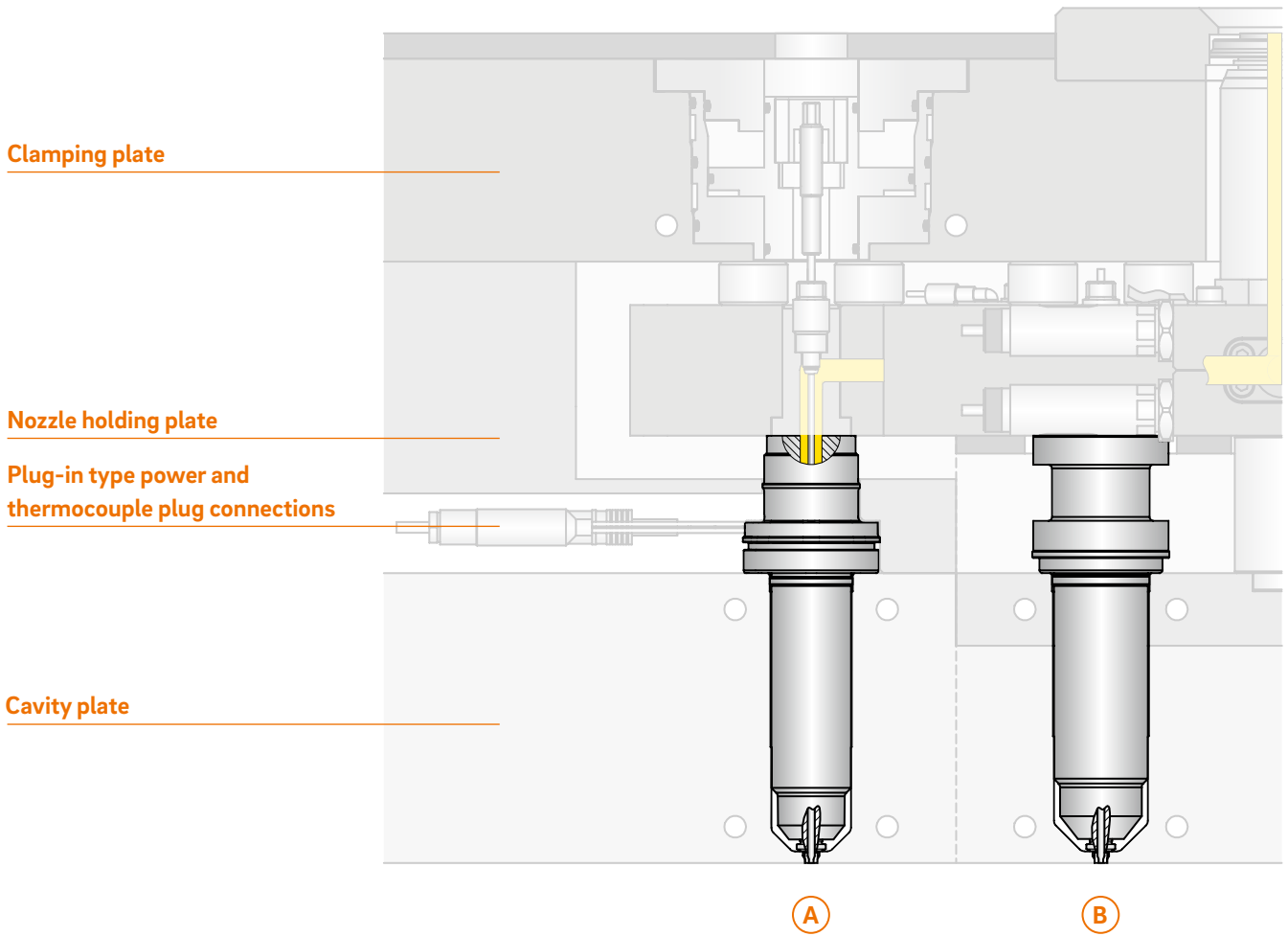
System nozzle with conventional heating element  
screwed from the parting line,  
needle guide versions LA, LA with titanium ring, LAZ and KA

130, 140, 150



# Overview of overall design

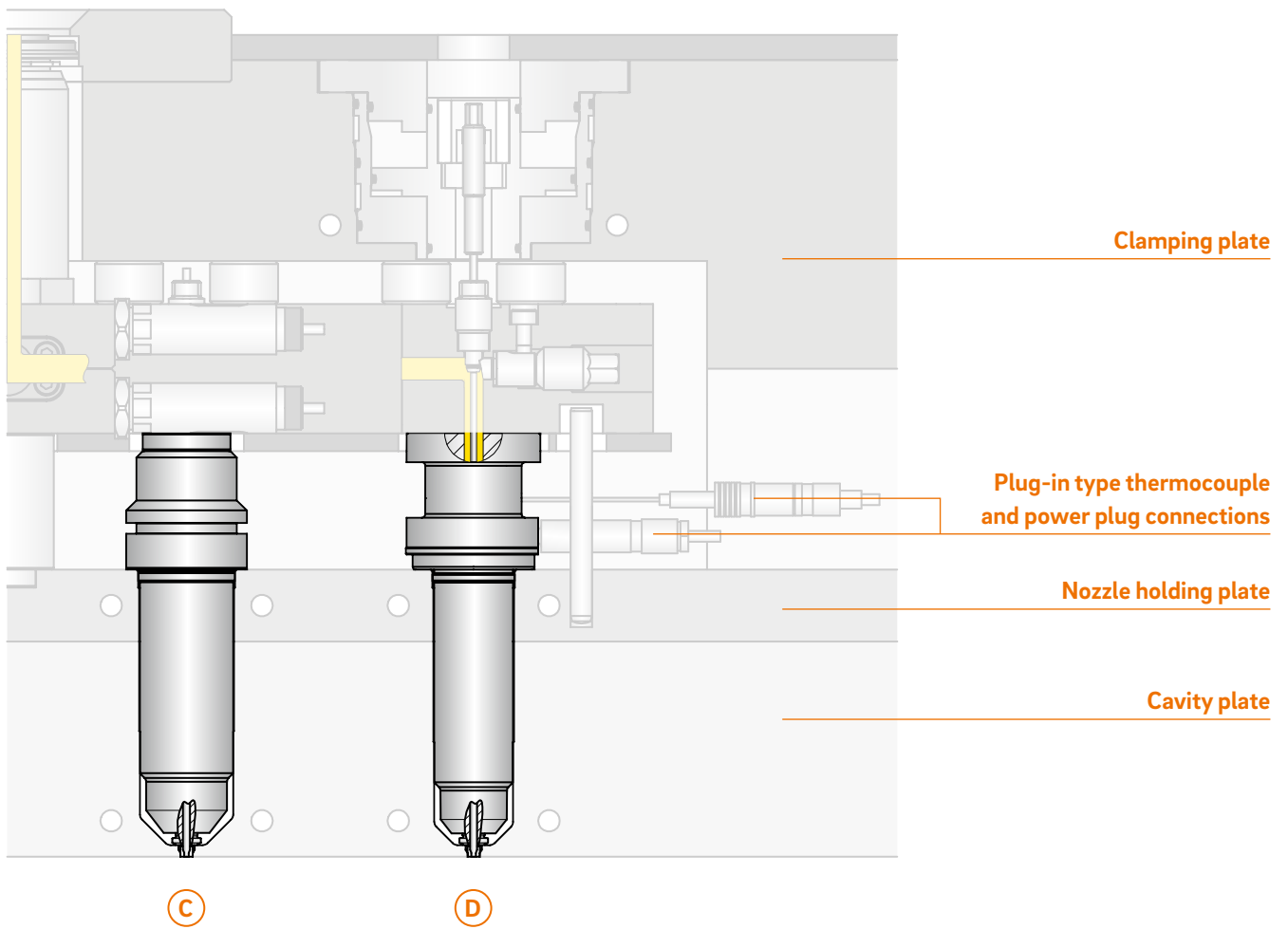
## System valve gate nozzles



**A**  
Valve gate nozzle type NTT  
- With shaft  
- Screwed from the parting line

**B**  
Valve gate nozzle type NHT  
- With shaft  
- Screwed to the manifold





- C**  
 Valve gate nozzle type NMT  
 - With shaft  
 - For minimal spacing  
 - Not screwed to the manifold

- D**  
 BlueFlow® valve gate nozzle type NHF  
 - With shaft  
 - Thick-film heating element (BlueFlow®)  
 - Screwed to the manifold



# Valve gate nozzle type 4NHF

System nozzle with thick-film heating element (BlueFlow®),  
screwed to the manifold

## TECHNICAL DATA

### 4NHF

Needle Ød	2 mm
Melt channel Ød	3.8 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120	150	180
■	■	■	■	■	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

■ available □ on request

## NOTE

Power connector CHF and thermocouple connector CMLK are to be ordered separately.

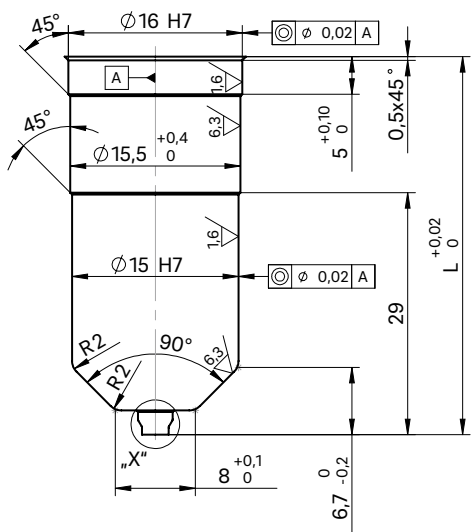
**BlueFlow® hot runner nozzle type NHF is not intended for sale or use in the USA or Canada!**



**WEBCODE**  
32010

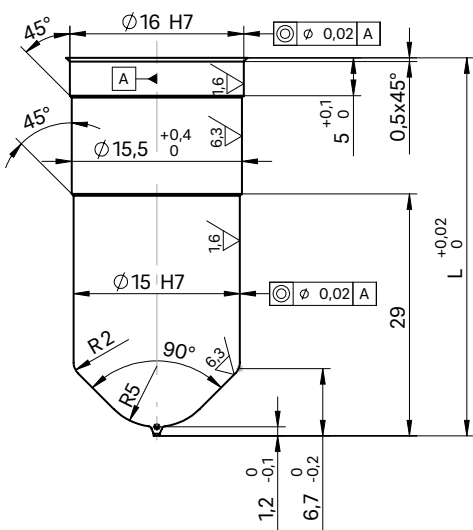


Nozzle with needle guide antechamber design LA

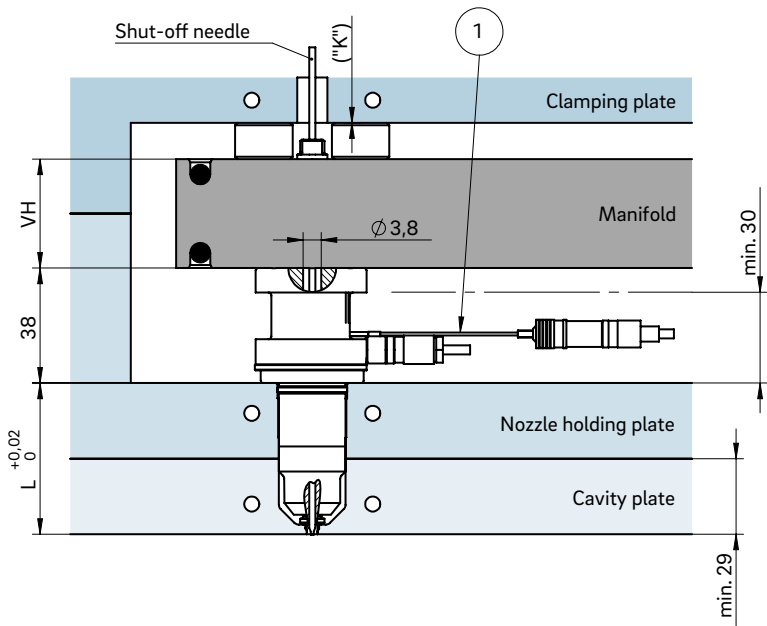


For "X" version of the needle guide see following page

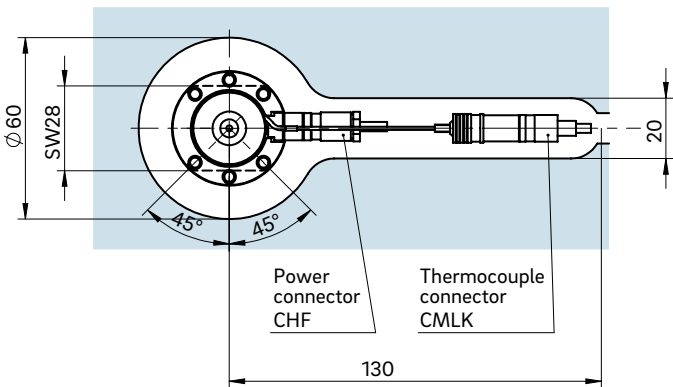
Nozzle with needle guide antechamber design KA



INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power plug connection in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



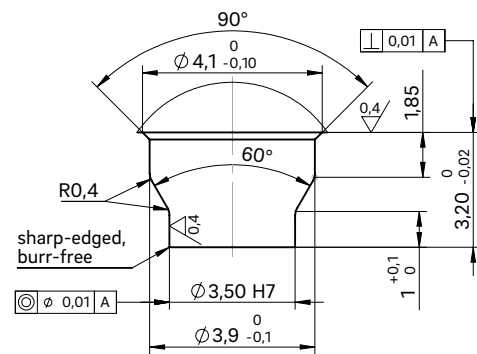
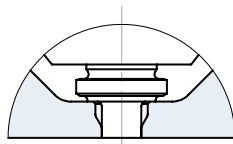
# Valve gate nozzle type 4NHF

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

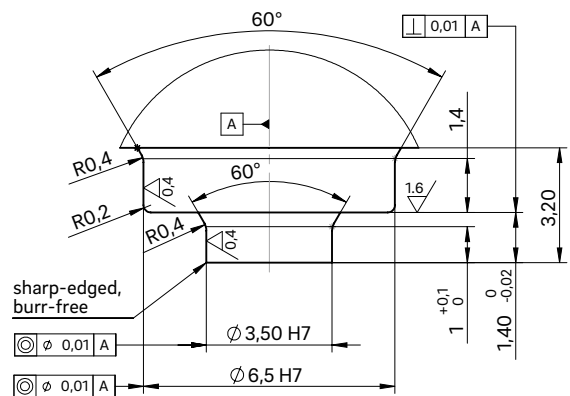
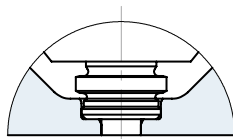
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

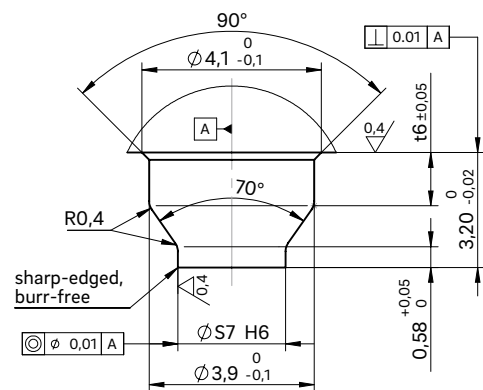
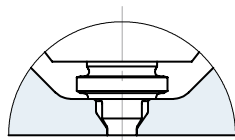


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	1.41
1.0	2.4	1.55
1.2	2.6	1.70
1.4	2.8	1.84



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

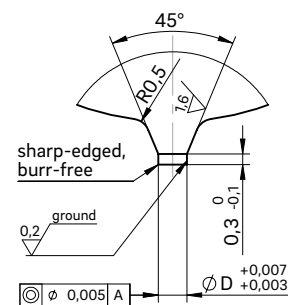
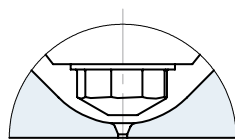
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 5NHF

System nozzle with thick-film heating element (BlueFlow®),  
screwed to the manifold

### TECHNICAL DATA

#### 5NHF

Needle Ød	3 mm
Melt channel Ød	4.8 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120	150	180
■	■	■	■	■	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

■ available □ on request

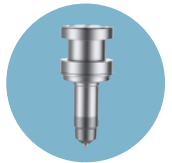
### NOTE

Power connector CHF and thermocouple connector CMLK are to be ordered separately.

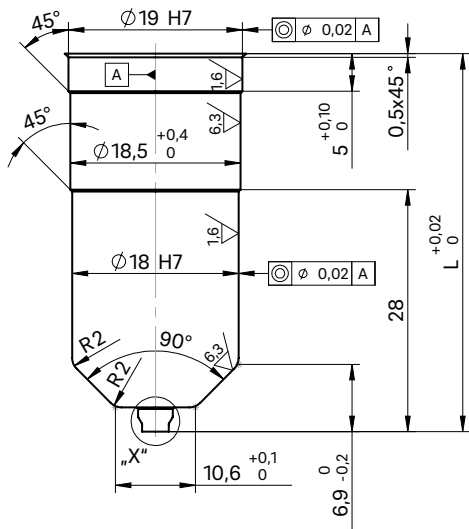
**BlueFlow® hot runner nozzle type NHF is not intended for sale or use in the USA or Canada!**



WEBCODE  
32020

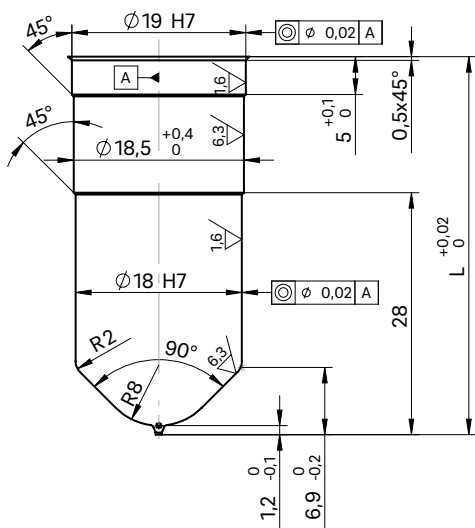


Nozzle with needle guide  
antechamber design LA

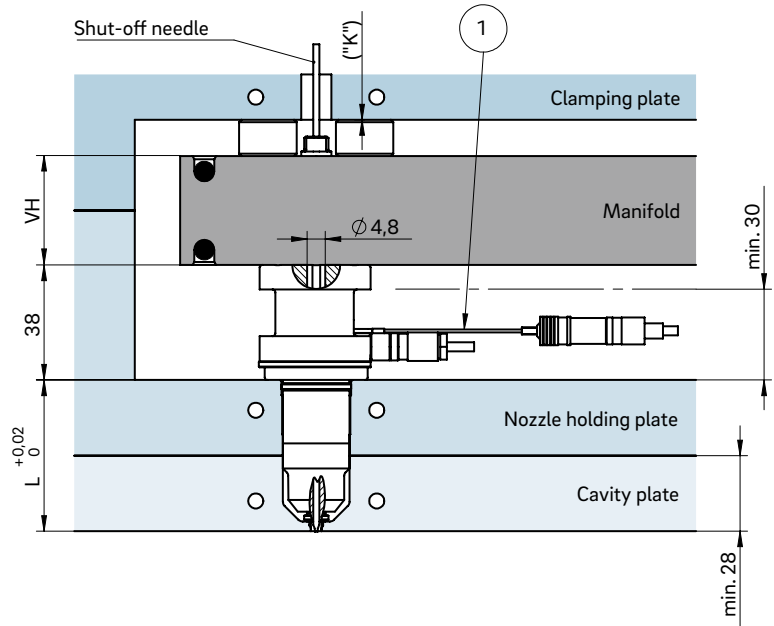


For "X" version of the needle guide  
see following page

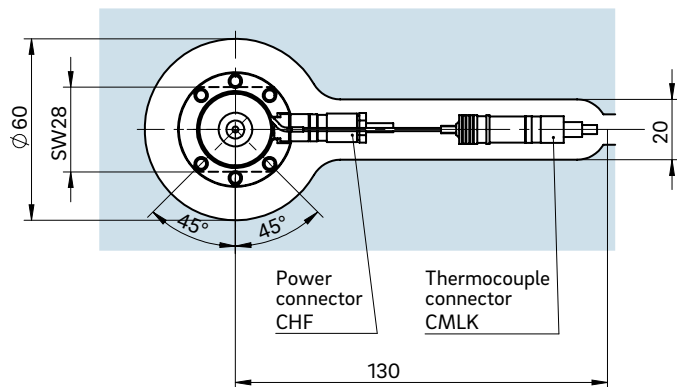
Nozzle with needle guide  
antechamber design KA



**INSTALLATION**



Example cutout for nozzle head, power and thermocouple plug connections



① Thermocouple plug connection in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



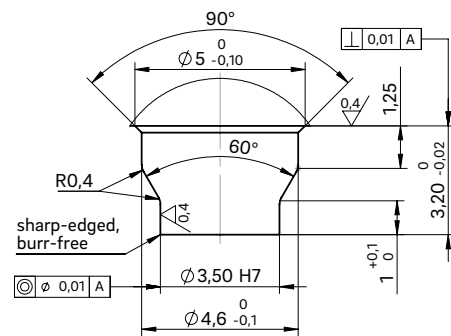
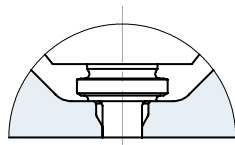
# Valve gate nozzle type 5NHF

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

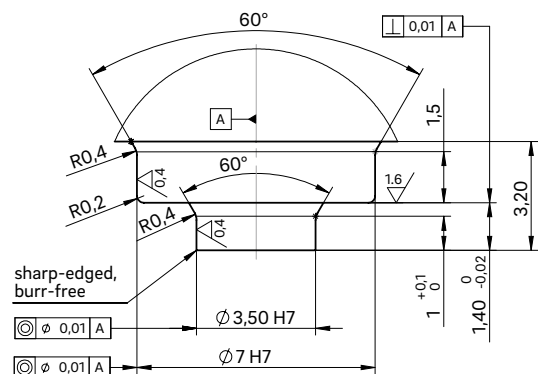
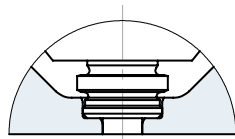
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



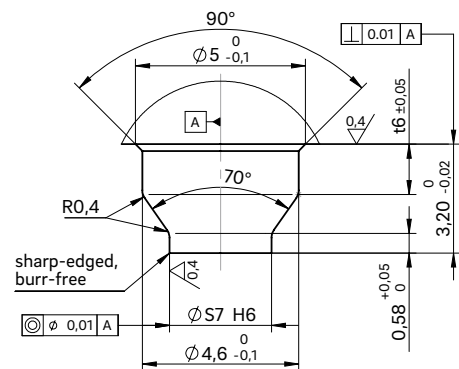
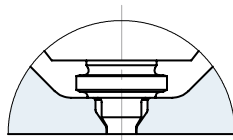


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

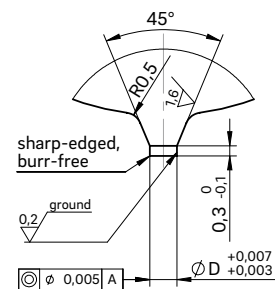
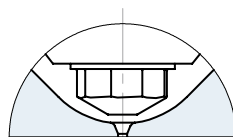
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



# Valve gate nozzle type 6NHF

System nozzle with thick-film heating element (BlueFlow®),  
screwed to the manifold

## TECHNICAL DATA

### 6NHF

Needle Ød	3 mm
Melt channel Ød	6 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120	150
■	■	■	■	■	□

Contact us for other nozzle lengths!

\*Volts alternating current

■ available   □ on request

## NOTE

Power connector CHF and thermocouple connector CMLK are to be ordered separately.

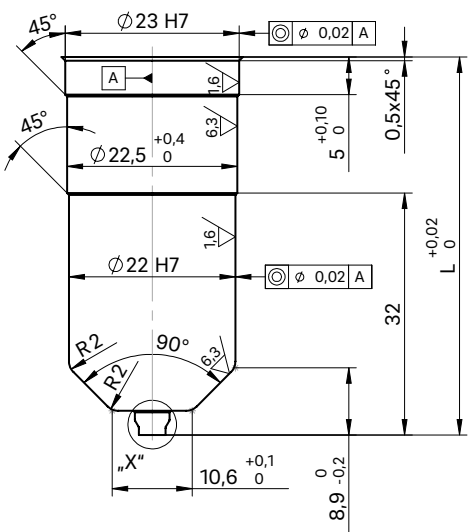
**BlueFlow® hot runner nozzle type NHF is not intended for sale or use in the USA or Canada!**





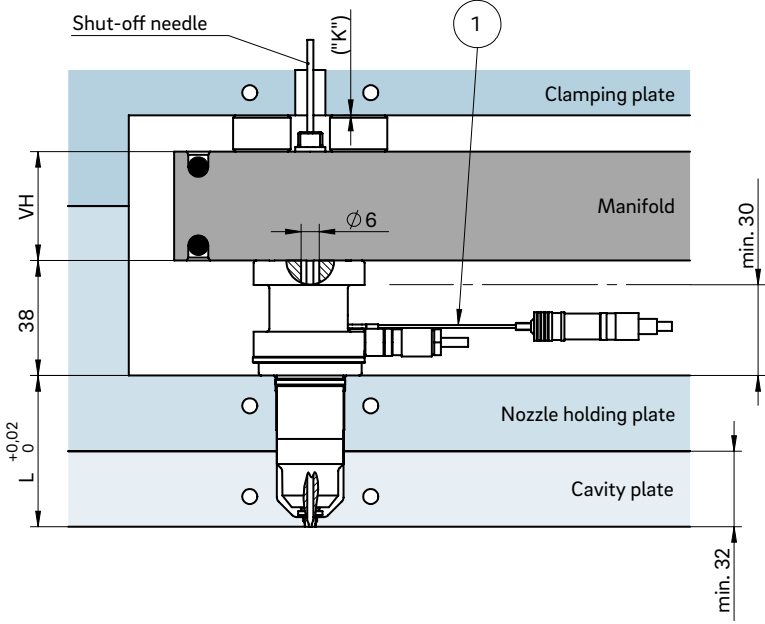
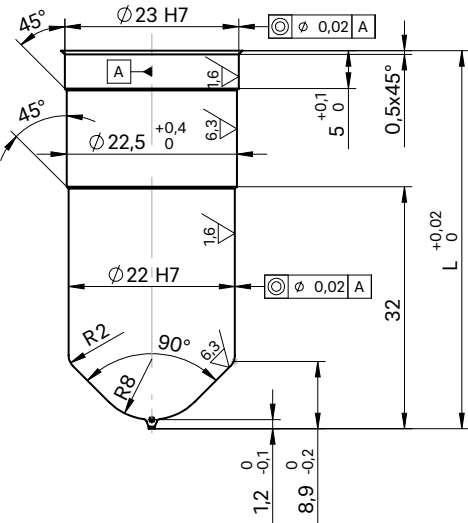
## INSTALLATION

Nozzle with needle guide antechamber design LA

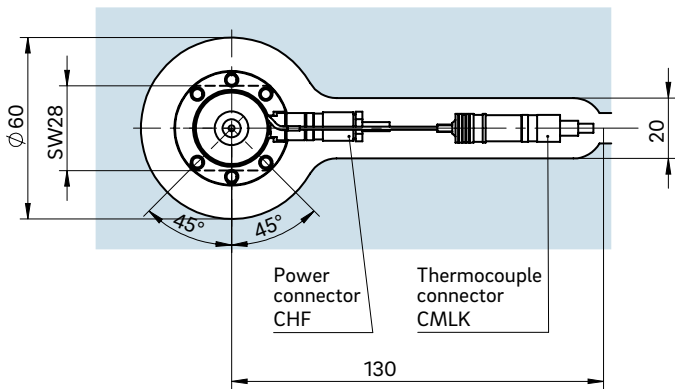


For "X" version of the needle guide see following page

Nozzle with needle guide antechamber design KA



Example cutout for nozzle head, power and thermocouple plug connections



① Thermocouple plug connection in this area can be bent once; minimum radius: R8 SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



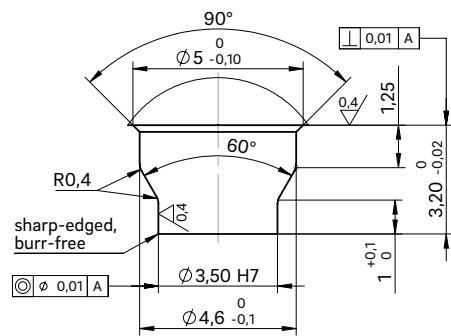
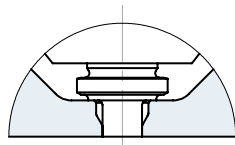
# Valve gate nozzle type 6NHF

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

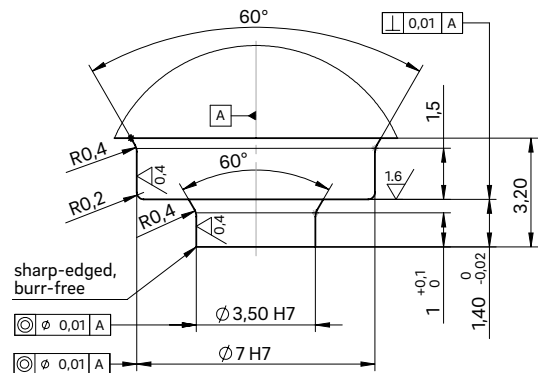
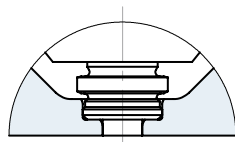
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

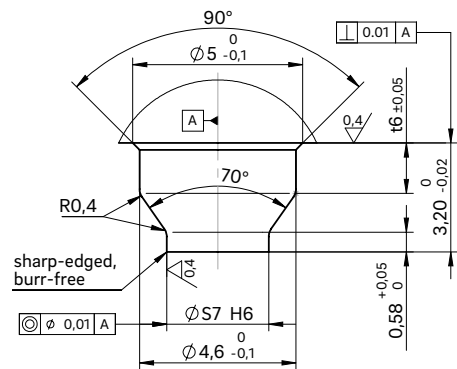
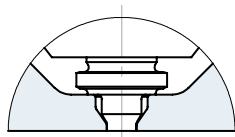


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

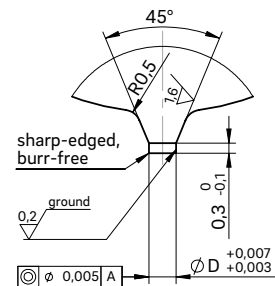
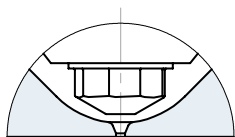
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**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 5NHT

System nozzle with conventional heating element, screwed to the manifold

### TECHNICAL DATA

#### 5NHT

Needle Ød	3 mm
Melt channel Ød	4.8 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100
■	■	■	■

Contact us for other nozzle lengths!

\*Volts alternating current

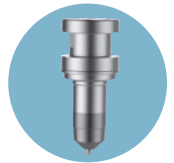
■ available

### NOTE

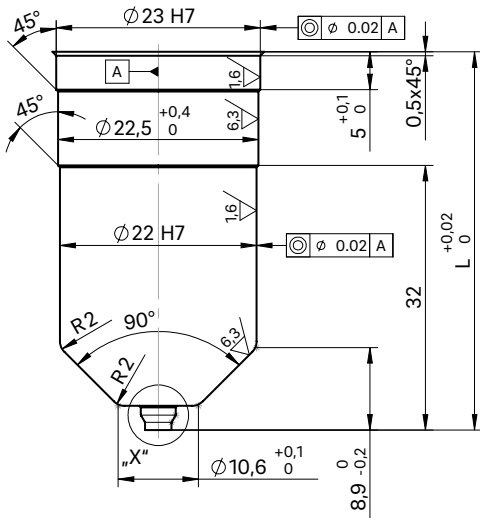
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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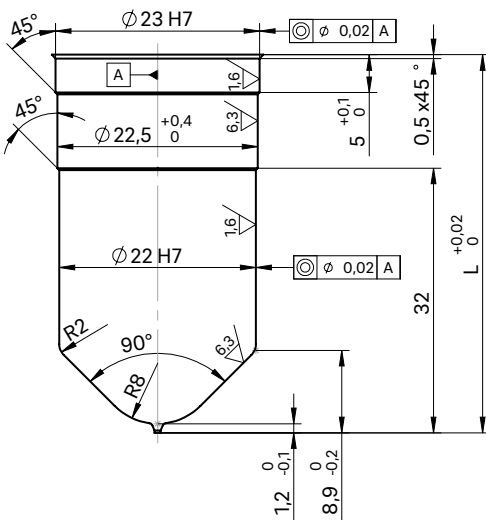


Nozzle with needle guide  
antechamber design LA

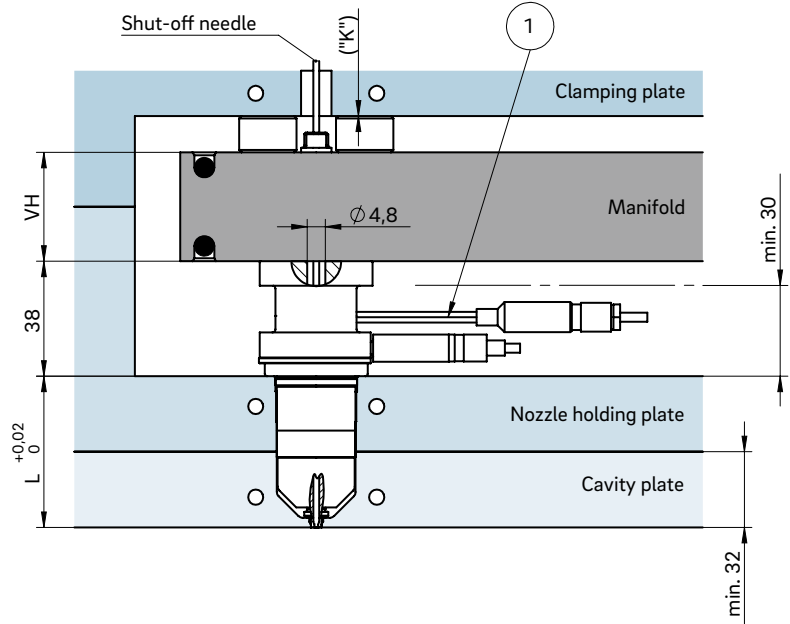


For "X" version of the needle guide  
see following page

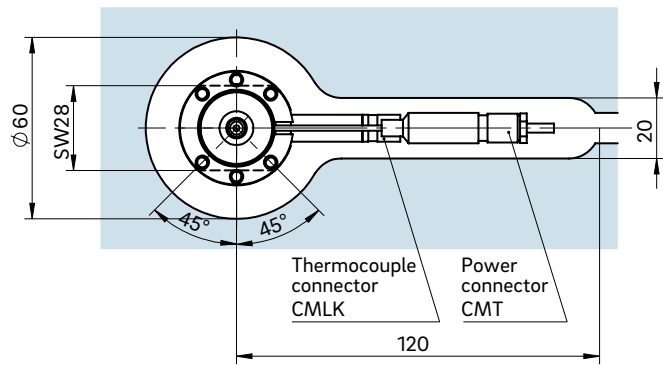
Nozzle with needle guide  
antechamber design KA



### INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power plug connection in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



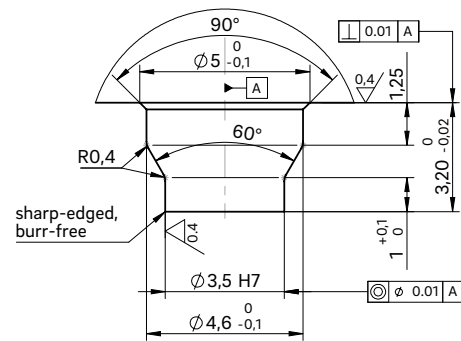
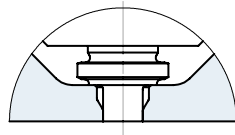
# Valve gate nozzle type 5NHT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

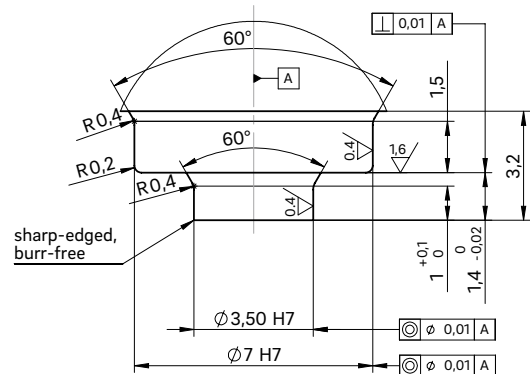
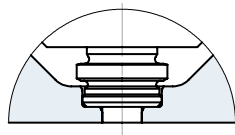
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



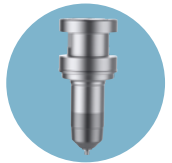
### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

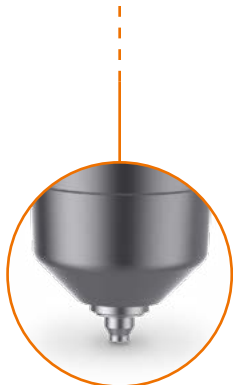
- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



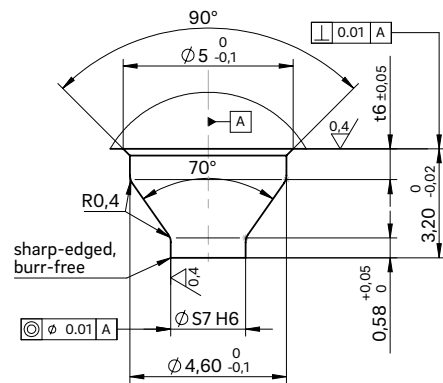
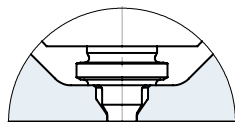


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



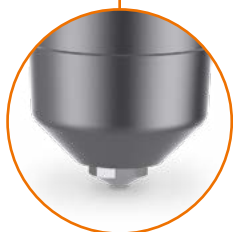
**Needle guide LAZ**

Made of powder-metallurgical steel

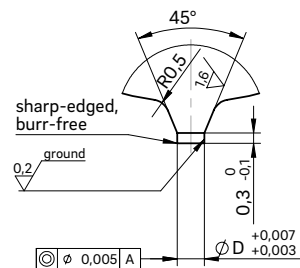
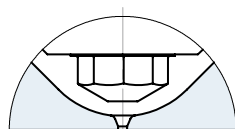
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 6NHT

System nozzle with conventional heating element, screwed to the manifold

### TECHNICAL DATA

#### 6NHT

Needle Ød	3 mm
Melt channel Ød	6 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120	150	200
■	■	■	■	■	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

■ available □ on request

### NOTE

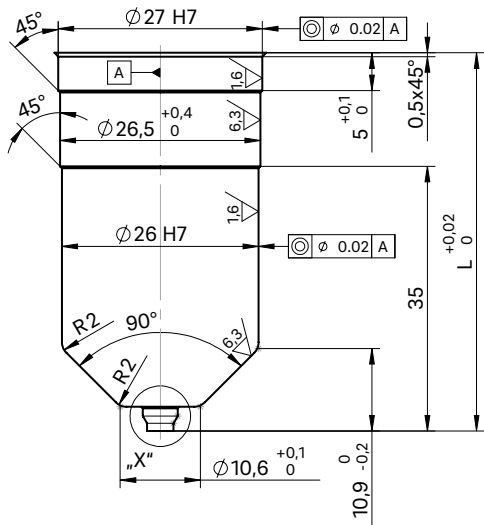
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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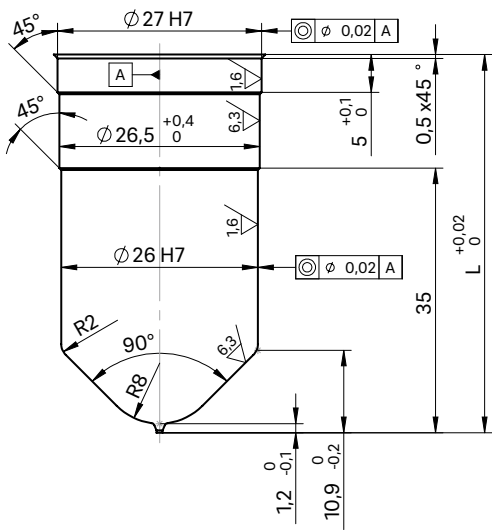


Nozzle with needle guide antechamber design LA

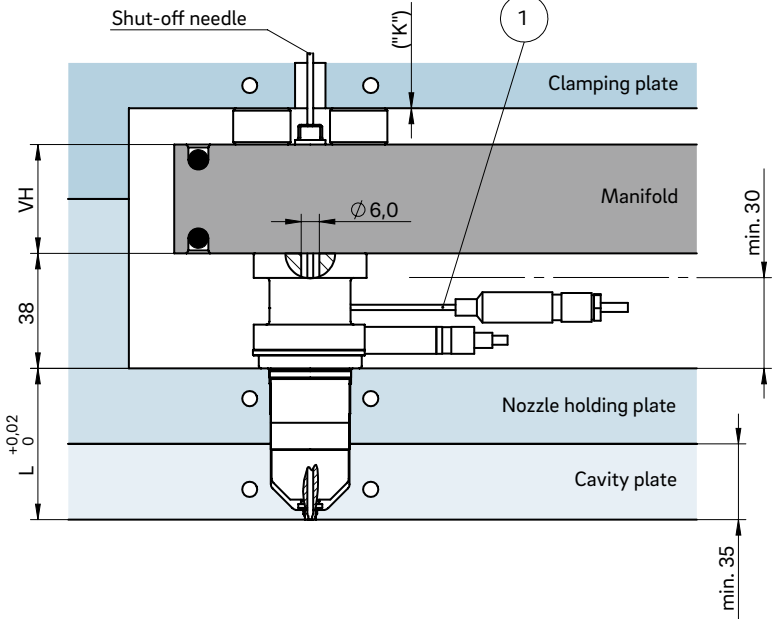


For "X" version of the needle guide see following page

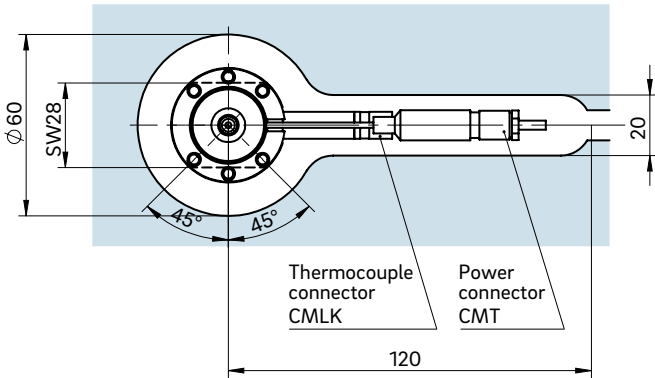
Nozzle with needle guide antechamber design KA



INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power plug connection in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



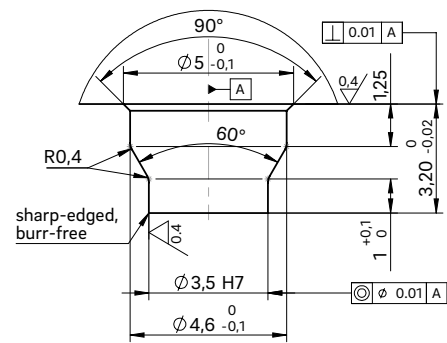
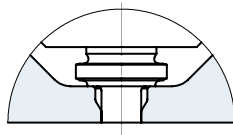
# Valve gate nozzle type 6NHT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

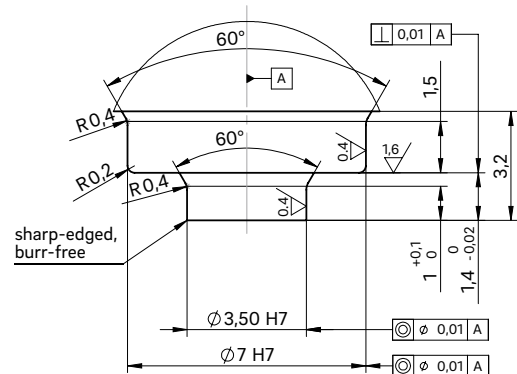
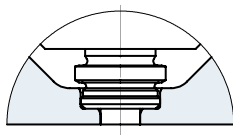
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

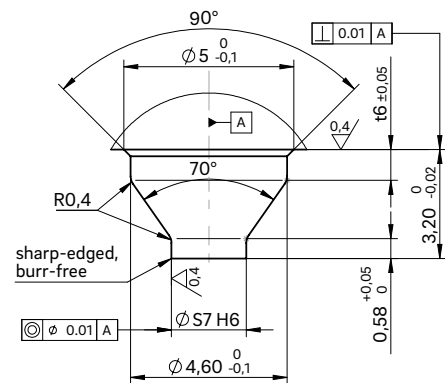
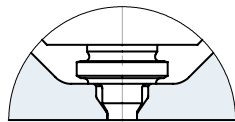


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



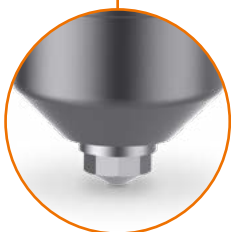
**Needle guide LAZ**

Made of powder-metallurgical steel

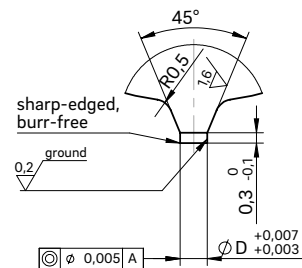
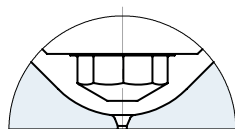
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 8NHT

System nozzle with conventional heating element, screwed to the manifold

### TECHNICAL DATA

#### 8NHT

Needle Ød	3 mm						
Melt channel Ød	7.5 mm						
Gate point Ød	1.6, 2.0 or 2.5 mm						
Operating voltage	230 V <sub>AC</sub> *						
Nominal length of the nozzle (L) in mm							
50	60	80	100	120	150	200	250
■	■	■	■	■	■	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

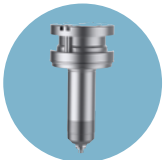
■ available □ on request

### NOTE

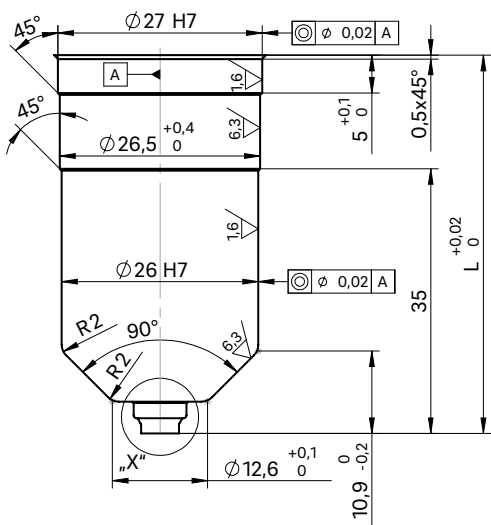
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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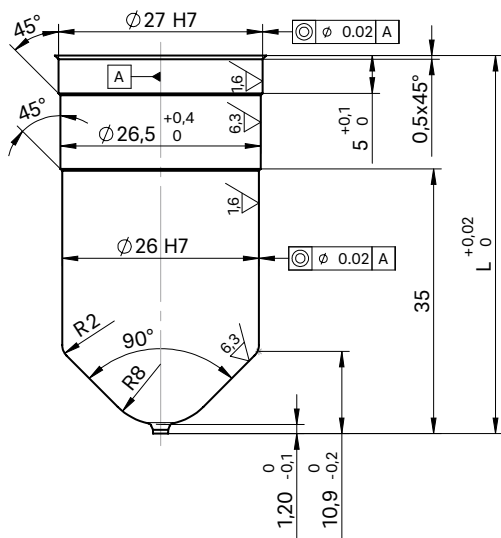


Nozzle with needle guide antechamber design LA

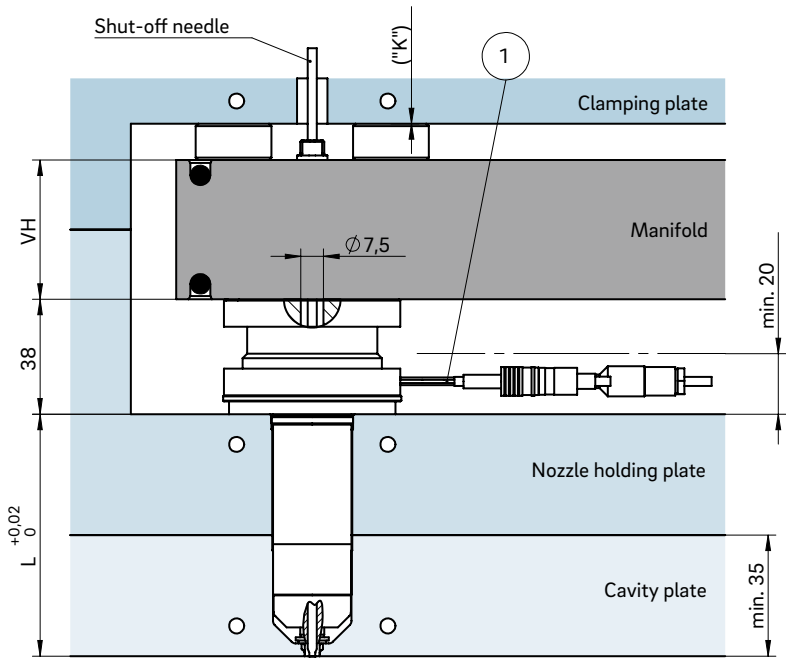


For "X" version of the needle guide see following page

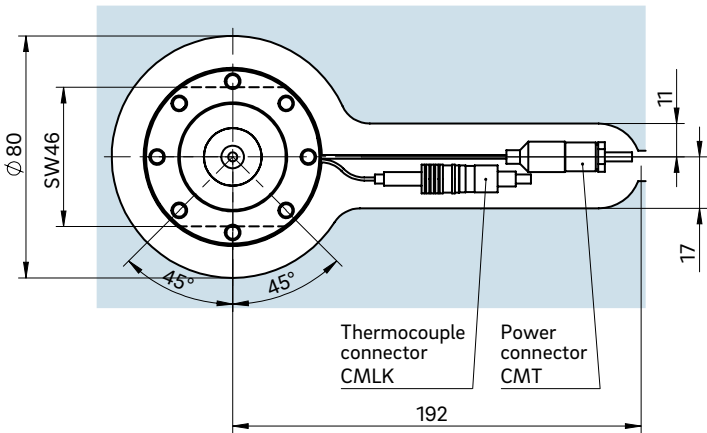
Nozzle with needle guide antechamber design KA



**INSTALLATION**



Example cutout for nozzle head, power and thermocouple plug connections



- ① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



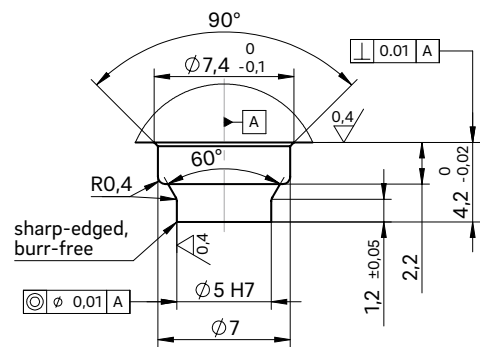
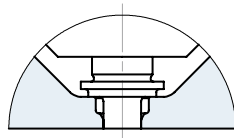
# Valve gate nozzle type 8NHT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

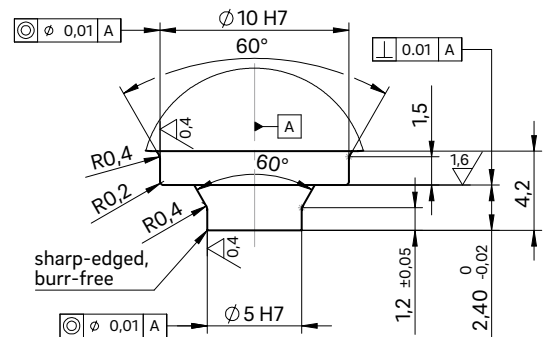
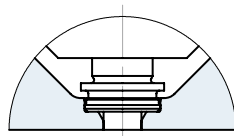
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



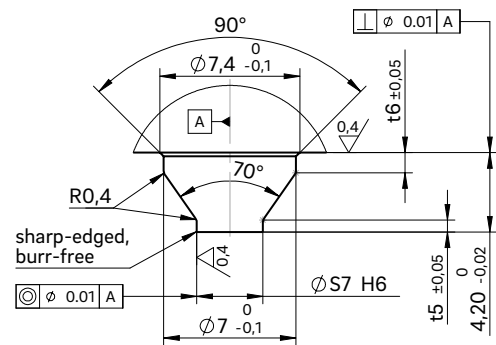
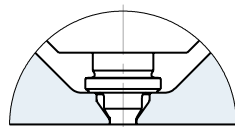


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t5	t6
1.6	3.0	0.63	0.77
2.0	3.5	0.63	1.07
2.5	4.0	0.58	1.43



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

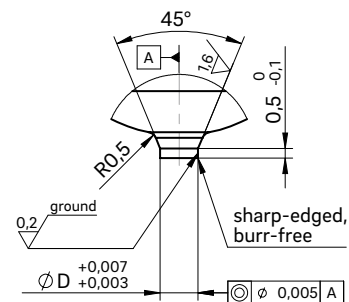
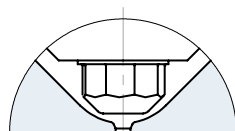
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 10NHT

System nozzle with conventional heating element, screwed to the manifold

### TECHNICAL DATA

#### 10NHT

Needle Ød	3 mm
Melt channel Ød	10 mm
Gate point Ød	2.0 or 2.5 mm
Needle Ød	5 mm
Melt channel Ød	10 mm
Gate point Ød	3.0, 3.5 or 4.0 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

60	80	100	120	150	200	250
■	■	■	■	■	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

■ available □ on request

### NOTE

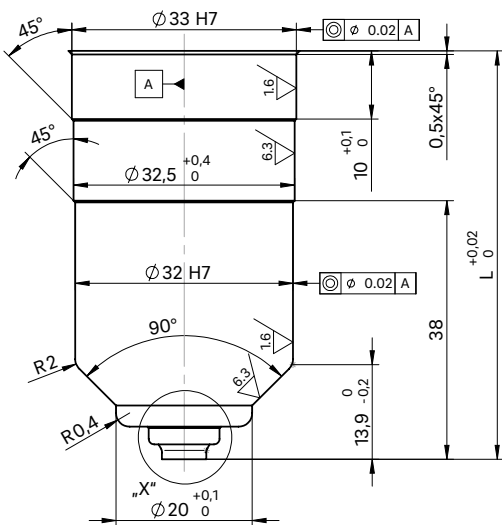
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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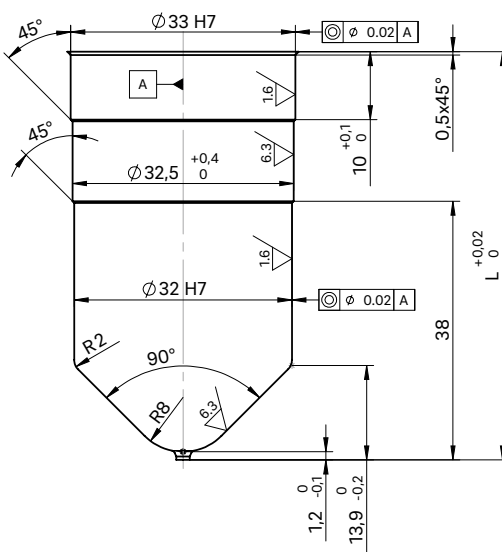


Nozzle with needle guide  
antechamber design LA

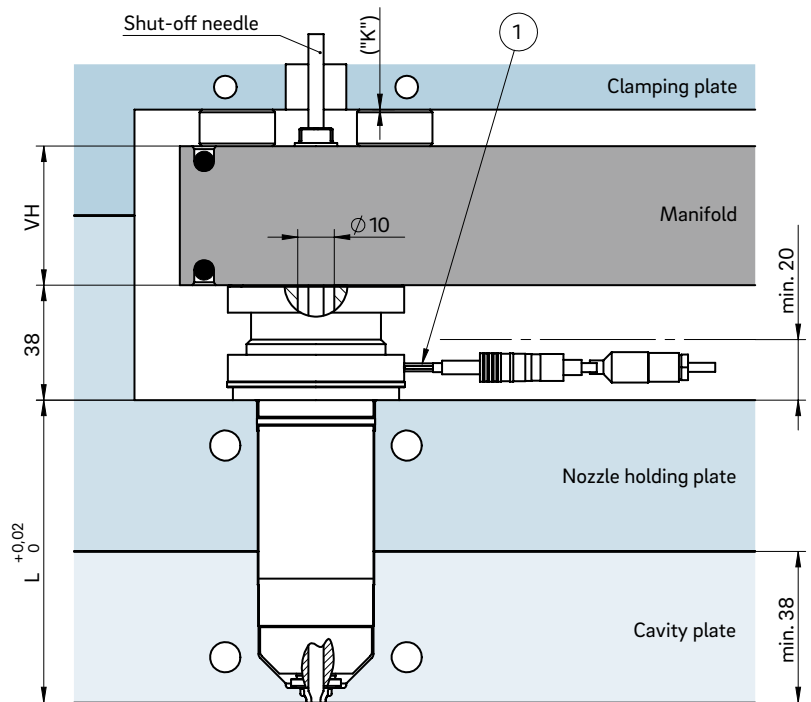


For "X" version of the needle guide  
see following page

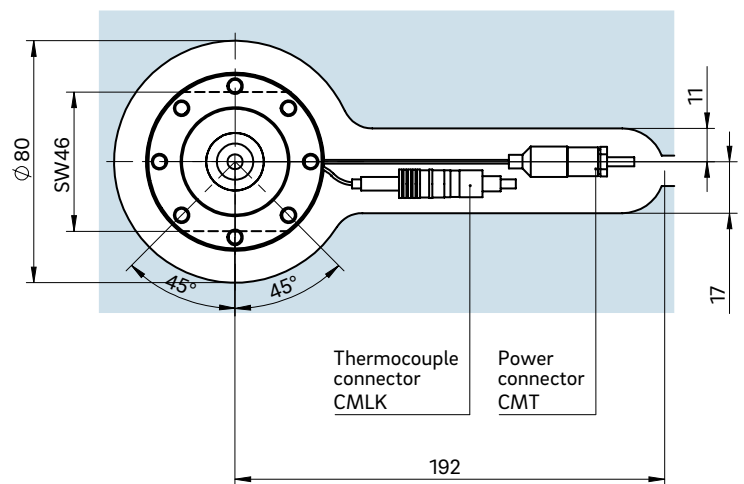
Nozzle with needle guide  
antechamber design KA



## INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed!  $\Delta T$  specifies the temperature differential between the processing temperature and the mould temperature!

VH	$\Delta T$ (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311

① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8

SW = flat area on nozzle head



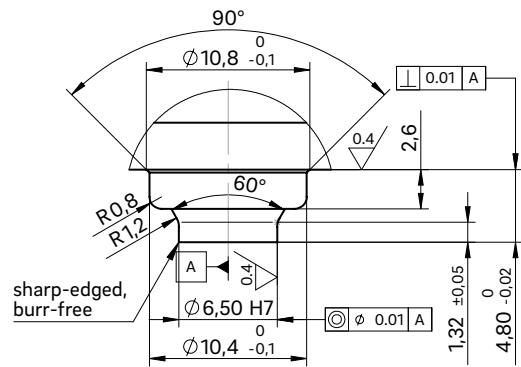
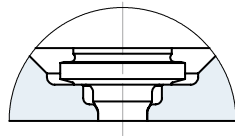
# Valve gate nozzle type 10NHT

Needle guide versions LA, LA with titanium ring and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

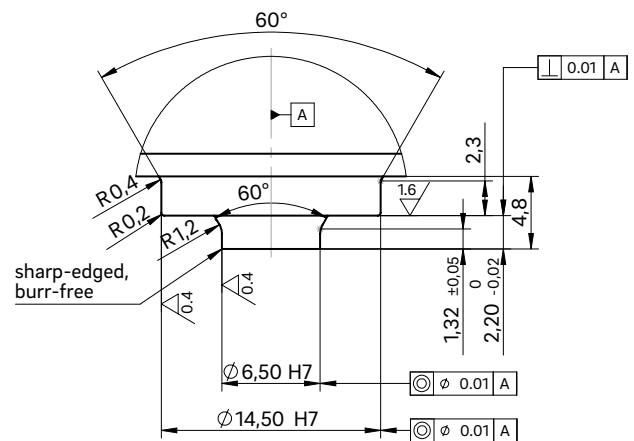
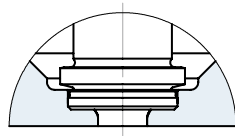
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring

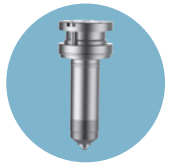


### Needle guide LA

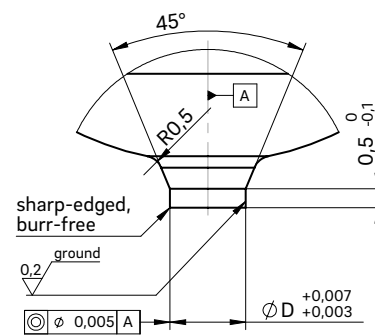
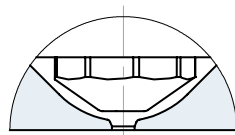
Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of  $64 \pm 2$  HRC is to be taken into account!



## Valve gate nozzle type 12NHT

System nozzle with conventional heating element, screwed to the manifold

### TECHNICAL DATA

#### 12NHT

Needle Ød	5 mm
Melt channel Ød	12 mm
Gate point Ød	3.0, 3.5 or 4.0 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

60	80	100	120	150	200	250
■	■	■	□	■	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

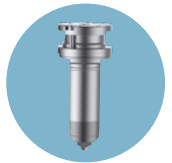
■ available □ on request

### NOTE

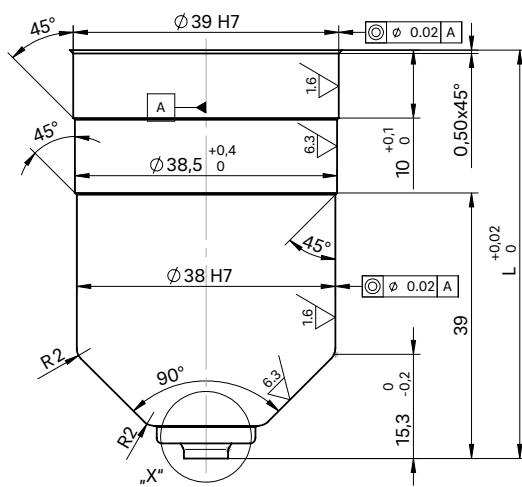
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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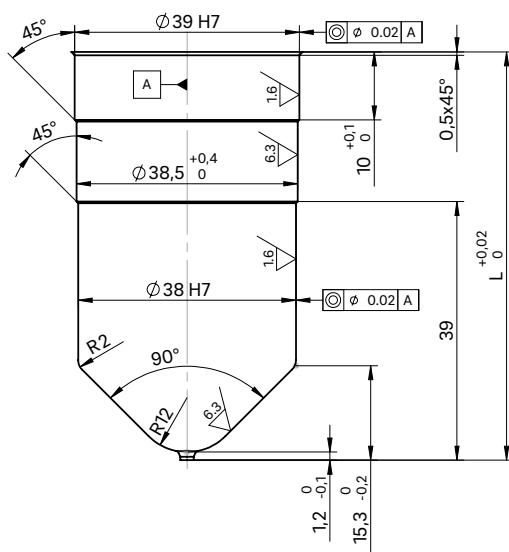


Nozzle with needle guide antechamber design LA



For "X" version of the needle guide see following page

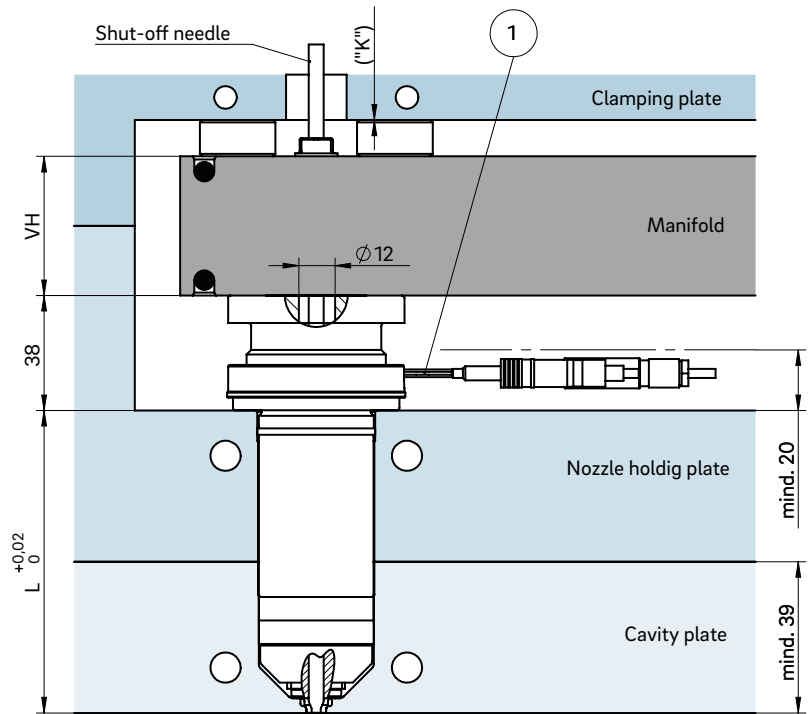
Nozzle with needle guide antechamber design KA



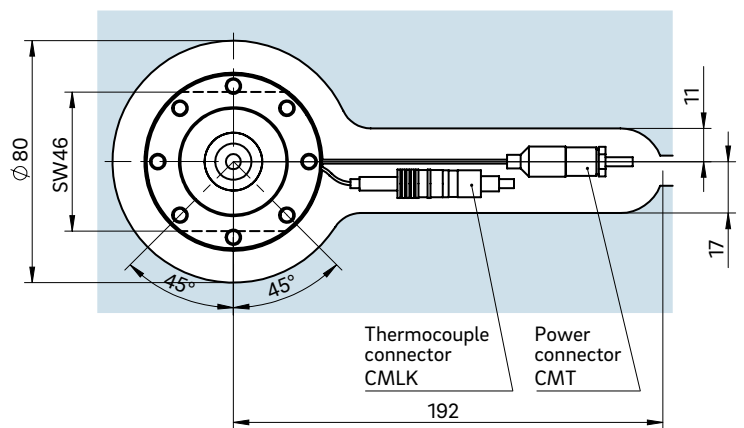
Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311

## INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8

SW = flat area on nozzle head



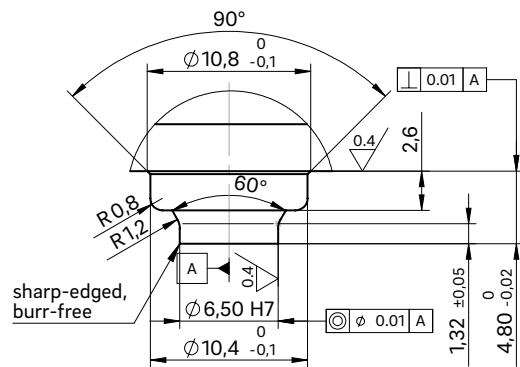
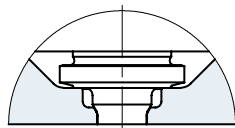
# Valve gate nozzle type 12NHT

Needle guide versions LA, LA with titanium ring and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

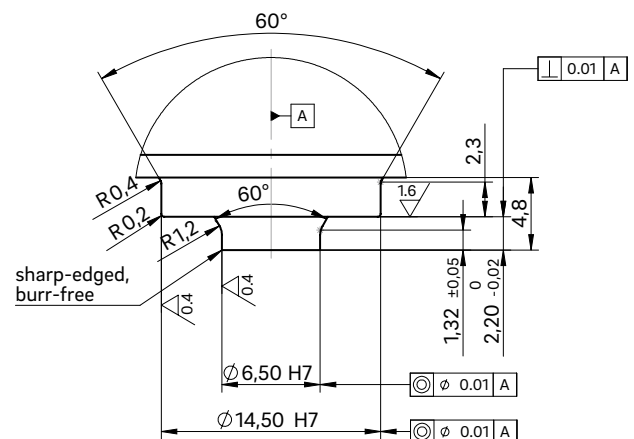
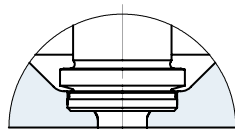
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



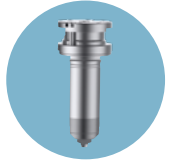
### Needle guide LA

Special version with titanium ring

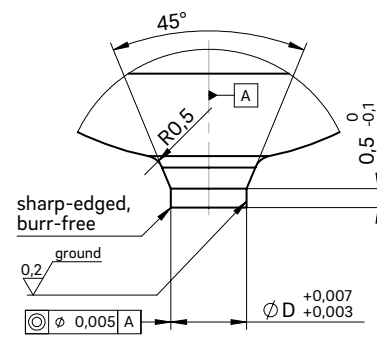
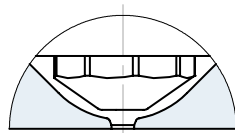
Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)





Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of  $64 \pm 2$  HRC is to be taken into account!



## Valve gate nozzle type 5NMT

System nozzle with conventional heating element, for minimal spacing, not screwed to the manifold

### TECHNICAL DATA

#### 5NMT

Needle Ød	3 mm
Melt channel Ød	4.8 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120	150
■	■	■	■	■	□

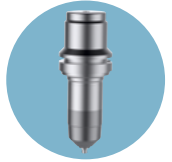
Contact us for other nozzle lengths!

\*Volts alternating current

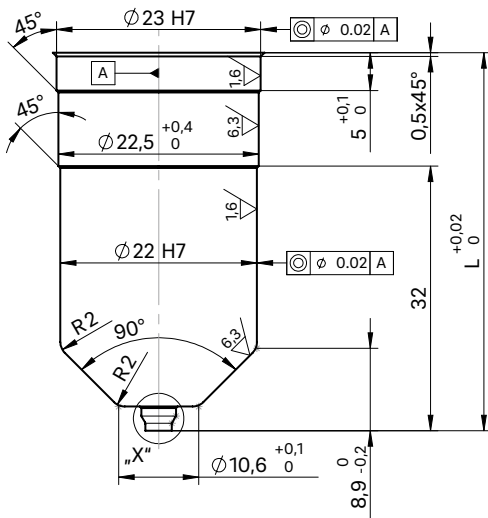
■ available □ on request



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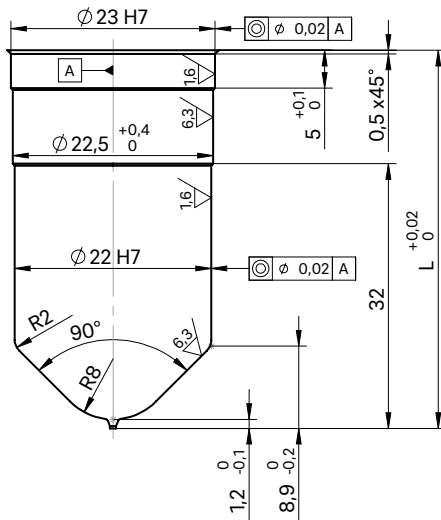


Nozzle with needle guide  
antechamber design LA

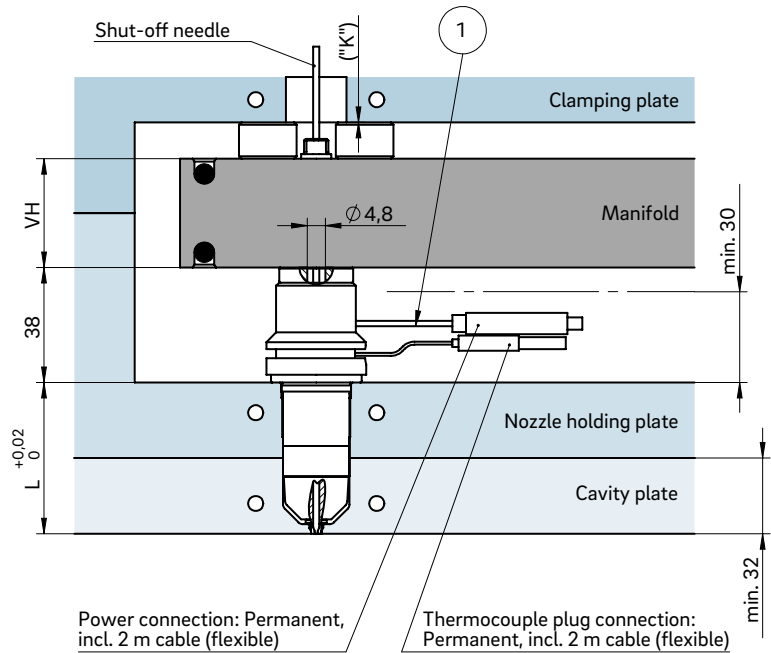


For "X" version of the needle guide  
see following page

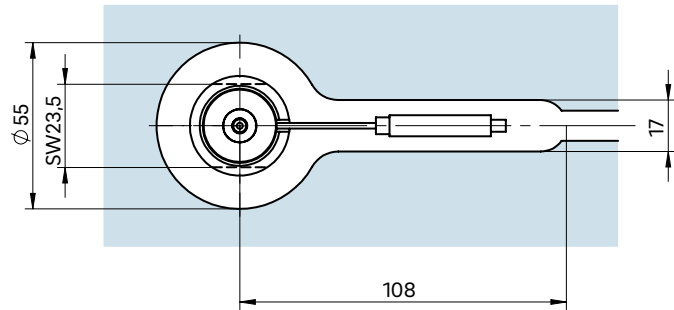
Nozzle with needle guide  
antechamber design KA



## INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



- ① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad ( $12 + 0.1$  mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed!  $\Delta T$  specifies the temperature differential between the processing temperature and the mould temperature!

VH	$\Delta T$ (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



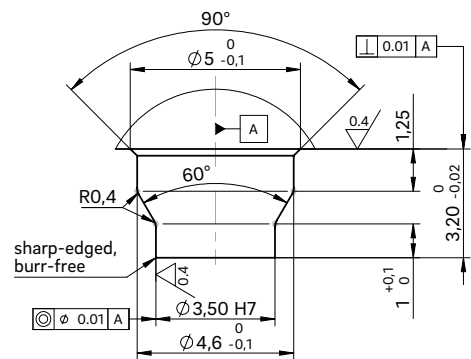
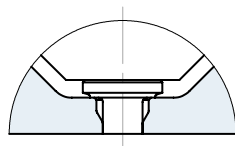
# Valve gate nozzle type 5NMT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

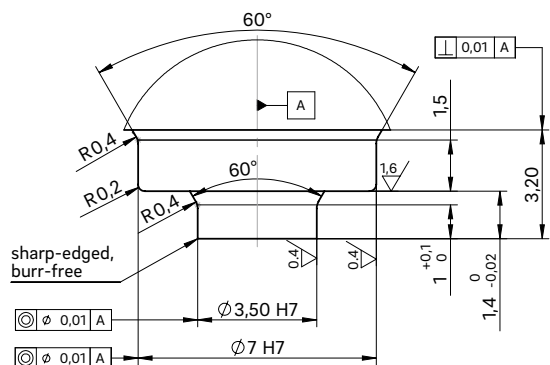
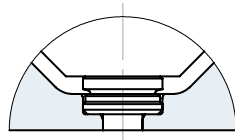
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring

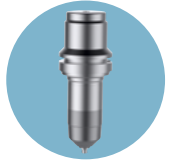


### Needle guide LA

Special version with titanium ring

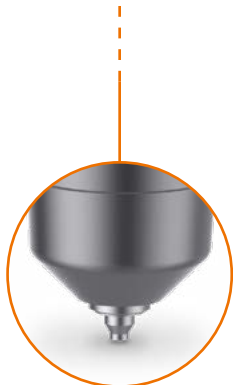
Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

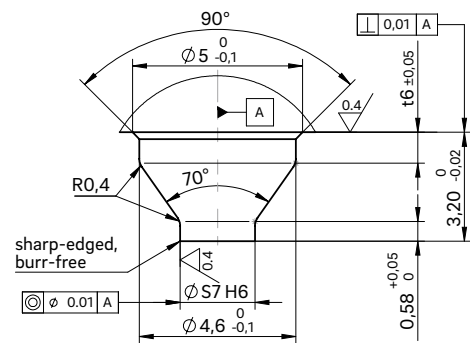
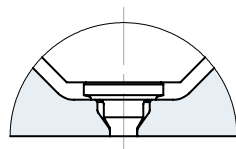


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

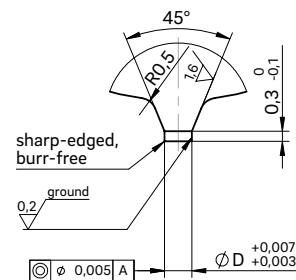
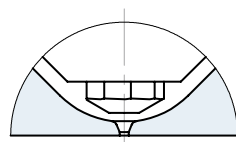
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 6NMT

System nozzle with conventional heating element, for minimal spacing, not screwed to the manifold

### TECHNICAL DATA

#### 6NMT

Needle Ød	3 mm
Melt channel Ød	6 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120	150	200
■	■	■	■	□	□	□

Contact us for other nozzle lengths!

\*Volts alternating current

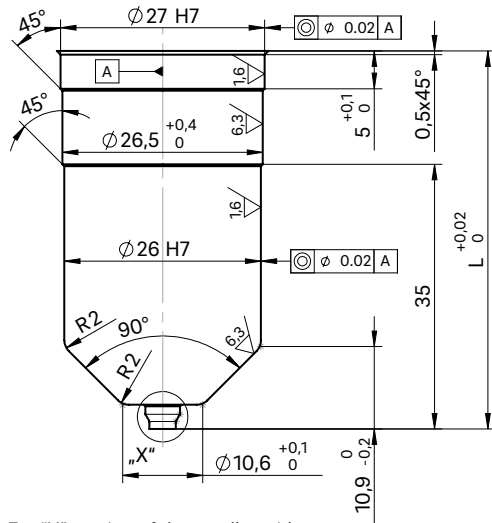
■ available □ on request



WEBCODE  
32100

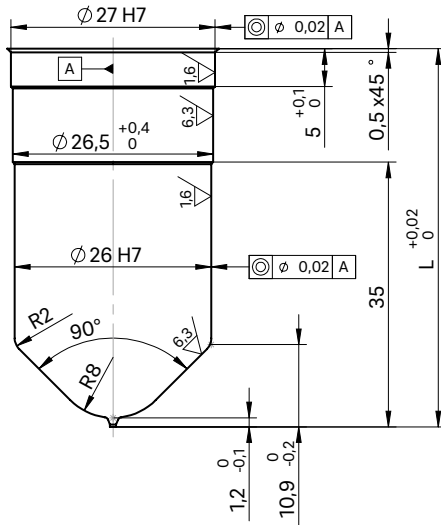


Nozzle with needle guide  
antechamber design LA

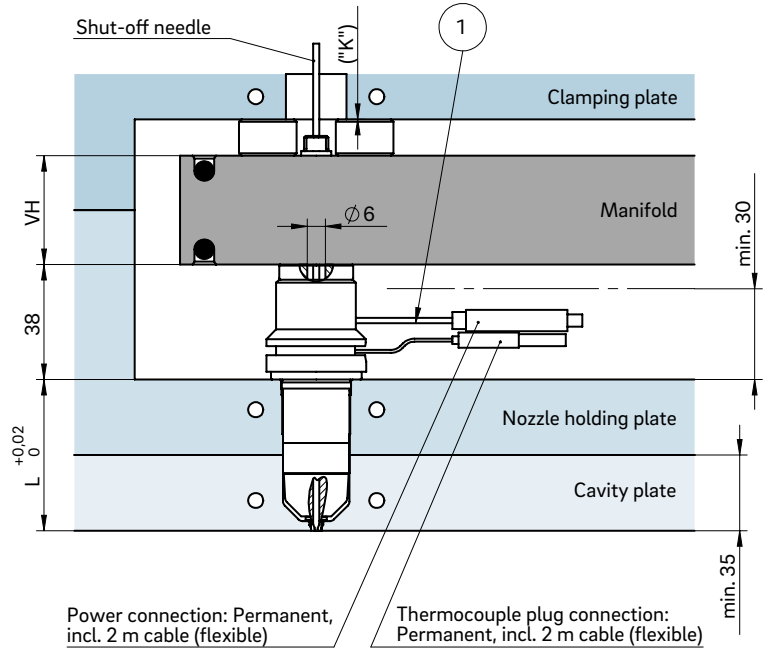


For "X" version of the needle guide  
see following page

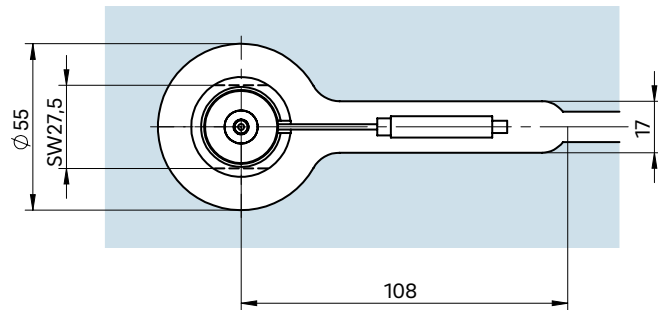
Nozzle with needle guide  
antechamber design KA



### INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head

Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed!  $\Delta T$  specifies the temperature differential between the processing temperature and the mould temperature!

VH	$\Delta T$ (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311



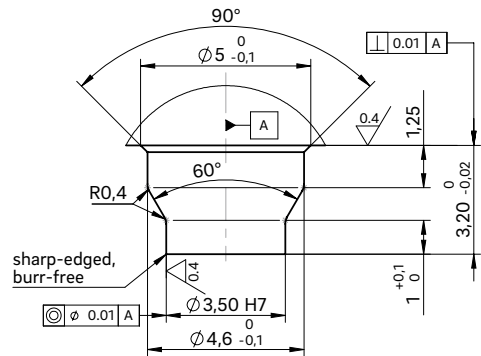
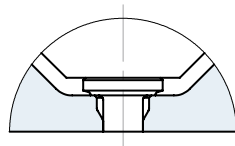
# Valve gate nozzle type 6NMT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

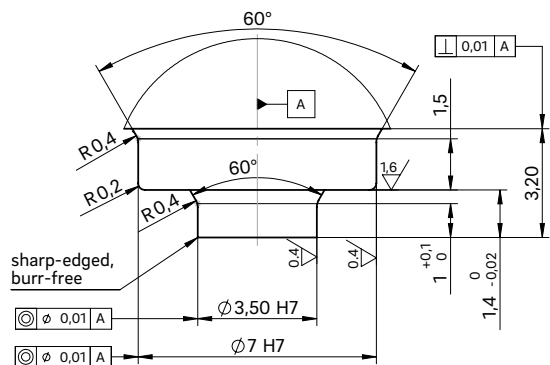
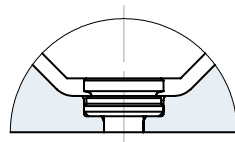
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



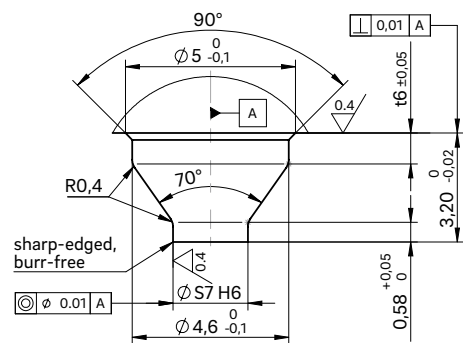
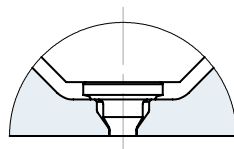


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



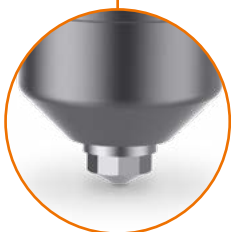
**Needle guide LAZ**

Made of powder-metallurgical steel

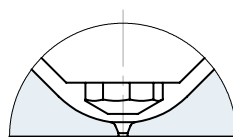
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



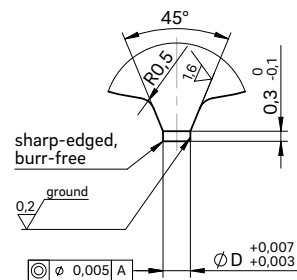
Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!





## Valve gate nozzle type 4NTT

System nozzle with conventional heating element, screwed from the parting line

### TECHNICAL DATA

#### 4NTT

Needle Ød	2 mm
Melt channel Ød	3.8 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80
■	■	■

Contact us for other nozzle lengths!

\*Volts alternating current

■ available

### NOTE

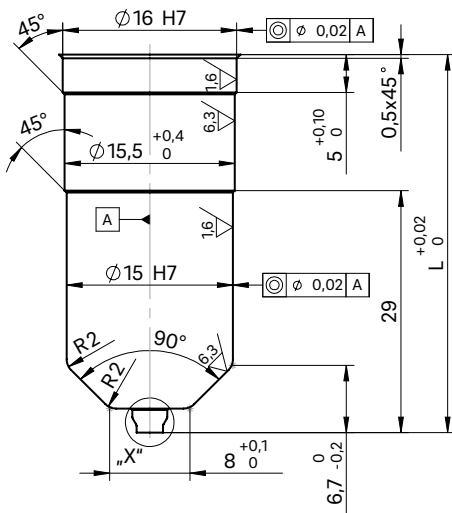
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



WEBCODE  
32110

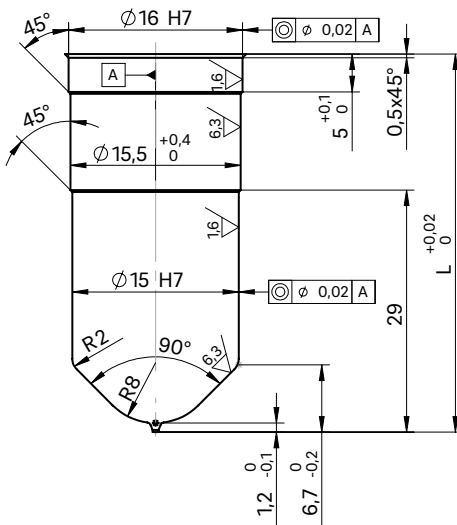


Nozzle with needle guide  
antechamber design LA



For "X" version of the needle guide  
see following page

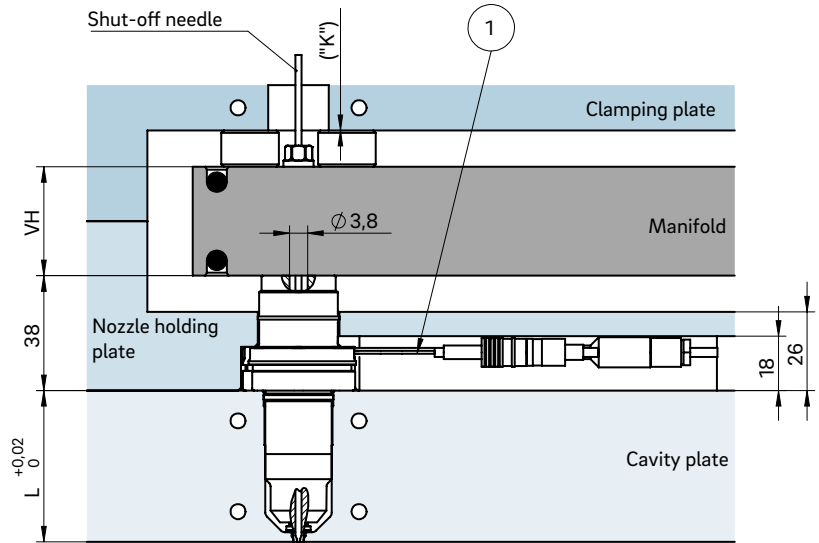
Nozzle with needle guide  
antechamber design KA



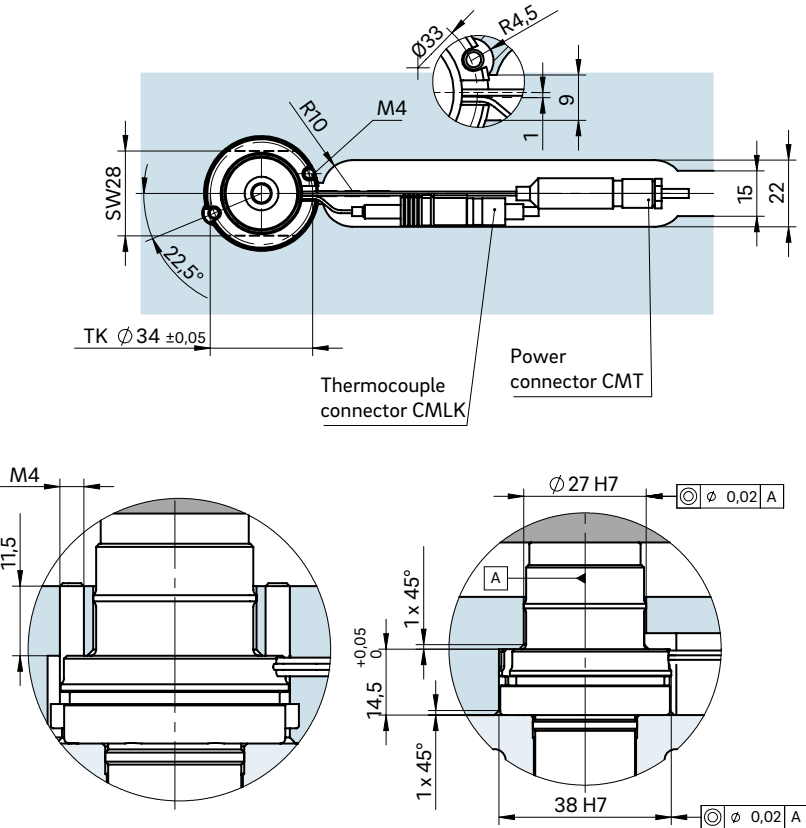
Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed!  $\Delta T$  specifies the temperature differential between the processing temperature and the mould temperature!

VH	$\Delta T$ (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311

**INSTALLATION**



Example cutout for nozzle head, power and thermocouple plug connections



① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head



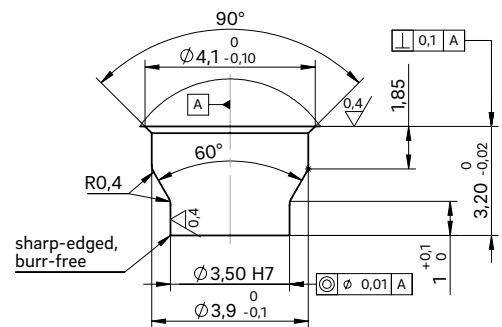
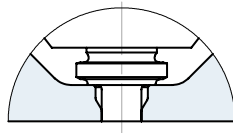
# Valve gate nozzle type 4NTT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

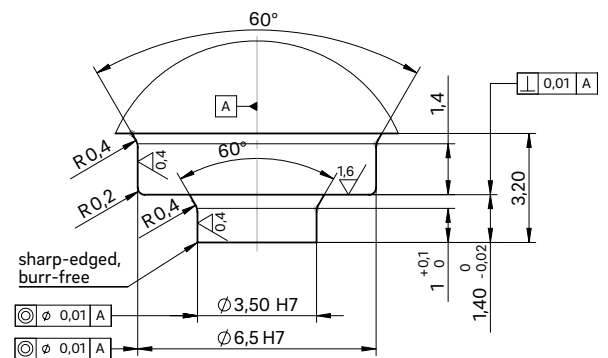
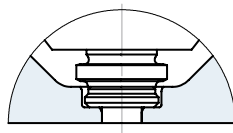
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

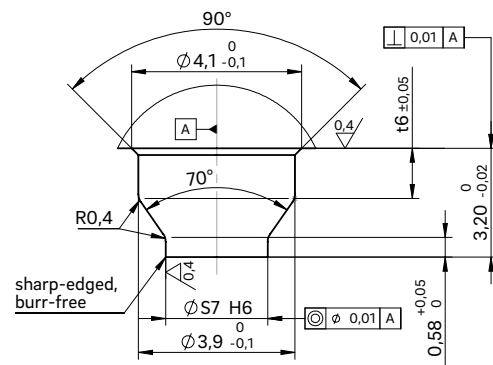
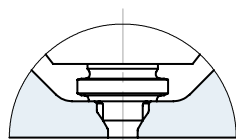


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	1.41
1.0	2.4	1.55
1.2	2.6	1.70
1.4	2.8	1.84



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

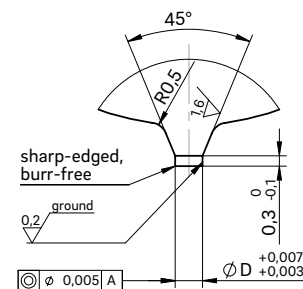
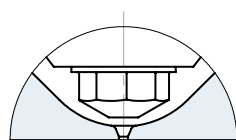
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

This is used when a second marking on the part is not permissible.

When selecting the material to be used, the needle hardness of 64 ±2 HRC is to be taken into account!



## Valve gate nozzle type 5NTT

System nozzle with conventional heating element, screwed from the parting line

### TECHNICAL DATA

#### 5NTT

Needle Ød	3 mm
Melt channel Ød	4.8 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120
■	■	■	■	■

Contact us for other nozzle lengths!

\*Volts alternating current

■ available

### NOTE

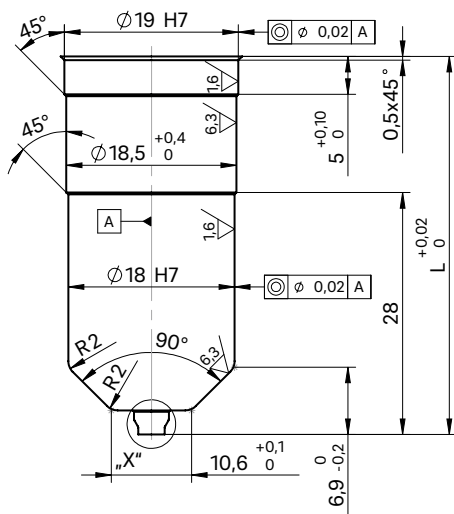
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



WEBCODE  
32120

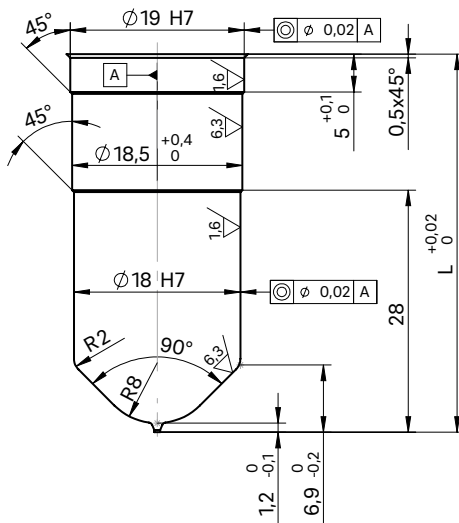


Nozzle with needle guide antechamber design LA



For "X" version of the needle guide see following page

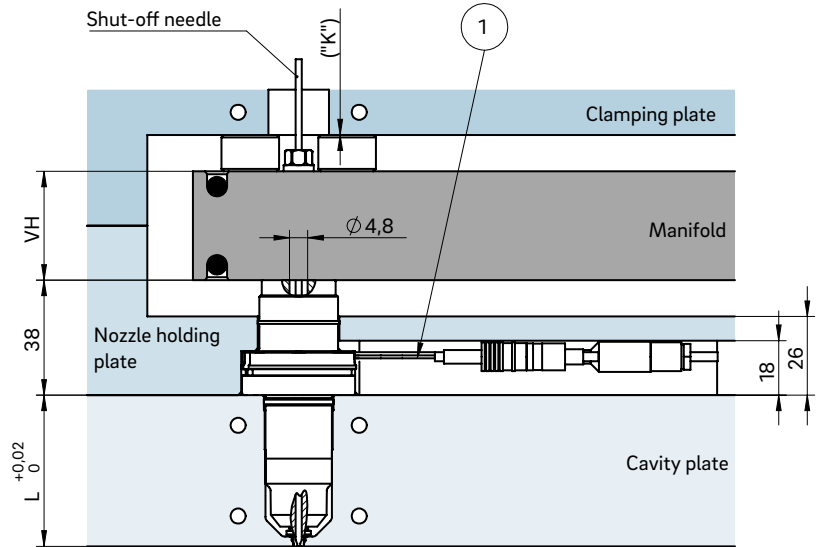
Nozzle with needle guide antechamber design KA



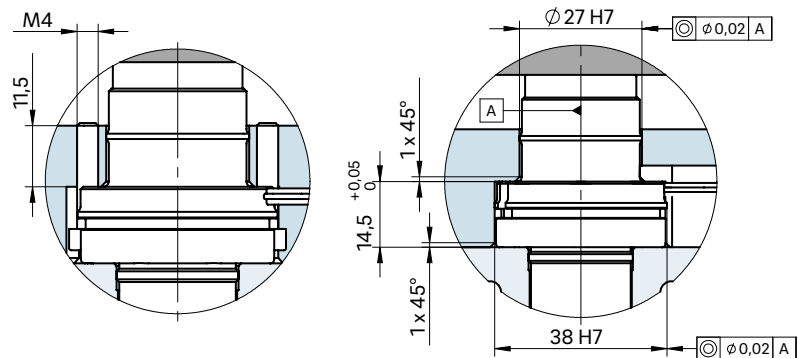
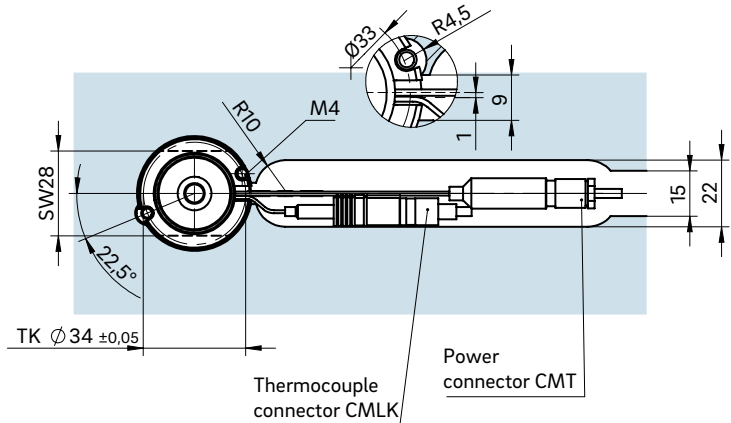
Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311

INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head



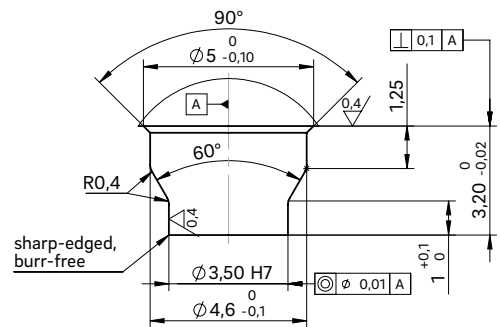
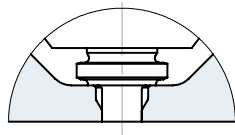
# Valve gate nozzle type 5NTT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

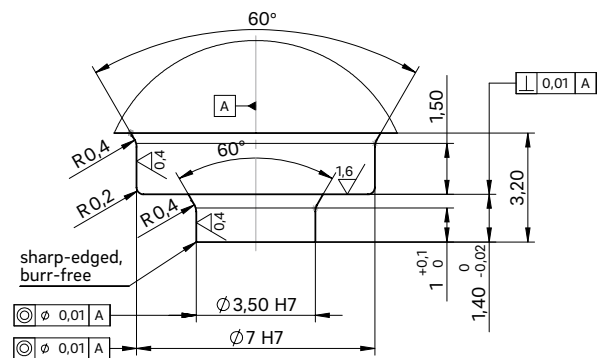
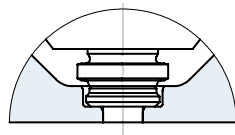
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring.

### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version LA  
with titanium ring



### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)



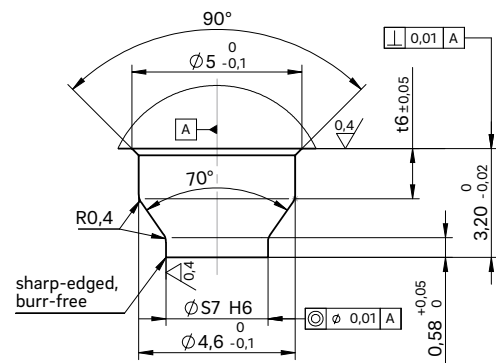
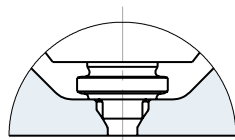


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



Needle guide version  
Antechamber version LAZ



**Needle guide LAZ**

Made of powder-metallurgical steel

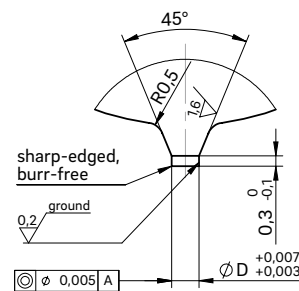
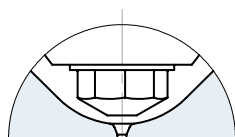
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear or burring. Needle guide type LAZ has a tapered shape with a smaller contact surface which creates a smaller impression. This version is suitable for items with a minimal wall thickness and part geometries not permitting a larger impression.

**Advantages:**

- Long service life and wear-resistance
- Wear parts are easy to replace
- Outstanding and flash-free gate point quality
- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



Needle guide version  
Antechamber version KA



**Needle guide KA**

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When selecting the material to be used, the needle hardness of 64 ± 2 HRC is to be taken into account!



## Valve gate nozzle type 6NTT

System nozzle with conventional heating element, screwed from the parting line

### TECHNICAL DATA

#### 6NTT

Needle Ød	3 mm
Melt channel Ød	6 mm
Gate point Ød	0.8, 1.0, 1.2 or 1.4 mm
Operating voltage	230 V <sub>AC</sub> *

#### Nominal length of the nozzle (L) in mm

50	60	80	100	120
■	■	■	■	■

Contact us for other nozzle lengths!

\*Volts alternating current

■ available

### NOTE

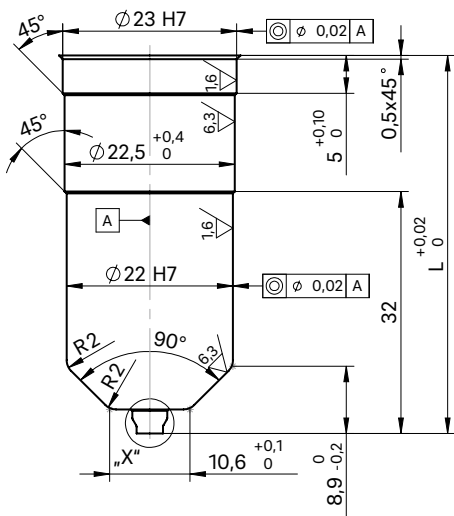
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



WEBCODE  
32130

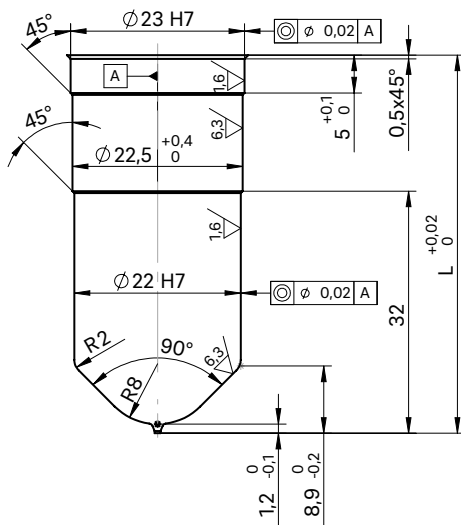


Nozzle with needle guide antechamber design LA



For "X" version of the needle guide see following page

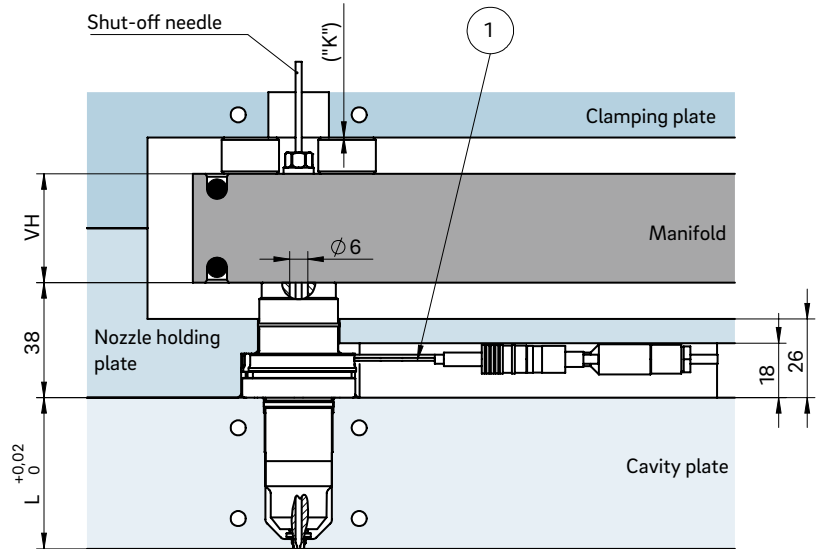
Nozzle with needle guide antechamber design KA



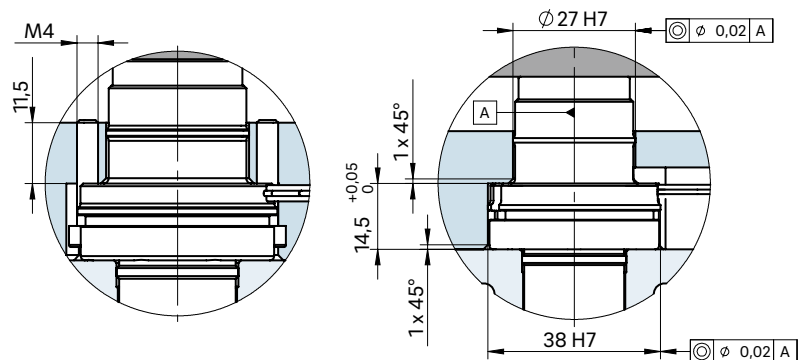
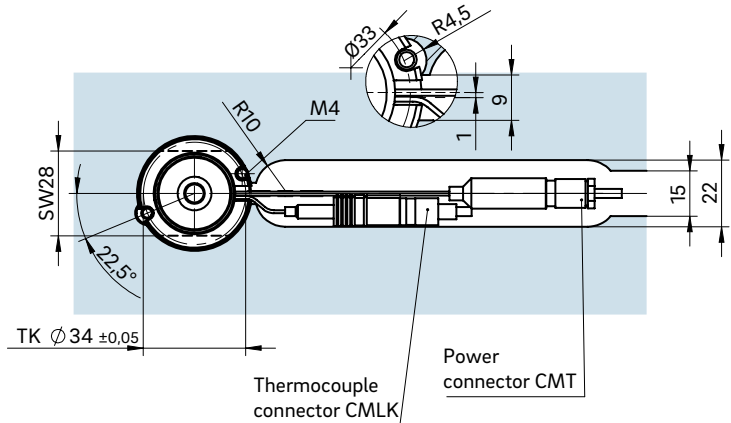
Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and the mould temperature!

VH	ΔT (°C)	100	150	200	250	300	350
36 mm	K (mm)	0.021	0.059	0.098	0.137	0.177	0.217
46 mm	K (mm)	0.033	0.078	0.124	0.170	0.218	0.264
56 mm	K (mm)	0.046	0.097	0.150	0.203	0.258	0.311

### INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections



① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8  
SW = flat area on nozzle head



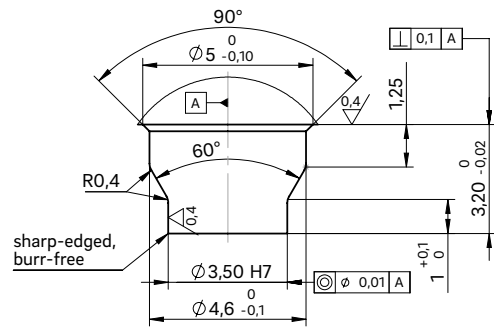
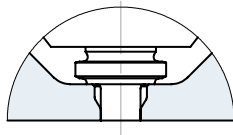
# Valve gate nozzle type 6NTT

Needle guide versions LA, LA with titanium ring, LAZ and KA

## NEEDLE GUIDE VERSIONS



Needle guide version  
Antechamber version LA



### Needle guide LA

Made of powder-metallurgical steel

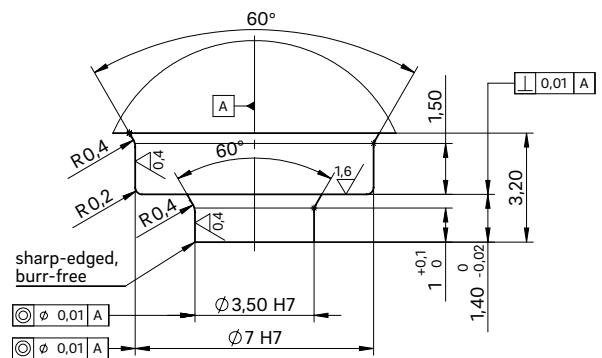
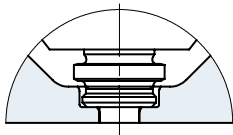
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### Advantages:

- Long service life and wear-resistance
- Wear parts are easy to replace
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Needle guide version  
Antechamber version LA  
with titanium ring

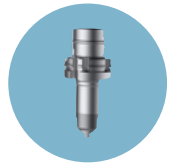


### Needle guide LA

Special version with titanium ring

Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

- Polyamides (PA4.6, PA6.6 and HTN)
- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

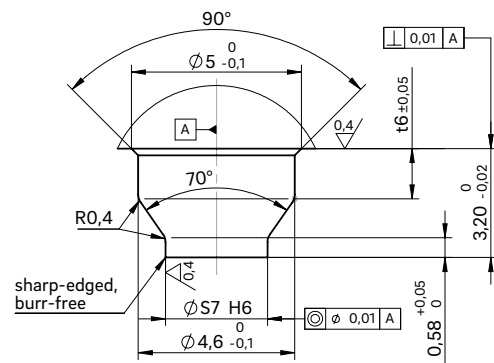
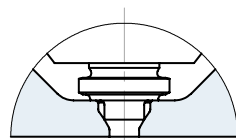


**Installation dimensions of needle guide version LAZ**

ØD	ØS7	t6
0.8	2.2	0.91
1.0	2.4	1.05
1.2	2.6	1.20
1.4	2.8	1.34



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Antechamber version LAZ



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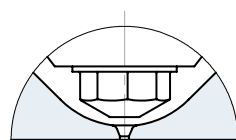
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