



Valve gate systems



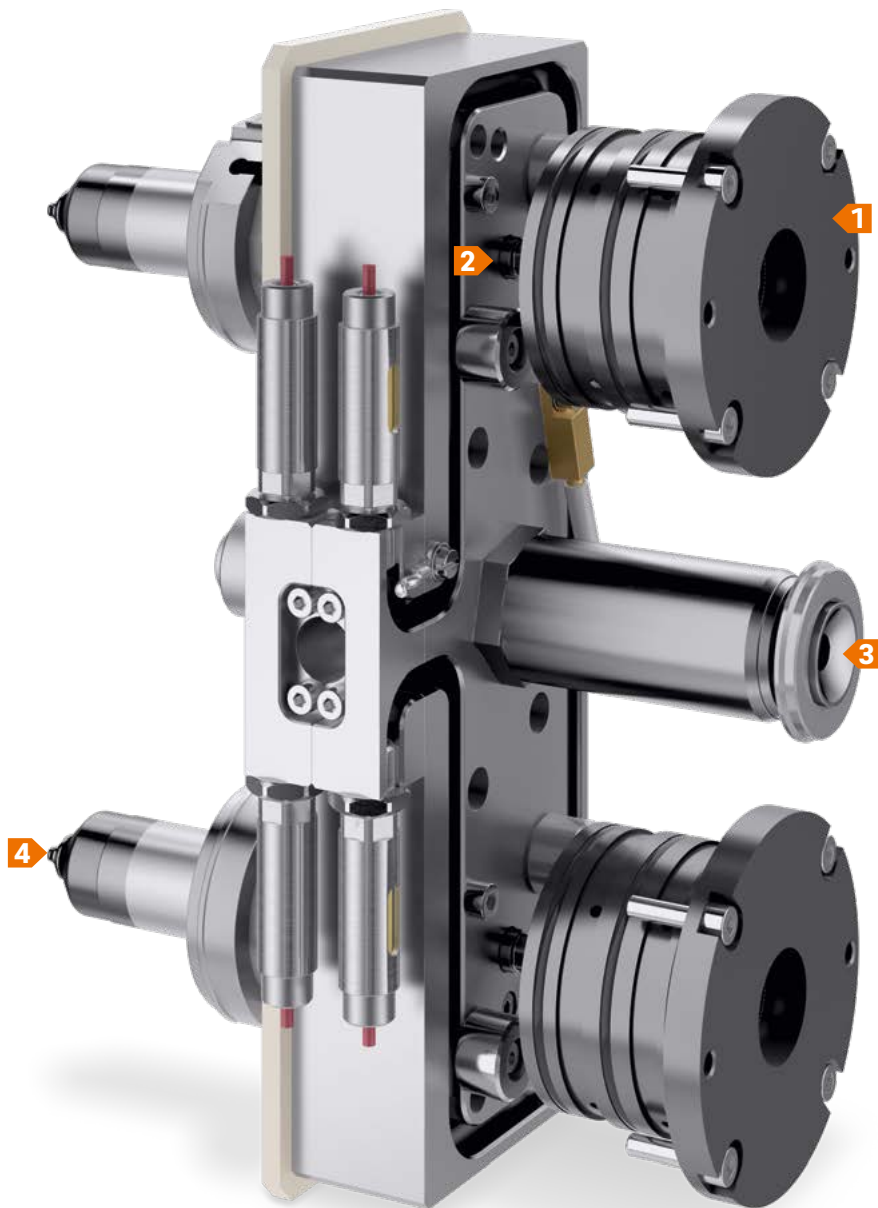
3 Valve gate systems

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Valve gate technology

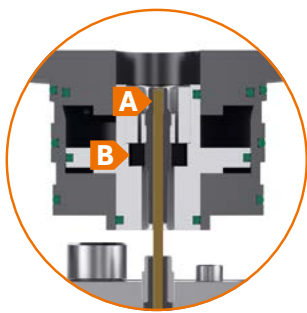
High visual requirements, a variety of applications, minimal shear stress, variable gate diameters and high process reliability. These are just a few of the requirements for which GÜNTHER valve gate technology has the right answer.



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.

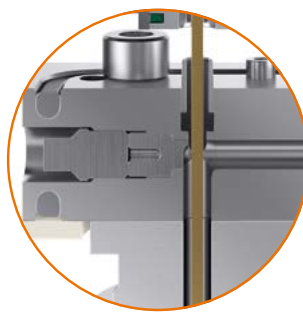
The innovative design of the needle guide and the optimised shut-off needle enable low-wear operation. During the shut-off movement, the needle is first led over a cone up

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.



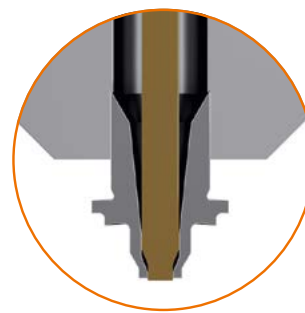
1 ENV single-needle valve

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



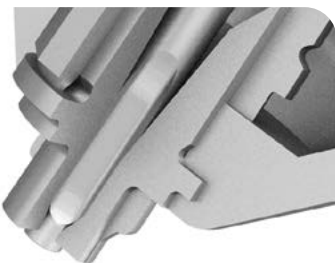
2 Needle guide and sealing in the manifold

3 Heated connecting nozzle



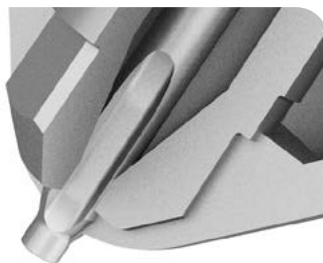
4 Needle guide in the nozzle

POSSIBLE NEEDLE GUIDE DESIGNS



LA NEEDLE GUIDE

Second mark on the part



KA NEEDLE GUIDE

Application-dependent use

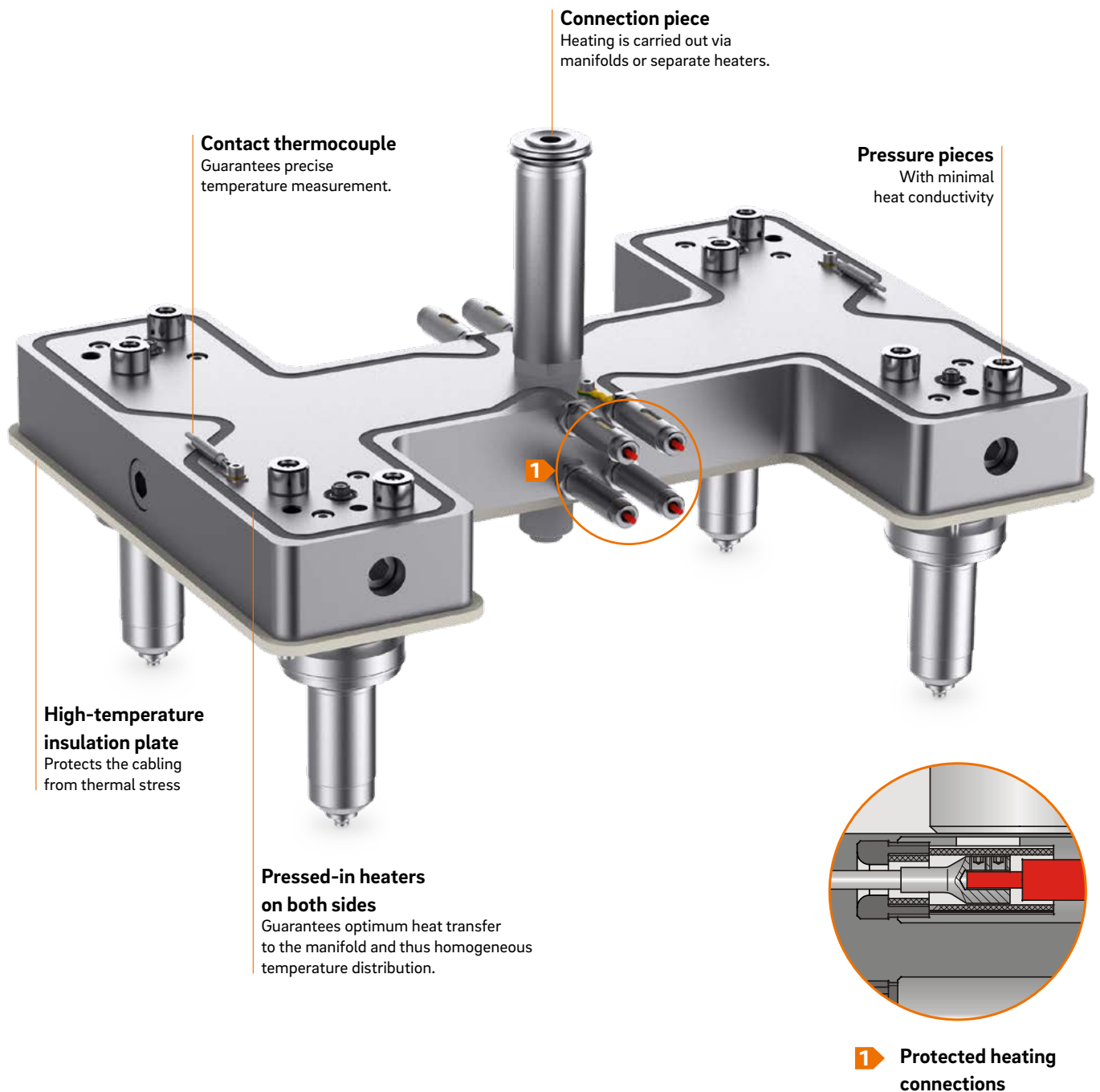
THE ADVANTAGES AT A GLANCE

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



Manifold systems

Different manifold versions can be selected for different applications, from partially or fully balanced to customer-specific special solutions. Flexible positioning of hot runner nozzles with a manifold make individualised mould design possible.



HOMOGENEOUS TEMPERATURE MANAGEMENT THANKS TO PRESSED-IN HEATERS

All melt-conducting components are heated externally, which ensures optimum plastic flow with the smallest possible pressure loss. Pressed-in heaters on both sides guarantee optimum heat transfer to the manifold block. This results in homogeneous temperature distribution.

PROTECTED POWER CONNECTIONS – HIGHLY MAINTENANCE FRIENDLY

Steel and ceramic sleeves protect the power connections from damage. Mechanical cleaning of the manifold channels is easy and fast. Cleaning in the fluid bed bath and oven is also possible. The model data in the CADHOC® System Designer library can be configured (and are thus quickly available) for both individual and standard manifolds.

CADHOC® SYSTEM DESIGNER – TOP-NOTCH SOFTWARE PROVIDED FOR YOUR SUPPORT

CADHOC® System Designer enables us to meet your needs for fast provision of product data on everything from individual components to complete hot runner systems, including negative volume.

Among other things, CADHOC® System Designer enables you to:

- Design nozzle sizes in an optimum way
- Select plastic types from a comprehensive list
- Make a direct configuration without any specifications of the processing parameters
- Make an application-based configuration with specifications of the processing parameters

3D CAD models on every hot runner system are available for download in a variety of different data formats. After entering your configuration parameters, you will receive an e-mail with a link to the product data of the configured hot runner system.

THE ADVANTAGES AT A GLANCE

- + Homogeneous temperature distribution
- + Variable nozzle positions
- + Power connections with external damage protection
- + Easy and fast cleaning
- + Model data is stored in the CADHOC® online library





Needle actuator

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

- 1 Fast and powerful servo drive**
For valve gate systems, up to 24 drops per sliding mechanism. Needle adjustment in the μ range. Needles close in less than 0.2 s. Can be used in clean rooms.
- 2 Sliding components with special coating**
Protected against wear, can be replaced by the customer.

ANES SLIDING MECHANISM

If a large number of closely positioned nozzles are being operated, a sliding mechanism is to be provided as the drive. Design of moulds with a high number of drops with small mould dimensions. High product quality, as all cavities are filled evenly through the synchronised opening and closing of the needles. Adjustment of the needle position when mounted on the machine.

Possible drive types:



Electrical



Hydraulic



Pneumatic

THE ADVANTAGES AT A GLANCE

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





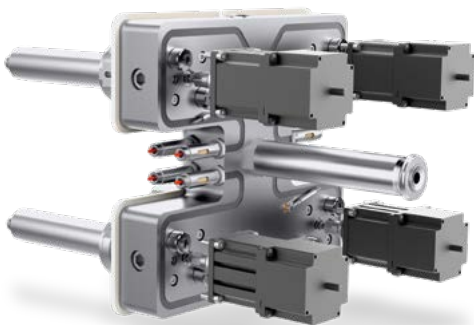
ENV AND EEV SINGLE-NEEDLE VALVE

Single-needle actuation on single- and multi-drop nozzle systems. Cascade injection moulding through the sequential opening and closing of needles is possible. Single-needle valve is mounted with the housing in the clamping plate.

ENV single-needle valve: Minimum cavity spacing with hydraulic drive: 48 mm, with pneumatic drive: 69 mm. Needle adjustment or needle replacement without removing the mould.

EEV single-needle valve: Minimum cavity spacing with hydraulic drive: 40 mm, with pneumatic drive: 57 mm. Due to a fixed needle length, needle adjustment is only possible with the mould disassembled.

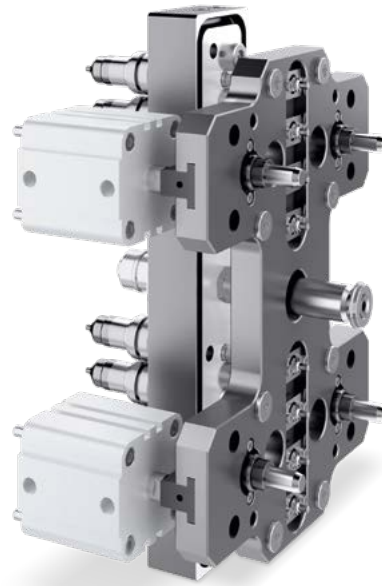
Possible drive types:  Hydraulic  Pneumatic



SMA 10 STEPPER MOTOR

Electric drive for complex applications with up to four different needle positions per cycle. Up to 16 SMA 10 stepper motors can be controlled with extreme precision using the DPE control unit. Using the DPE control unit, the position of each individual shut-off needle in the mould can be set individually. Needle adjustment in the range of 1/100 mm. Can be used in clean rooms.

Drive type:  Electrical



ANEH STROKE MECHANISM

Reliable injection process, even with small shot weights thanks to uniform opening and closing of the needles. Replacement of the external cylinder without removal of the mould. Adjustment of the needle position in the assembled mould.

Possible drive types:  Hydraulic  Pneumatic  Electrical



NEST SINGLE VALVE GATE NOZZLE

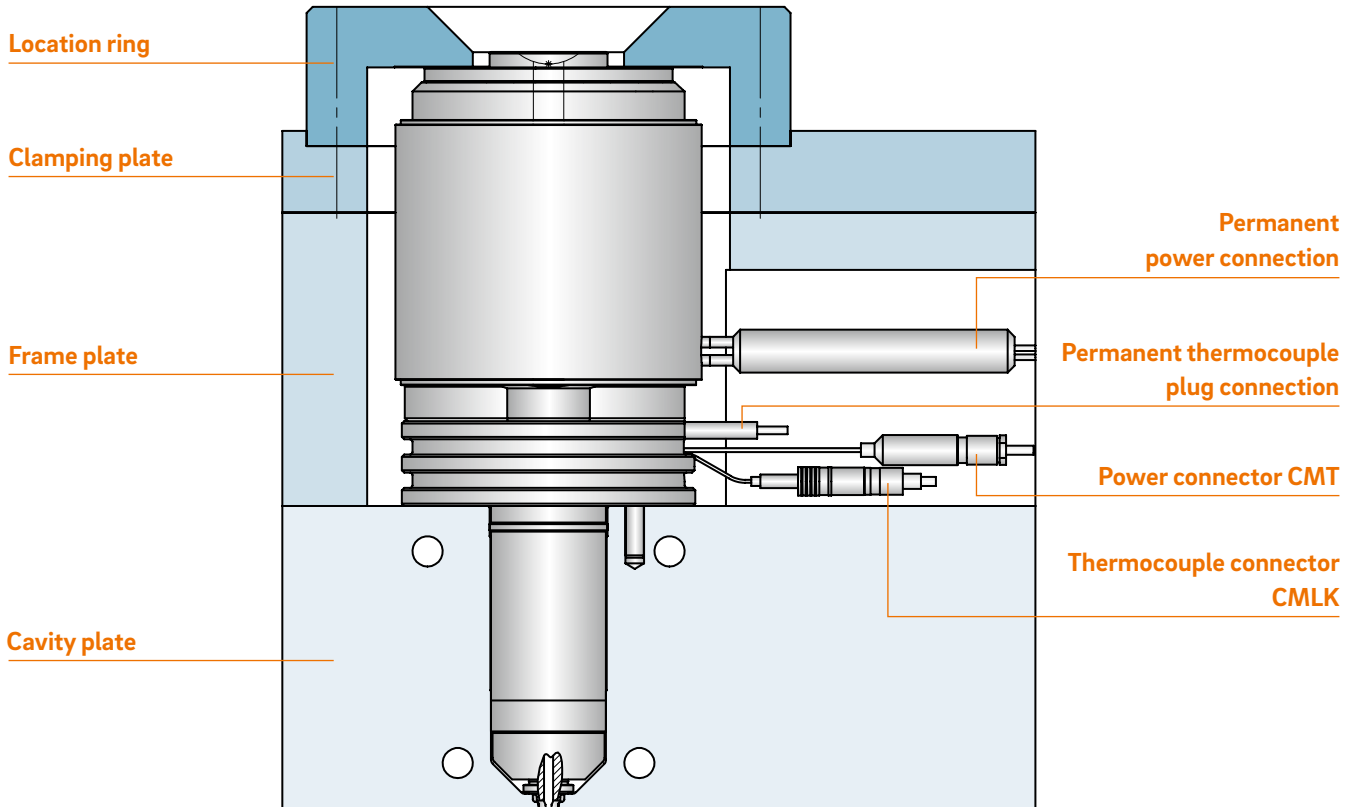
The pneumatically driven NEST valve gate nozzle offers optimum process reliability when processing high-quality, demanding materials. Melt channel diameters from 5 to 12 mm and a length of up to 250 mm enable a variety of different injection moulded part and mould designs.

Drive type:  Pneumatic



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 _{AC} * | | | | | | |
| 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.

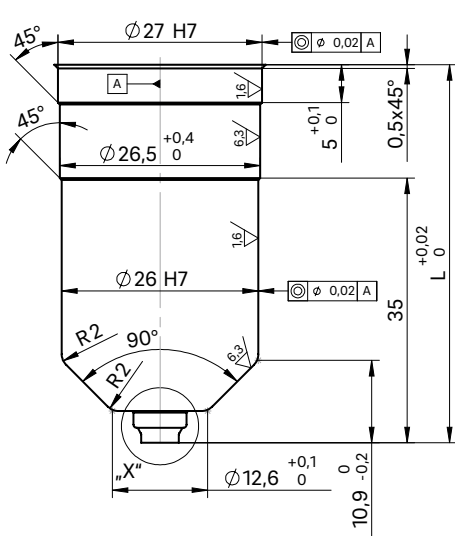
In the case of mould temperatures exceeding the thermal stress limit of the pneumatic valves, a separate air cooler is to be installed. Pneumatic hose inner dia. of 8 mm. Pneumatic valve size of 2000 l/min to 3000 l/min.



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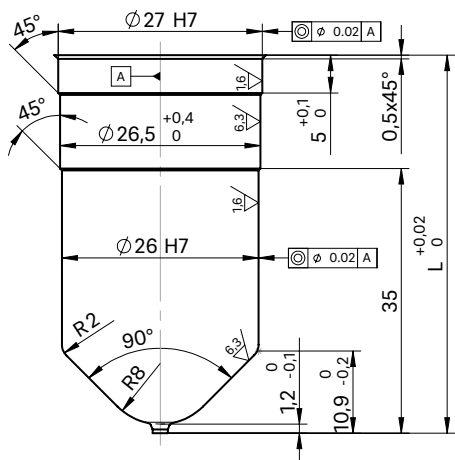


Nozzle with needle guide antechamber design LA

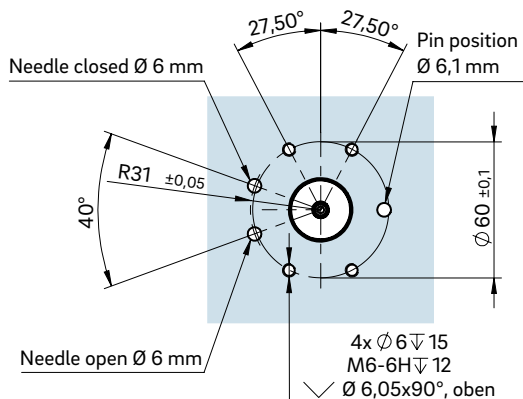


For "X" version of the needle guide see following page

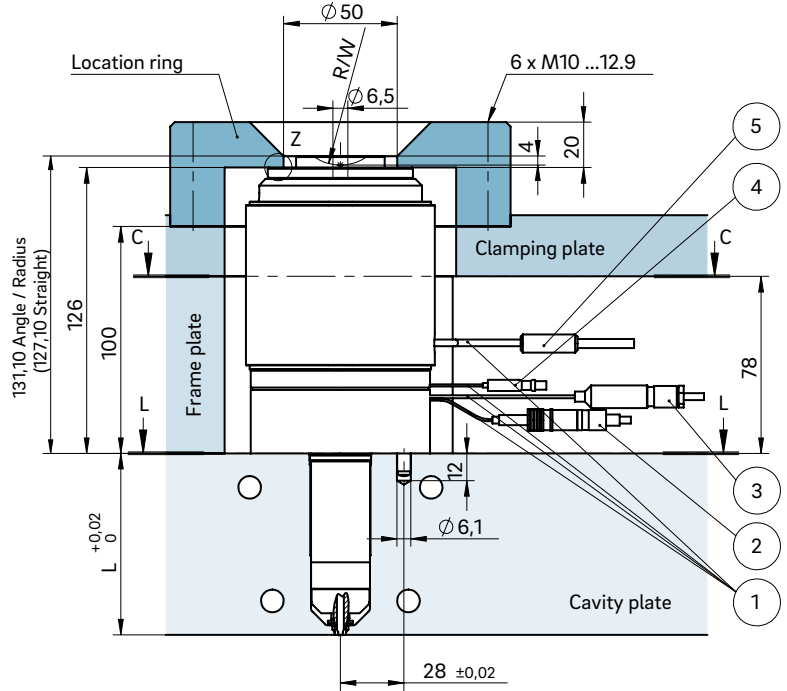
Nozzle with needle guide antechamber design KA



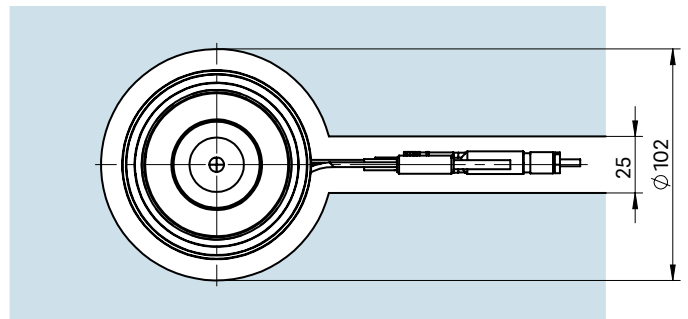
Cross-section L-L: Hole for feed/discharge air, fastening thread and centring/positioning pin



INSTALLATION

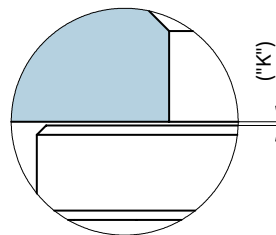


Cross-section C-C: Cutout for nozzle head, power and thermocouple plug connections



- 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 |



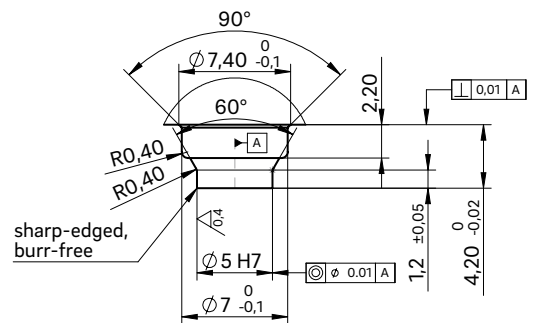
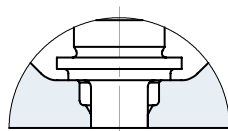
Valve gate nozzle type 8NEST

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

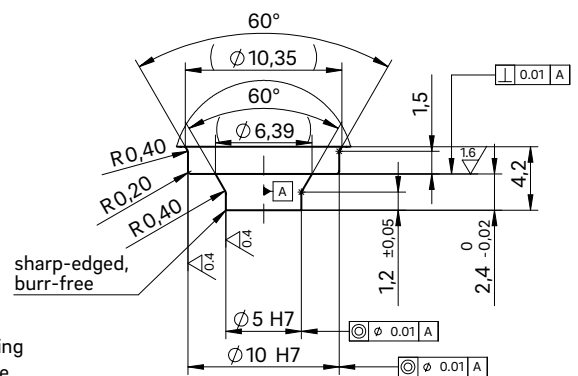
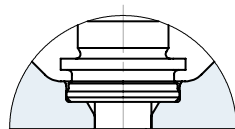
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

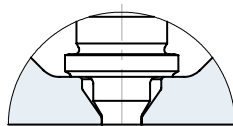


Installation dimensions of needle guide version LAZ

| 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 |



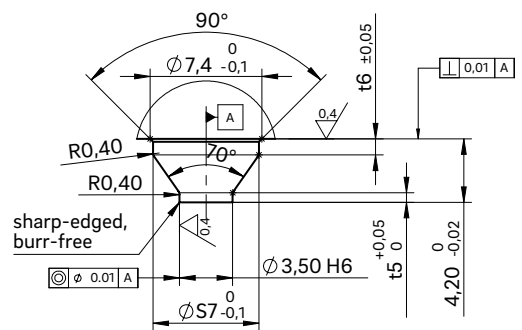
Needle guide version
Antechamber version LAZ



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.

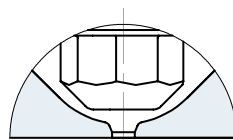


Advantages:

- 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



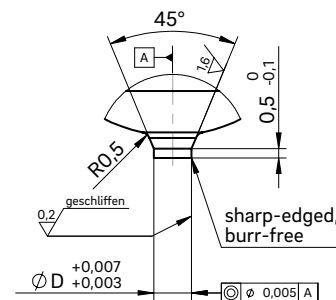
Needle guide version
Antechamber version KA



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 _{AC} * | | | | | |
| Nominal length of the nozzle (L) in mm | | | | | | |
| 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.

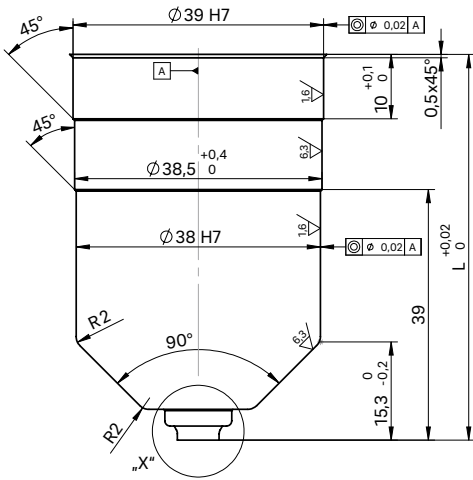
In the case of mould temperatures exceeding the thermal stress limit of the pneumatic valves, a separate air cooler is to be installed. Pneumatic hose inner dia. of 8 mm. Pneumatic valve size of 2000 l/min to 3000 l/min.



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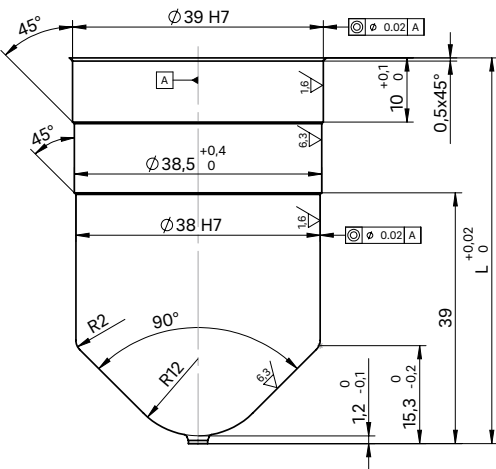


Nozzle with needle guide antechamber design LA

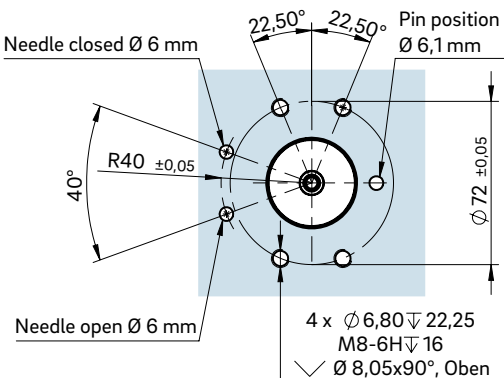


For "X" version of the needle guide see following page

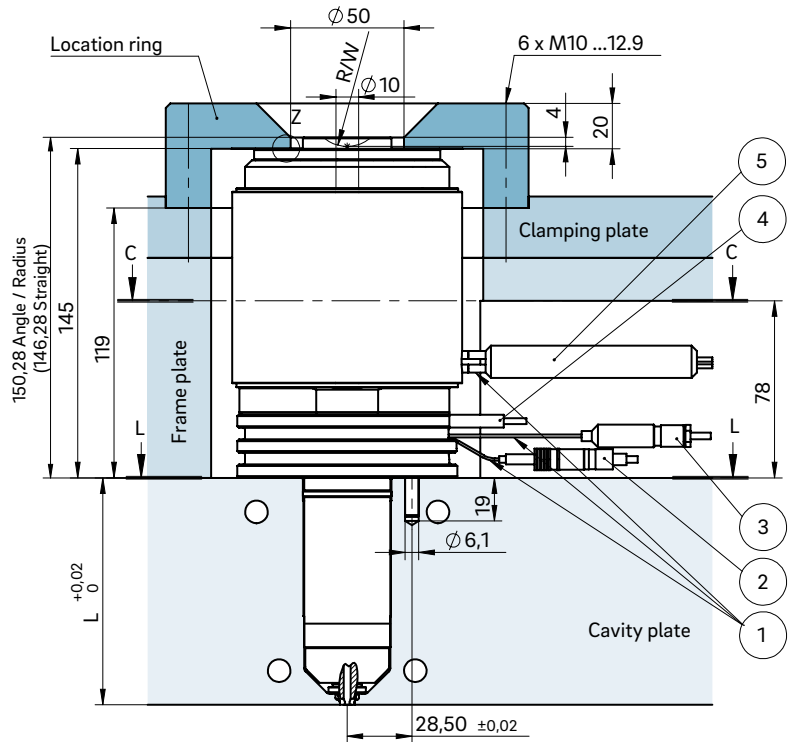
Nozzle with needle guide antechamber design KA



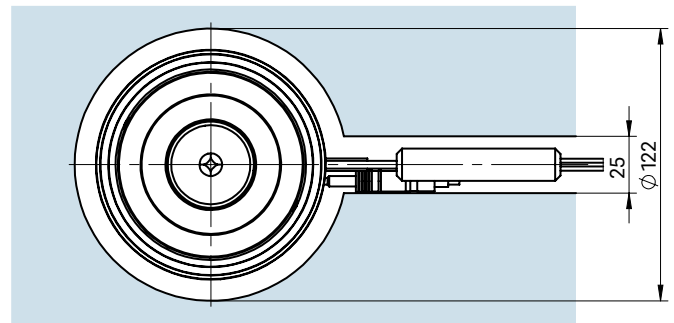
Cross-section L-L: Hole for feed/discharge air, fastening thread and centring/positioning pin



INSTALLATION

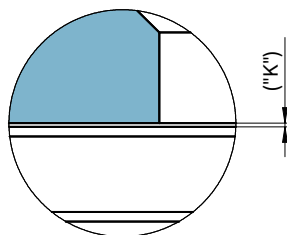


View C-C: Cutout for nozzle head, power and thermocouple plug connections



- ① Power and thermocouple plug connections in this area can be bent once; minimum radius: R8
- ② Thermocouple connector CMLK
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Detail "Z"



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



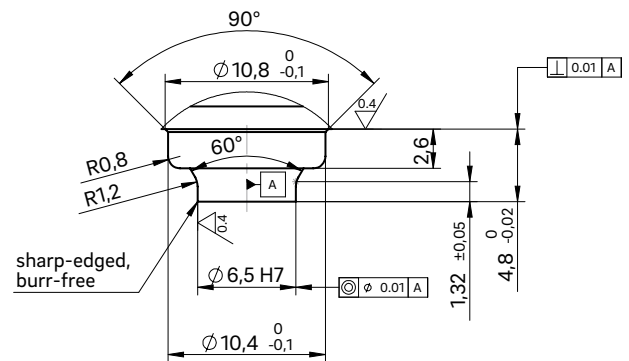
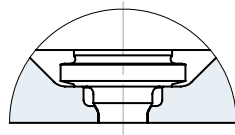
Valve gate nozzle type 12NEST

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

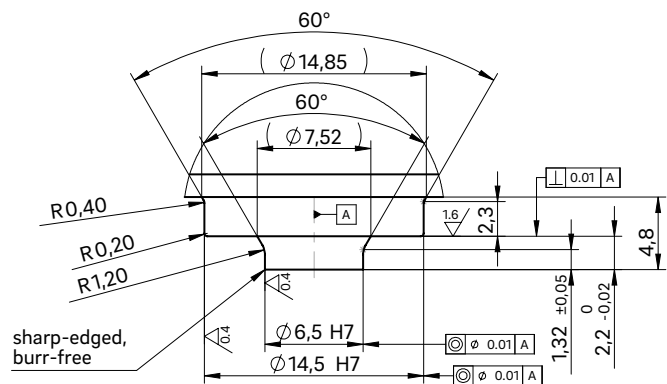
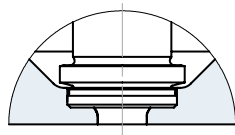
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Advantages:

- 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 LA
with titanium ring



Needle guide LA

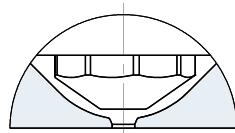
Special version with titanium ring

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)



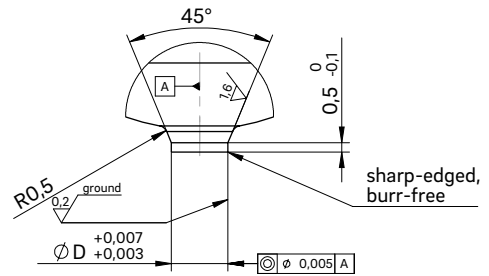
Needle guide version
Antechamber version KA



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 ± 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, 6NMT, 8NMT

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, 122



4NTT, 5NTT and 6NTT

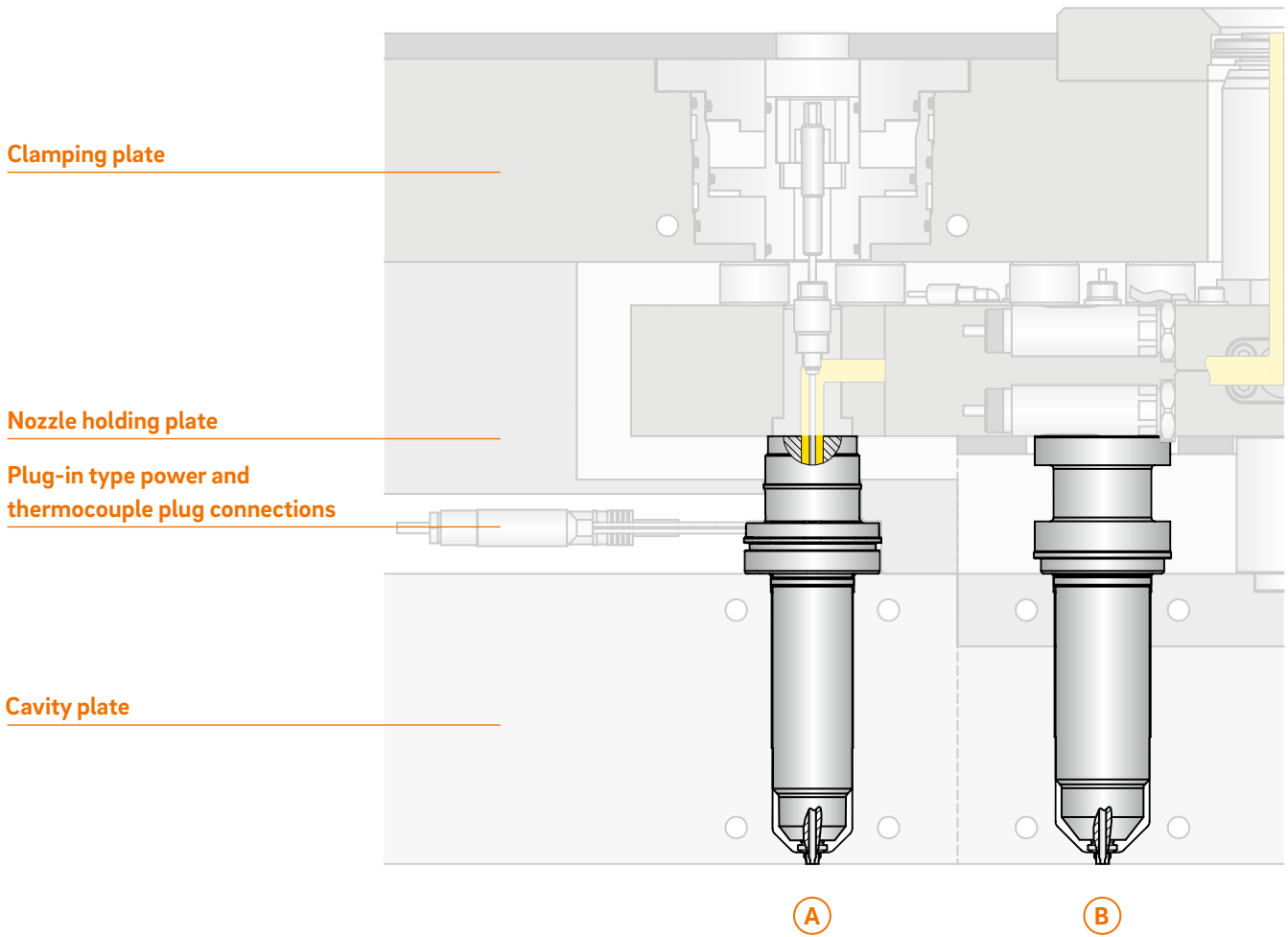
System nozzle with conventional heating element
screwed from the parting line,
needle guide versions LA, LA with titanium ring, LAZ and KA

130, 140, 150



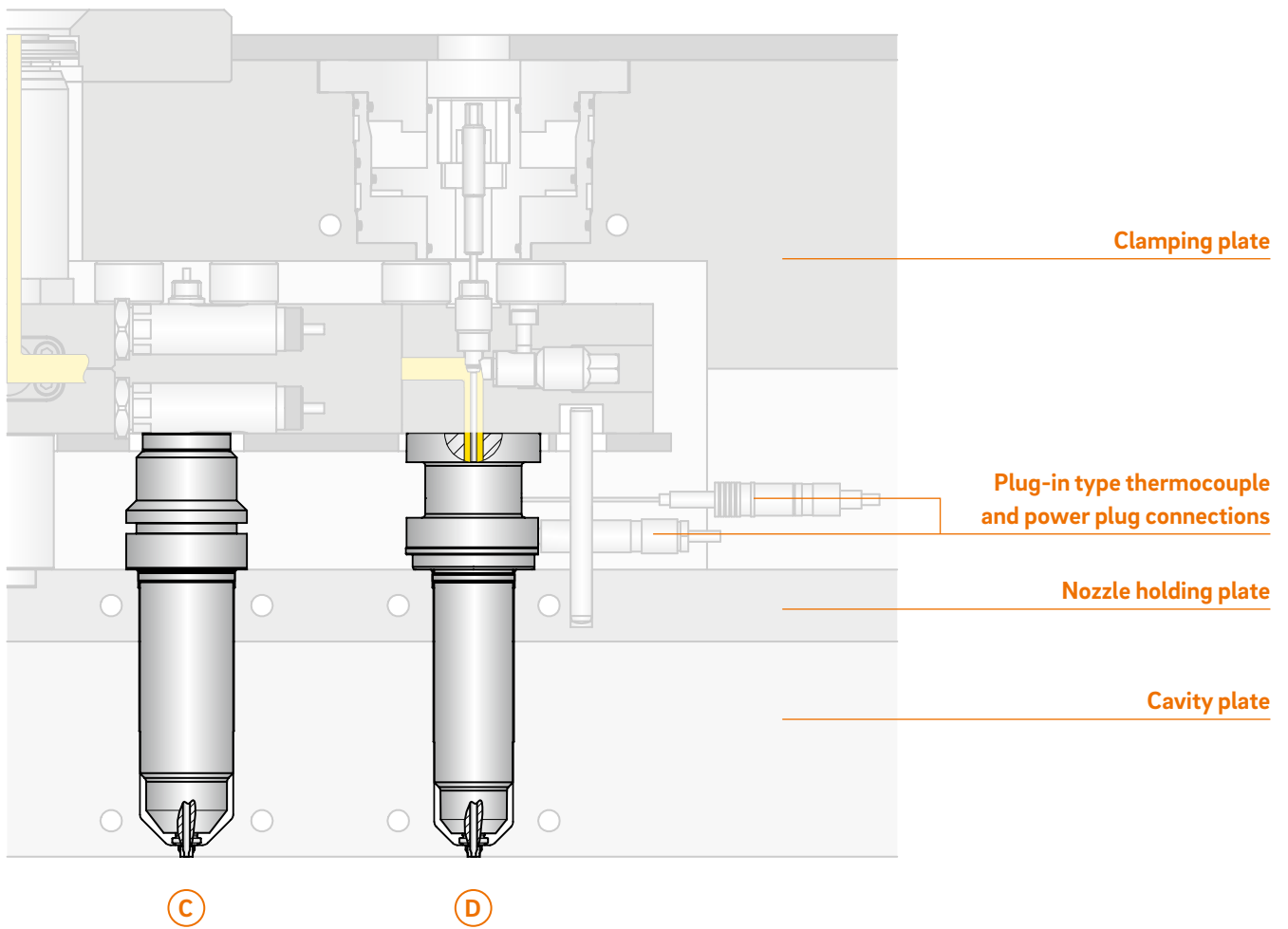
Overview of overall design

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 _{AC} * |

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



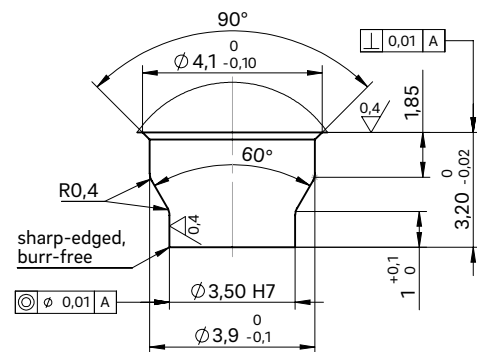
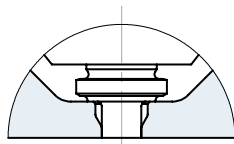
Valve gate nozzle type 4NHF

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

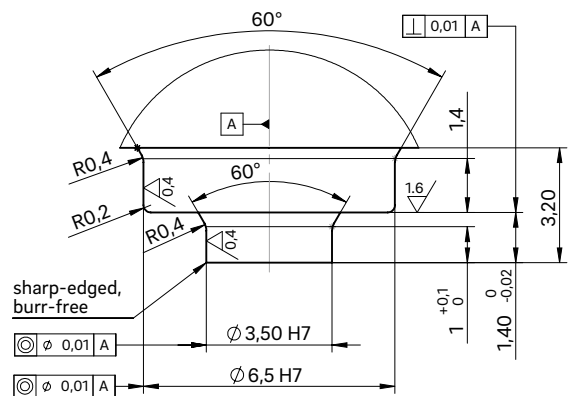
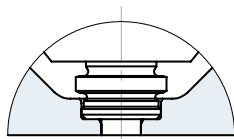
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

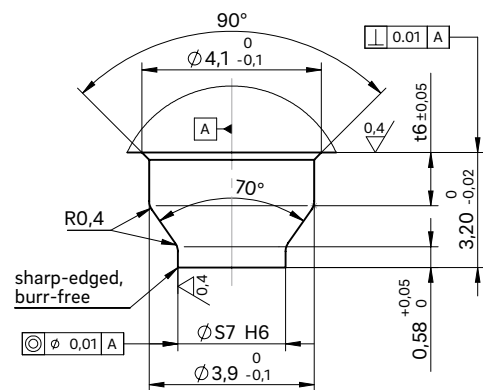
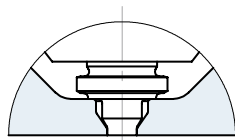


Installation dimensions of needle guide version LAZ

| 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

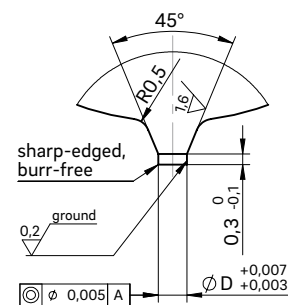
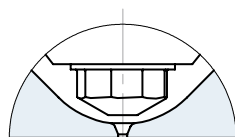
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

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.

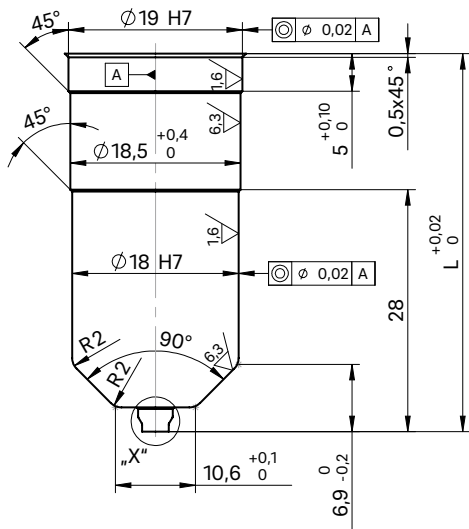
BlueFlow® hot runner nozzle type NHF is not intended for sale or use in the USA or Canada!



WEBCODE
32020

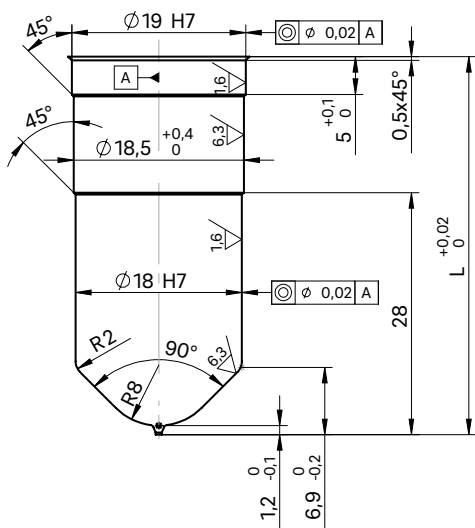


Nozzle with needle guide
antechamber design LA

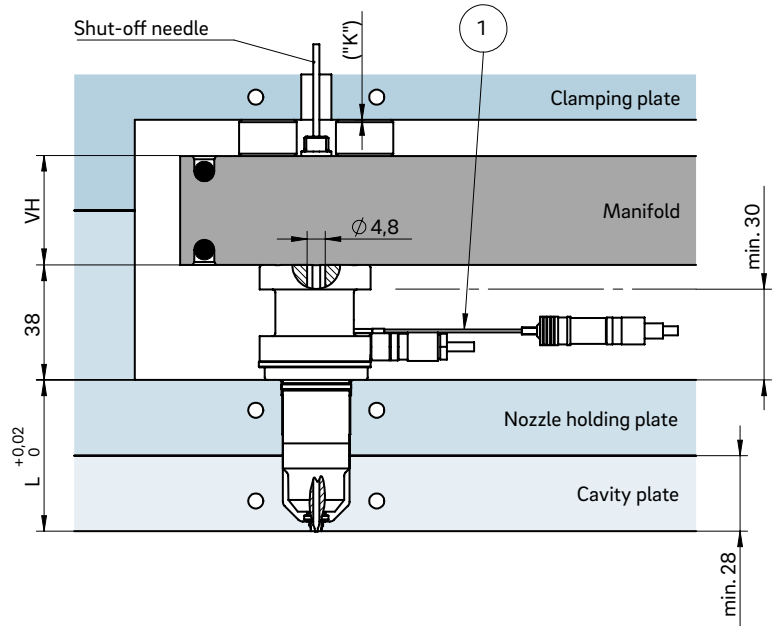


For "X" version of the needle guide
see following page

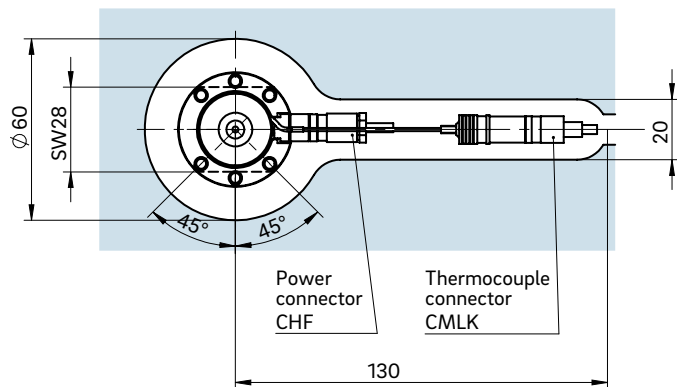
Nozzle with needle guide
antechamber design KA



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 |



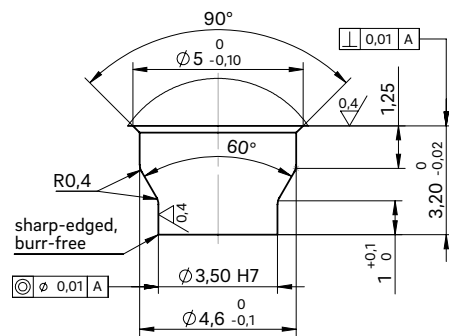
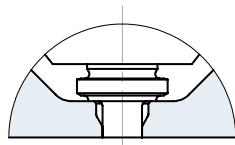
Valve gate nozzle type 5NHF

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

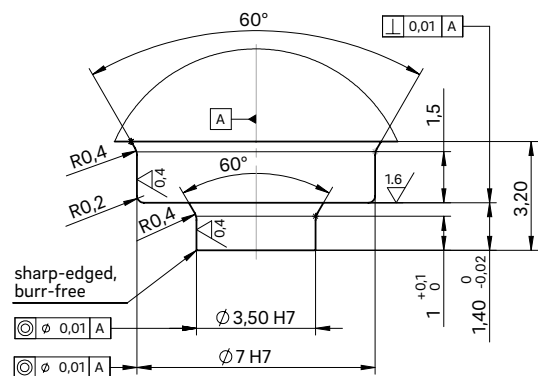
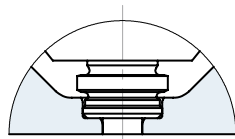
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Advantages:

- 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 LA
with titanium ring

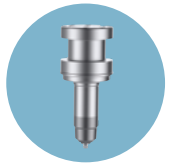


Needle guide LA

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)

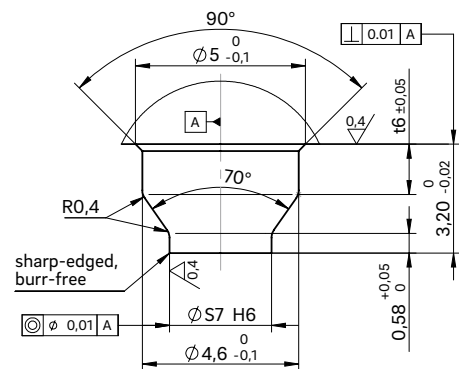
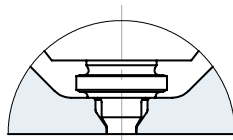


Installation dimensions of needle guide version LAZ

| 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

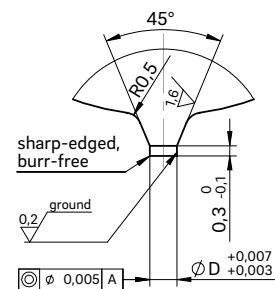
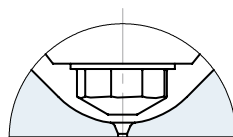
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Advantages:

- 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 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 _{AC} * |

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!





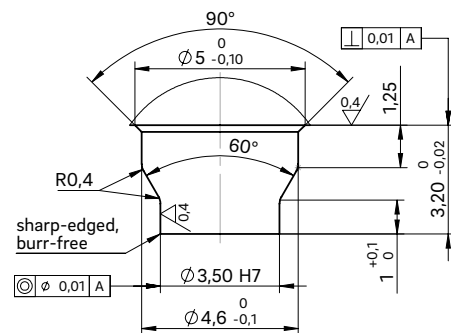
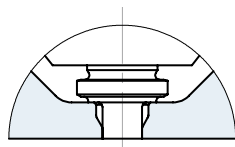
Valve gate nozzle type 6NHF

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

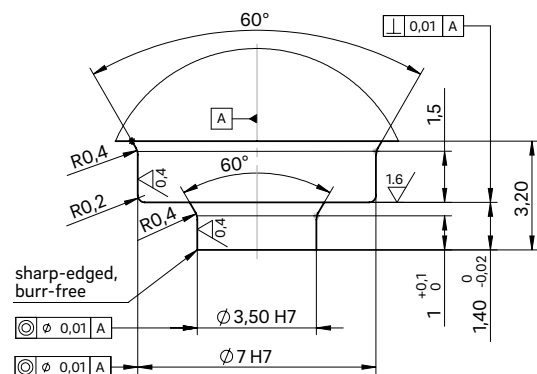
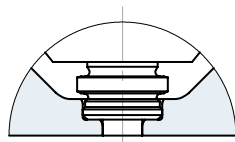
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Advantages:

- 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 LA
with titanium ring

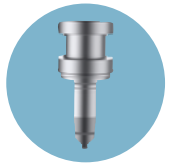


Needle guide LA

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)

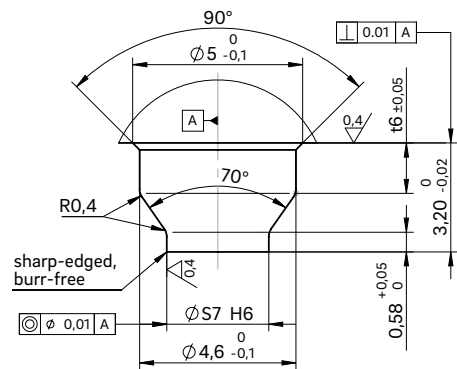
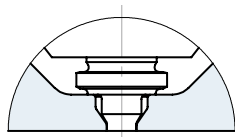


Installation dimensions of needle guide version LAZ

| 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

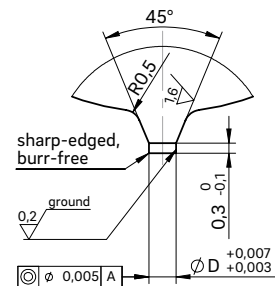
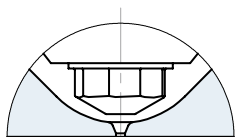
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Advantages:

- 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 _{AC} * |

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.



WEBCODE
32040



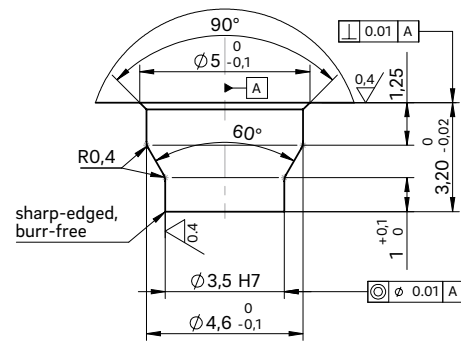
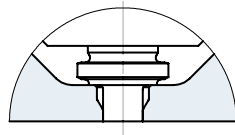
Valve gate nozzle type 5NHT

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

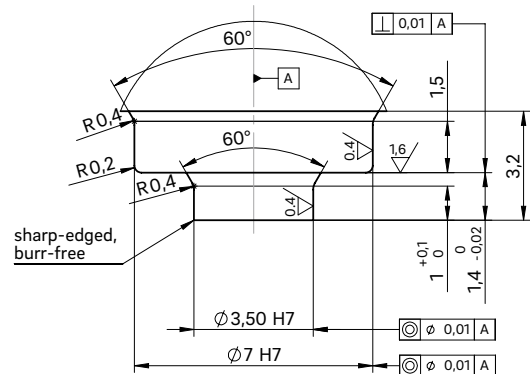
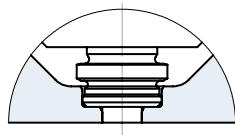
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Advantages:

- 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 LA
with titanium ring

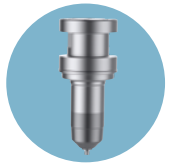


Needle guide LA

Special version with titanium ring

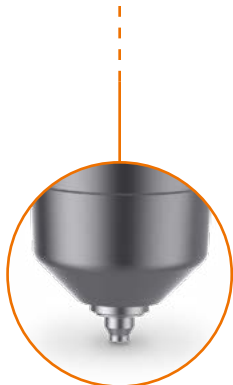
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- Thermoplastic polyesters (PBT and PET)
- Liquid crystalline polymers (LCP)
- Polyether ether ketones (PEEK)

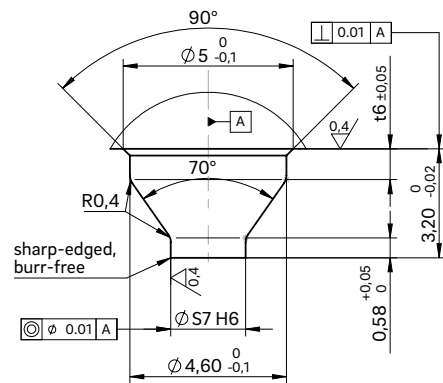
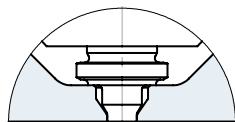


Installation dimensions of needle guide version LAZ

| 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



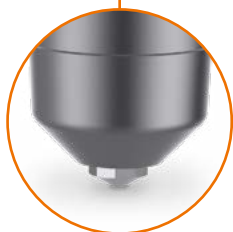
Needle guide LAZ

Made of powder-metallurgical steel

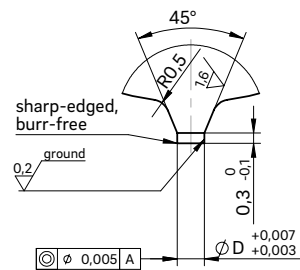
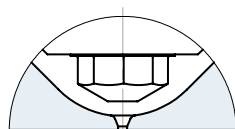
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Advantages:

- 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 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 _{AC} * |

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.



WEBCODE
32050



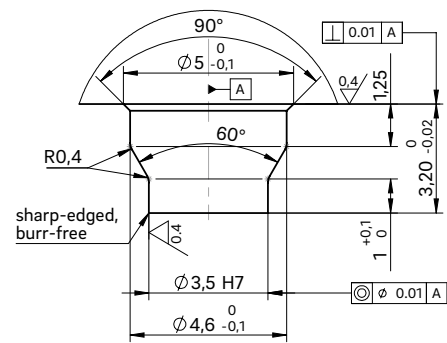
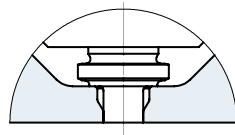
Valve gate nozzle type 6NHT

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

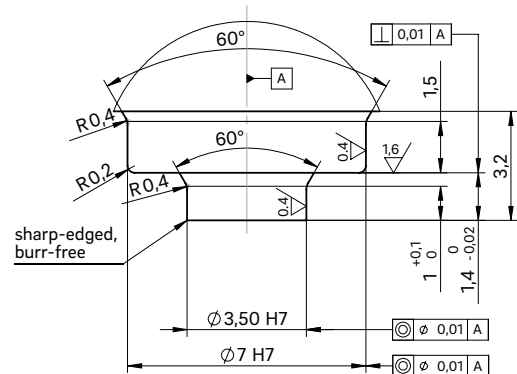
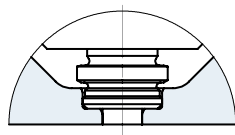
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

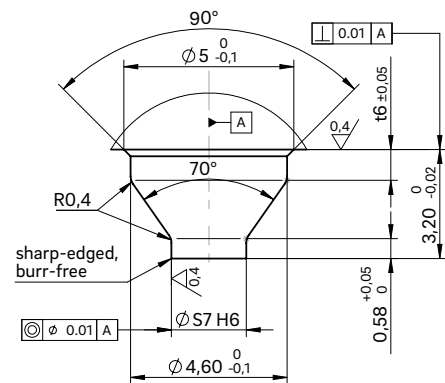
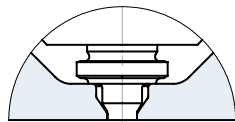


Installation dimensions of needle guide version LAZ

| 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



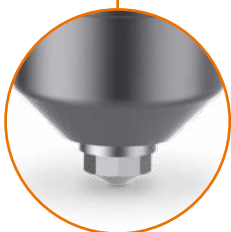
Needle guide LAZ

Made of powder-metallurgical steel

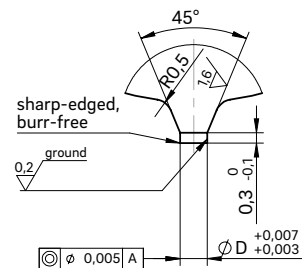
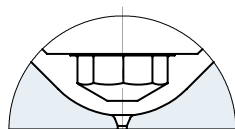
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Advantages:

- 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 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 _{AC} * | | | | | | |
| 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

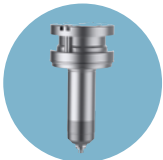
■ available □ on request

NOTE

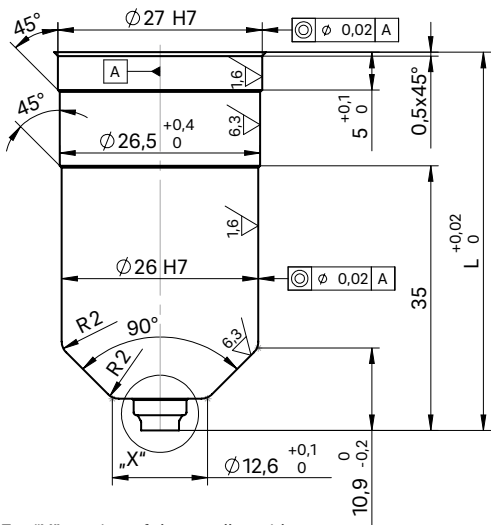
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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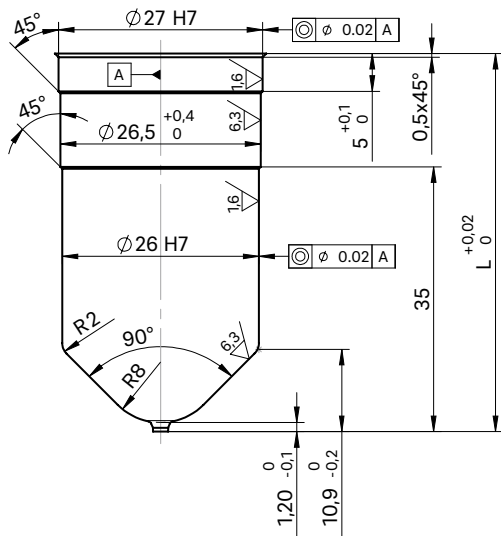


Nozzle with needle guide antechamber design LA



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

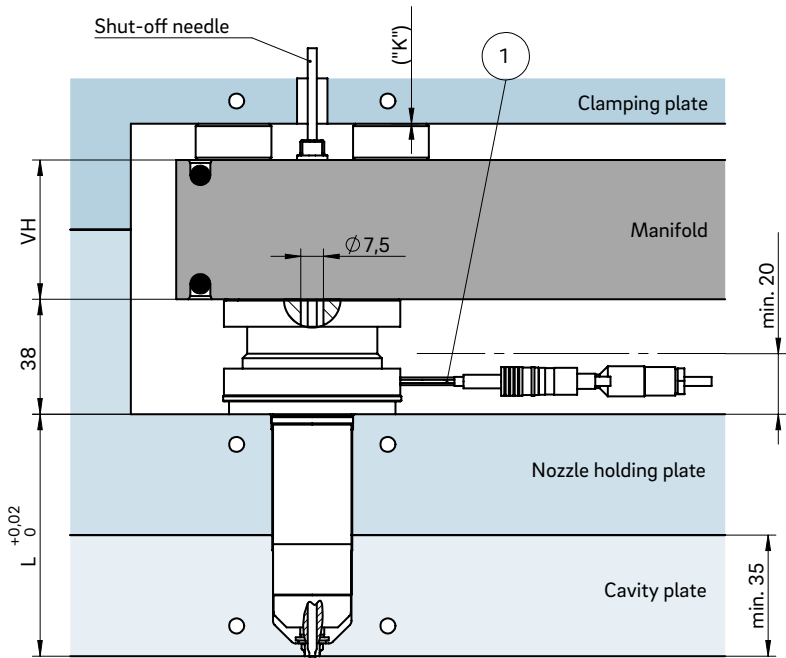
Nozzle with needle guide antechamber design KA



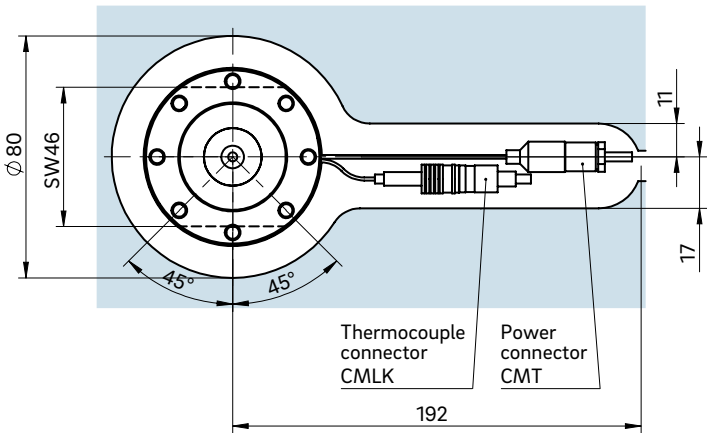
Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and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



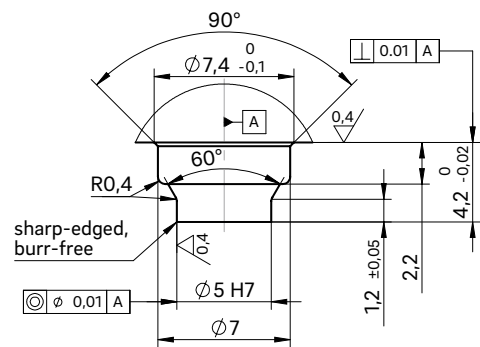
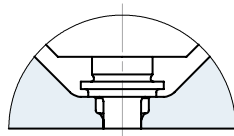
Valve gate nozzle type 8NHT

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

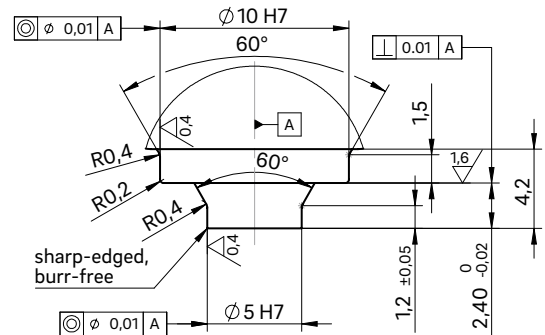
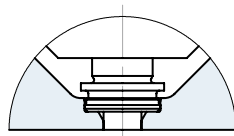
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Advantages:

- 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 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)
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- Liquid crystalline polymers (LCP)
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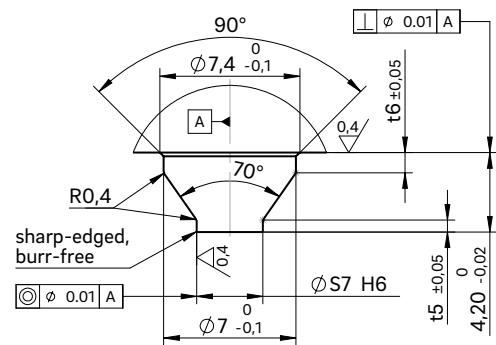
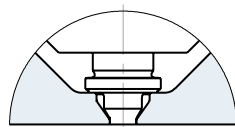


Installation dimensions of needle guide version LAZ

| 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

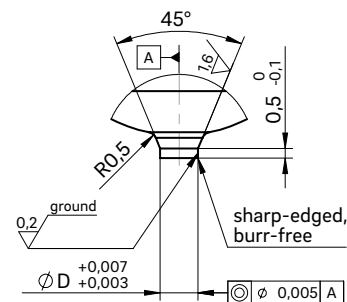
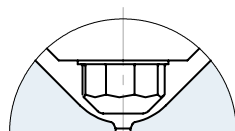
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- Wear parts are easy to replace
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- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
- Minimal shear stress



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 _{AC} * |

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

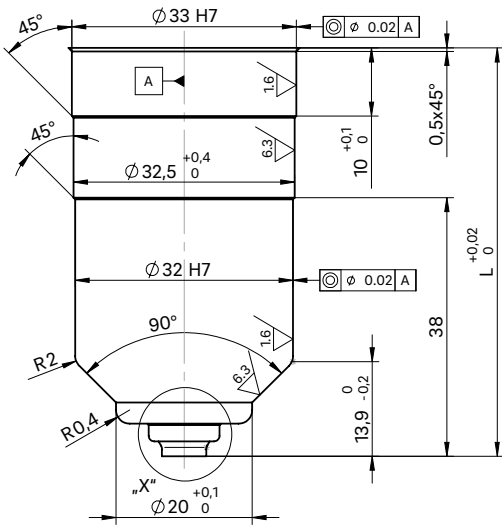
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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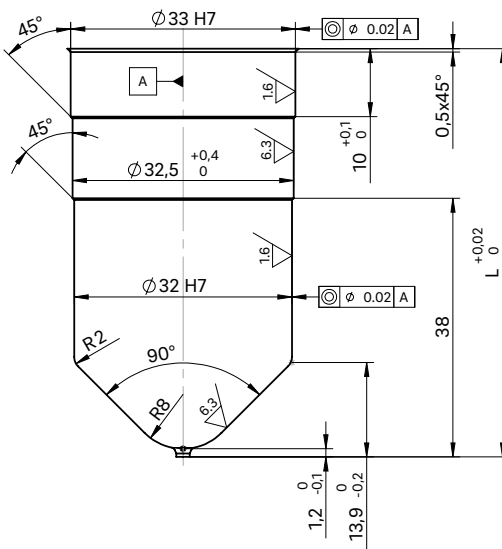


Nozzle with needle guide antechamber design LA

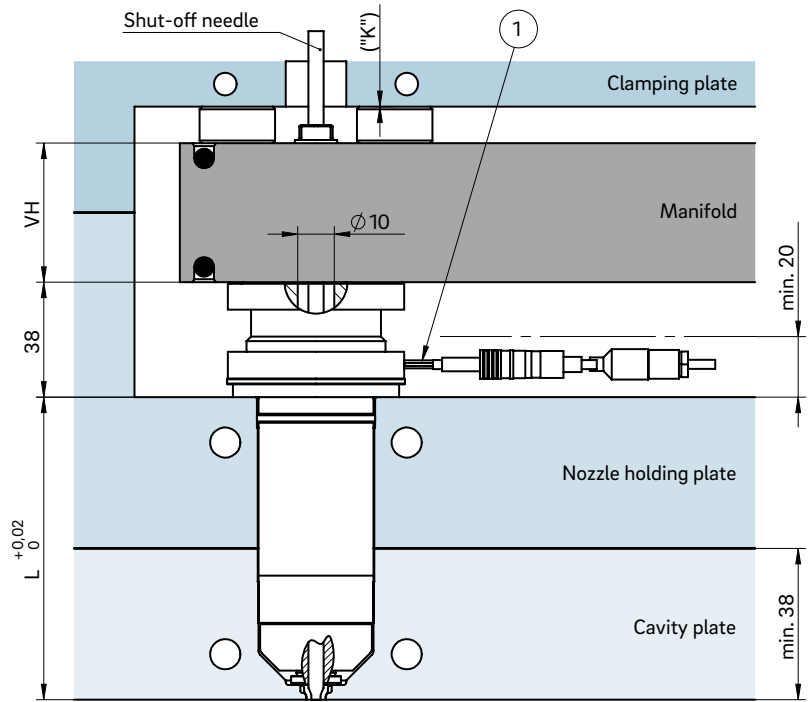


For "X" version of the needle guide see following page

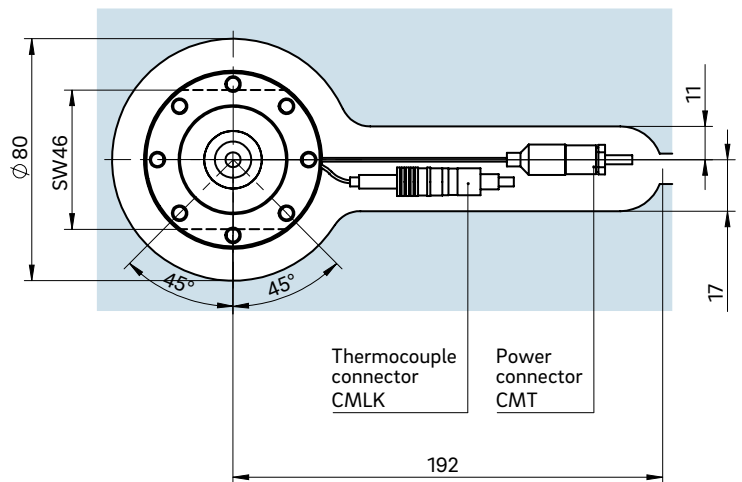
Nozzle with needle guide antechamber design KA



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! 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 |

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



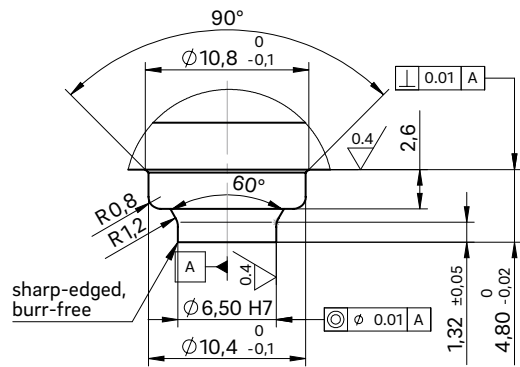
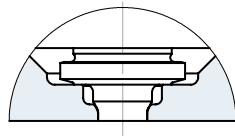
Valve gate nozzle type 10NHT

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

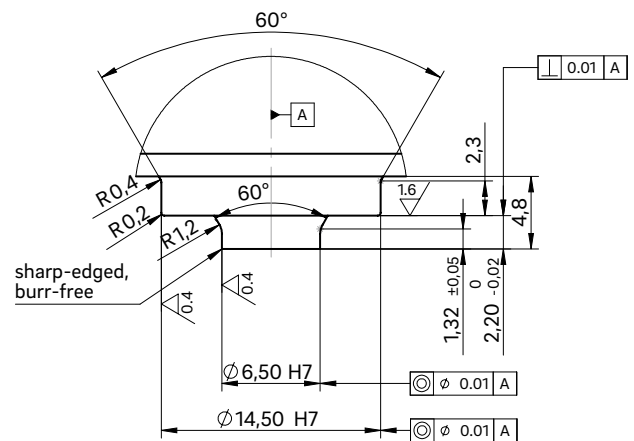
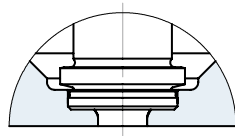
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Advantages:

- 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 LA
with titanium ring

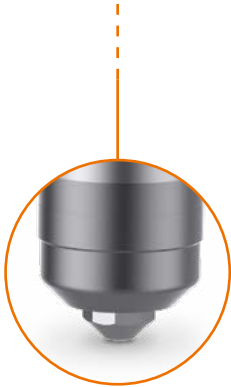


Needle guide LA

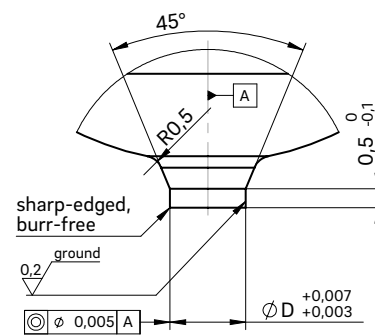
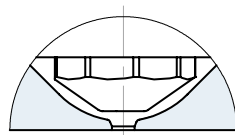
Special version with titanium ring

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 ± 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 _{AC} * |

Nominal length of the nozzle (L) in mm

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

Contact us for other nozzle lengths!

*Volts alternating current

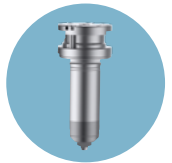
■ available □ on request

NOTE

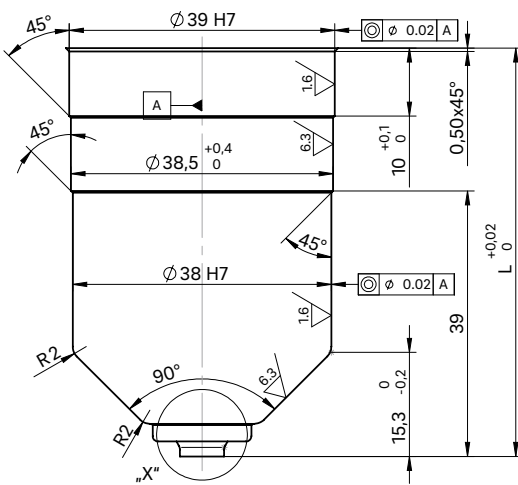
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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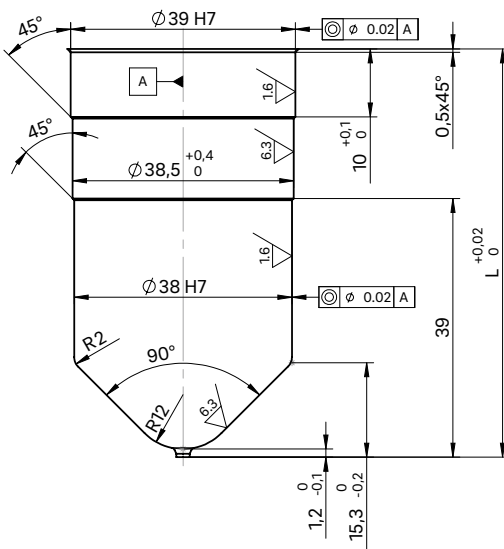


Nozzle with needle guide antechamber design LA



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

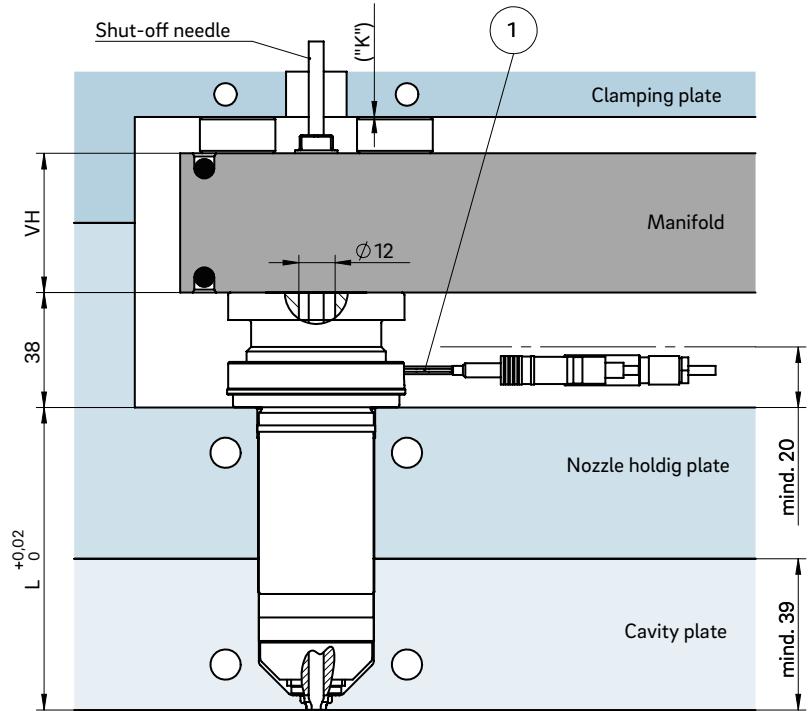
Nozzle with needle guide antechamber design KA



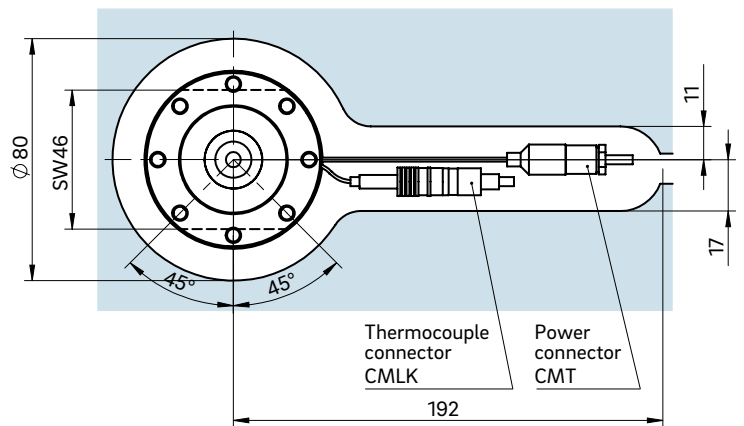
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| VH | ΔT (°C) | 100 | 150 | 200 | 250 | 300 | 350 |
|-------|---------|-------|-------|-------|-------|-------|-------|
| 36 mm | K (mm) | 0.021 | 0.059 | 0.098 | 0.137 | 0.177 | 0.217 |
| 46 mm | K (mm) | 0.033 | 0.078 | 0.124 | 0.170 | 0.218 | 0.264 |
| 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



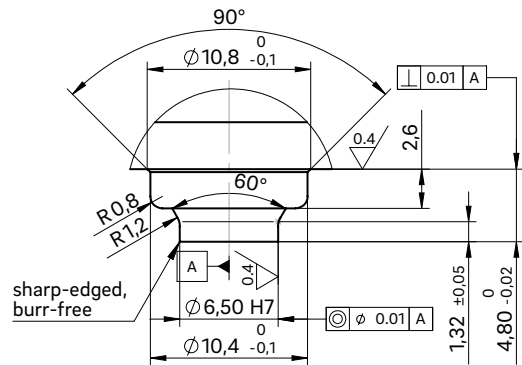
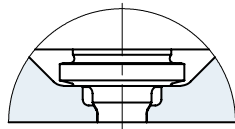
Valve gate nozzle type 12NHT

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

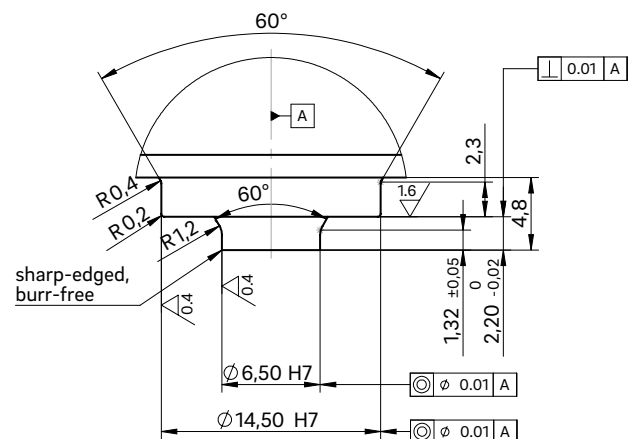
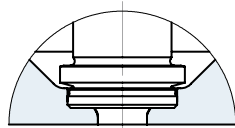
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Advantages:

- 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 LA
with titanium ring

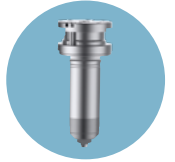


Needle guide LA

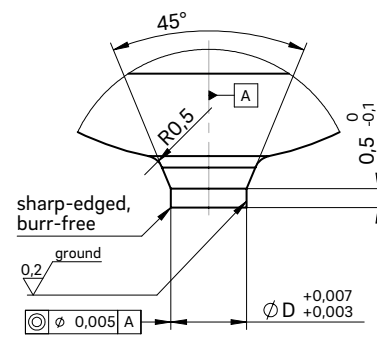
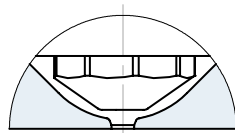
Special version with titanium ring

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- 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 ± 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 _{AC} * |

Nominal length of the nozzle (L) in mm

| | | | | | |
|----|----|----|-----|-----|-----|
| 50 | 60 | 80 | 100 | 120 | 150 |
| ■ | ■ | ■ | ■ | ■ | □ |

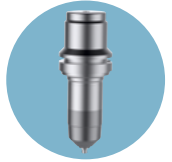
Contact us for other nozzle lengths!

*Volts alternating current

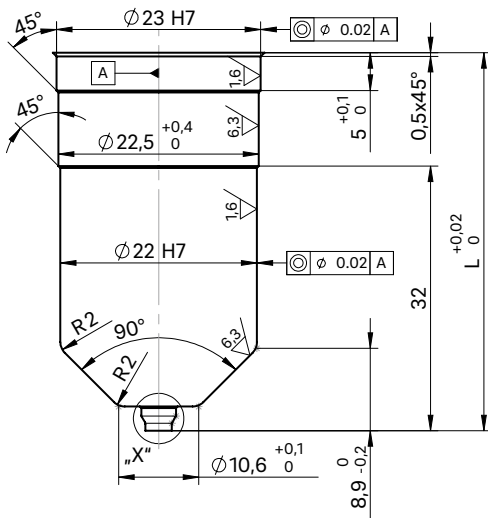
■ available □ on request



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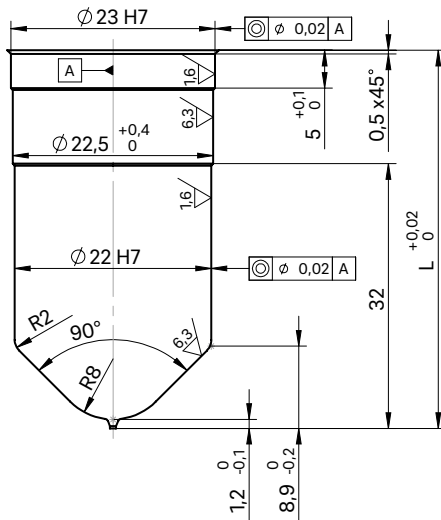


Nozzle with needle guide
antechamber design LA

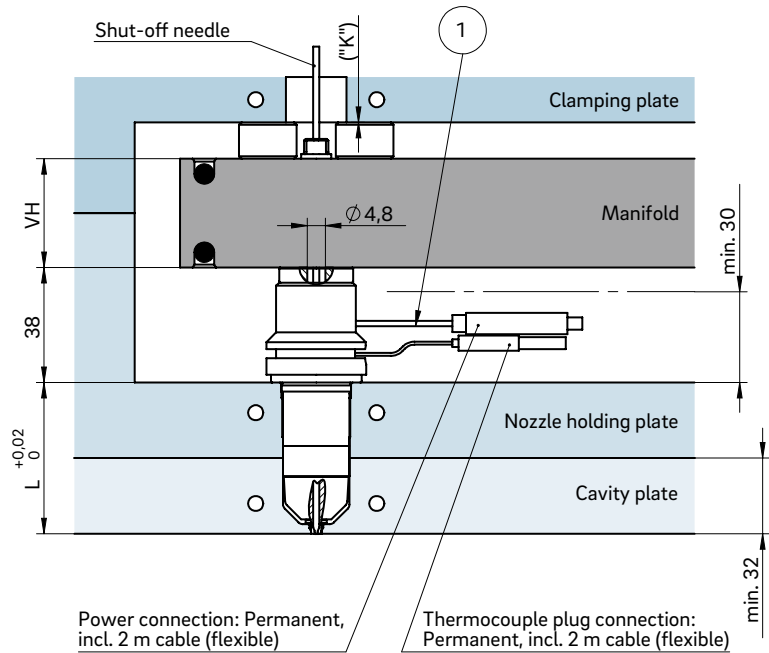


For "X" version of the needle guide
see following page

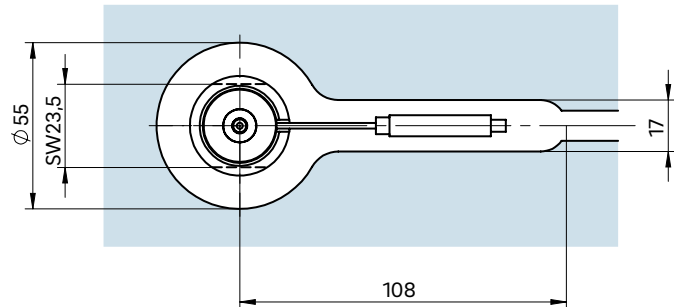
Nozzle with needle guide
antechamber design KA



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! 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 |



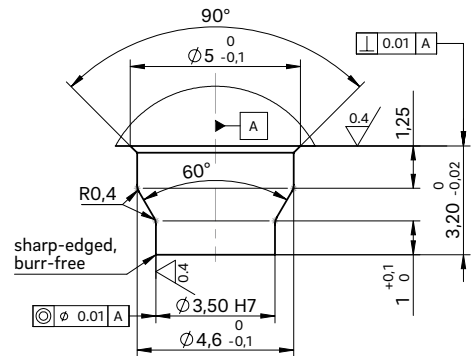
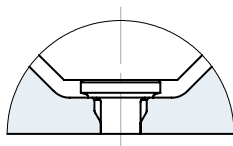
Valve gate nozzle type 5NMT

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

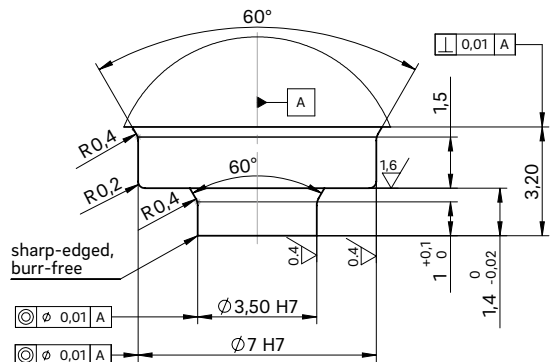
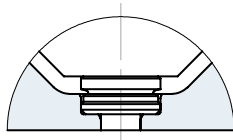
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

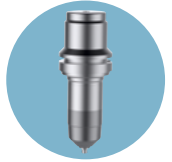


Needle guide LA

Special version with titanium ring

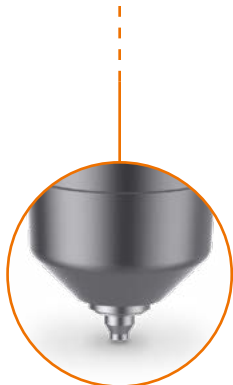
Thermal insulation of the needle guide using a titanium ring expands the area of use of the valve gate nozzle to include the following plastics:

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

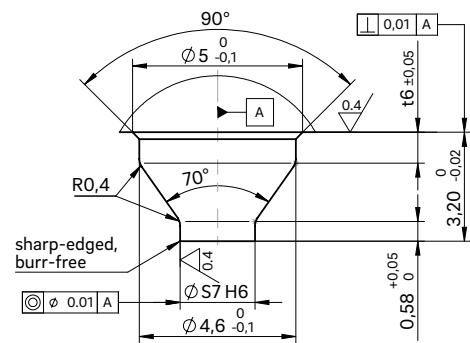
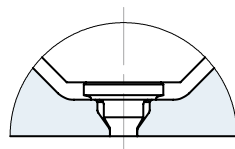


Installation dimensions of needle guide version LAZ

| 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



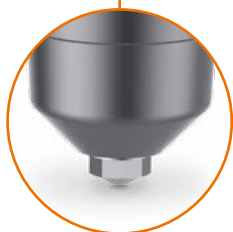
Needle guide LAZ

Made of powder-metallurgical steel

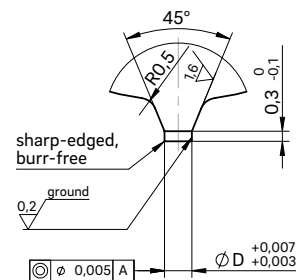
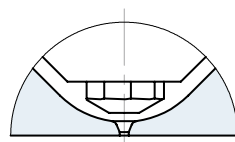
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

Nominal length of the nozzle (L) in mm

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

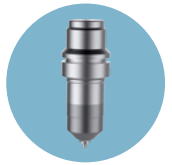
Contact us for other nozzle lengths!

*Volts alternating current

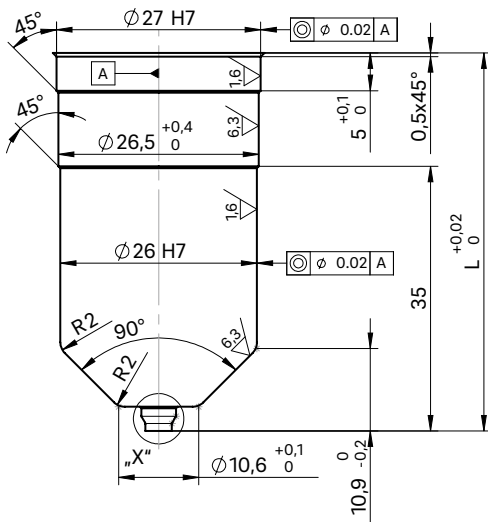
■ available □ on request



WEBCODE
32100

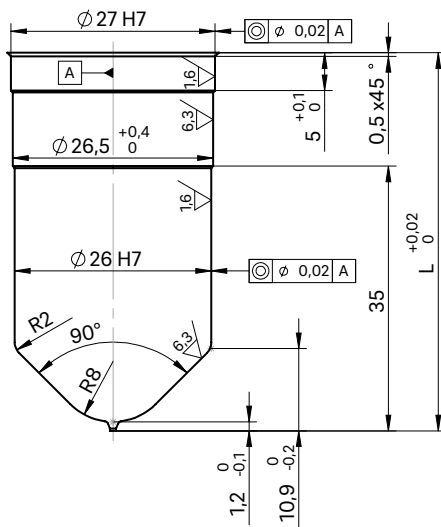


Nozzle with needle guide
antechamber design LA

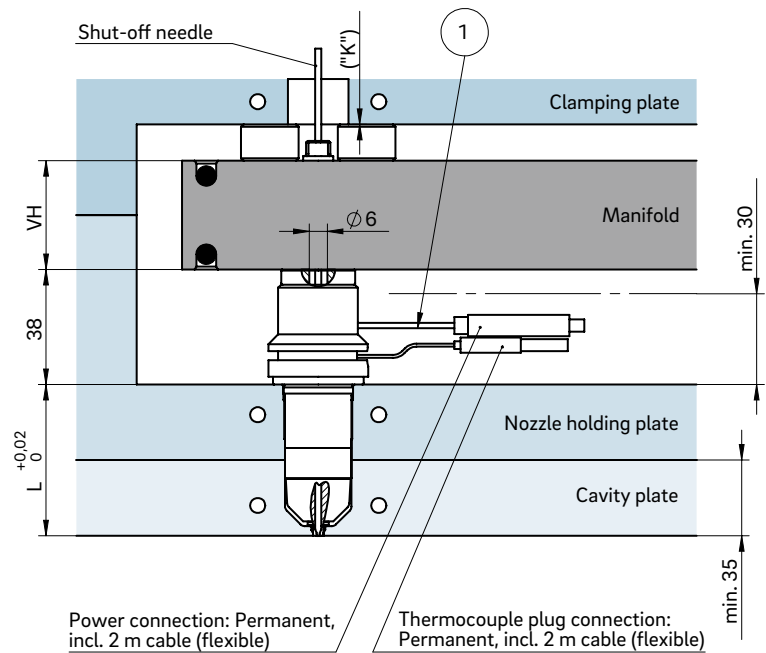


For "X" version of the needle guide
see following page

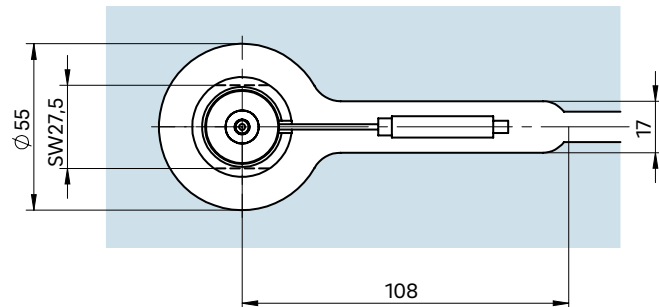
Nozzle with needle guide
antechamber design KA



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! 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 |



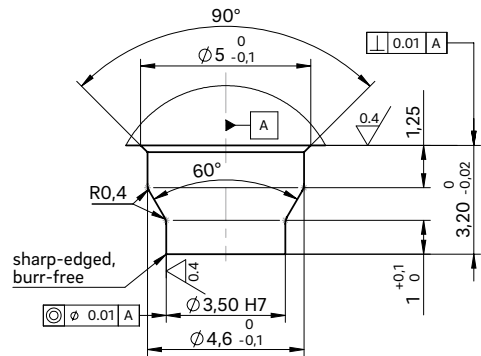
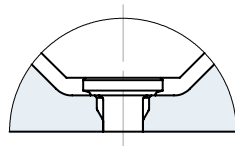
Valve gate nozzle type 6NMT

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

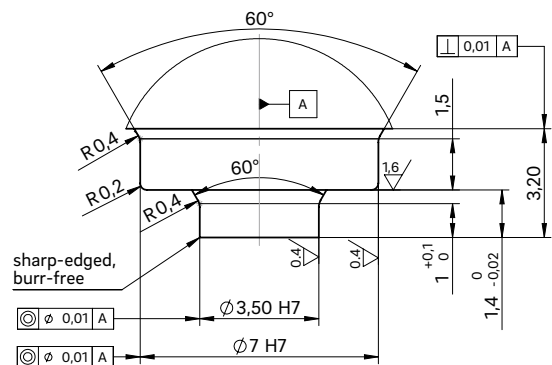
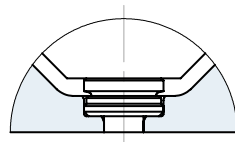
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

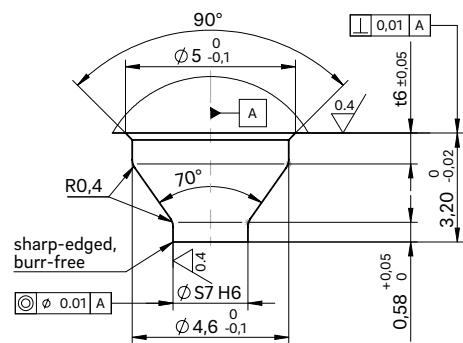
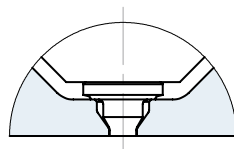


Installation dimensions of needle guide version LAZ

| 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



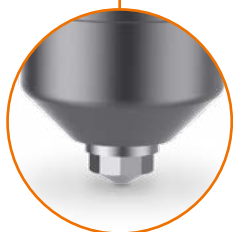
Needle guide LAZ

Made of powder-metallurgical steel

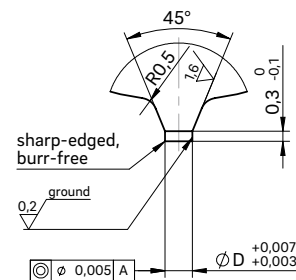
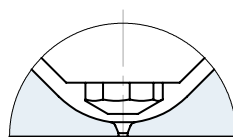
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear 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 8NMT

System nozzle with conventional heating element, screwed to the manifold

TECHNICAL DATA

8NMT

| | |
|-------------------|-----------------------|
| 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 _{AC} * |

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

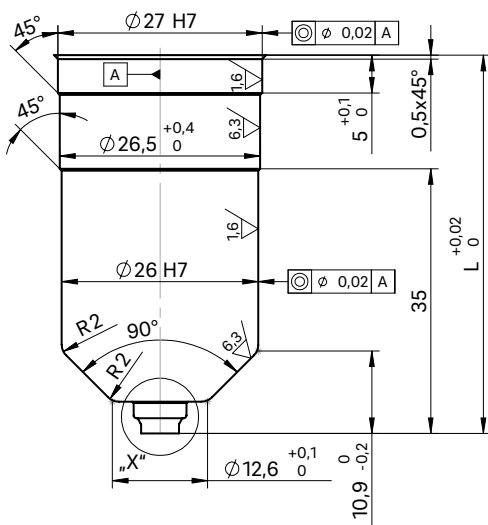
Fixed power and thermocouple connection.



WEBCODE
32101

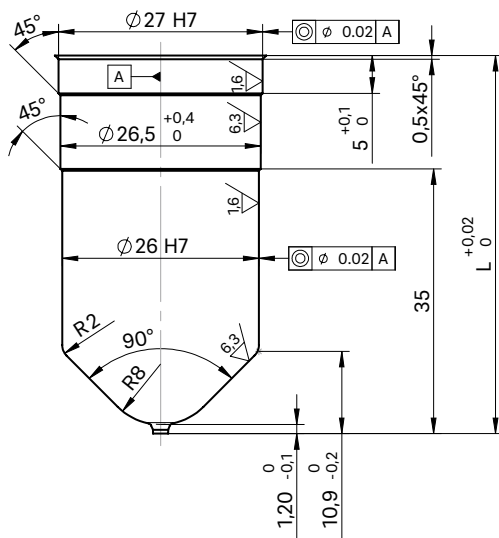


Nozzle with needle guide
antechamber design LA

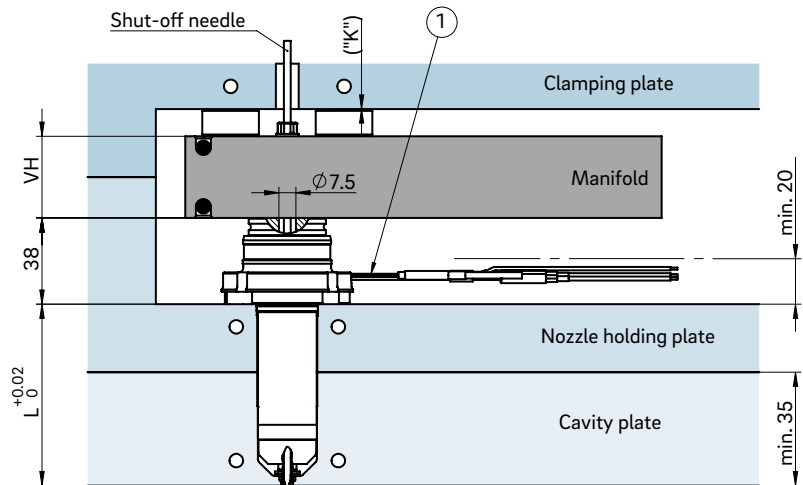


For "X" version of the needle guide
see following page

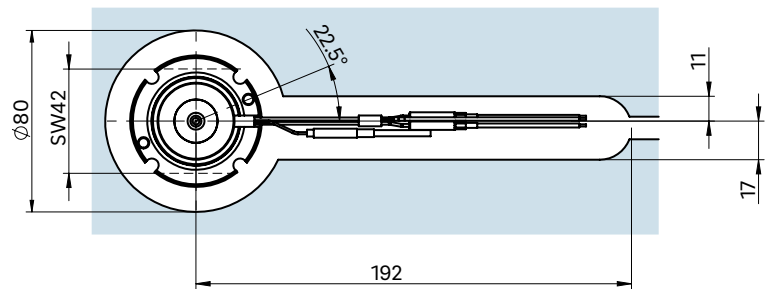
Nozzle with needle guide
antechamber design KA



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 |



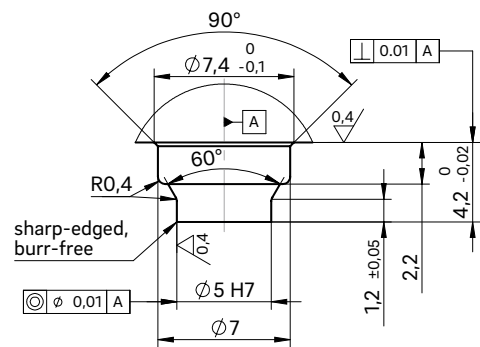
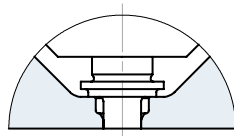
Valve gate nozzle type 8NMT

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

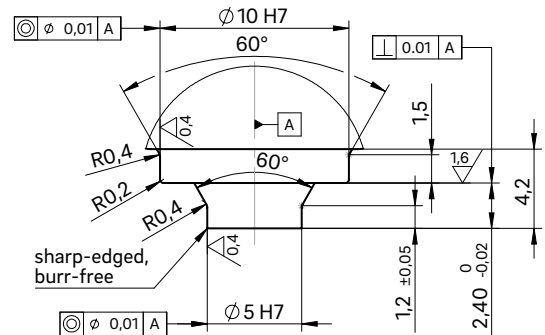
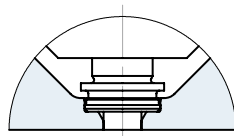
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

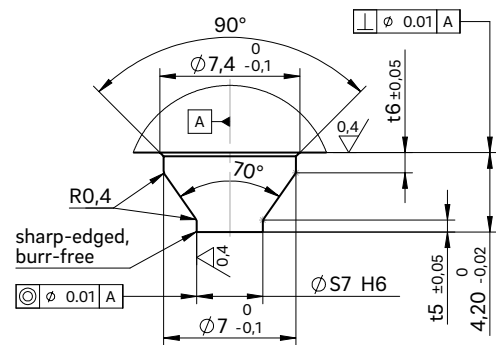
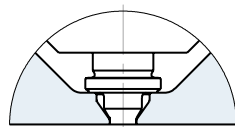


Installation dimensions of needle guide version LAZ

| 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

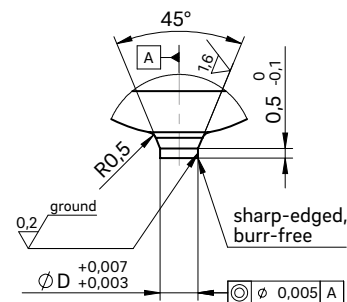
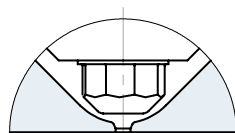
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

Nominal length of the nozzle (L) in mm

| | | |
|----|----|----|
| 50 | 60 | 80 |
| ■ | ■ | ■ |

Contact us for other nozzle lengths!

*Volts alternating current

■ available

NOTE

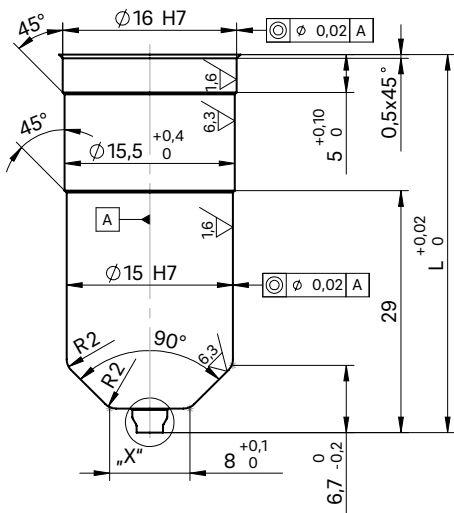
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



WEBCODE
32110

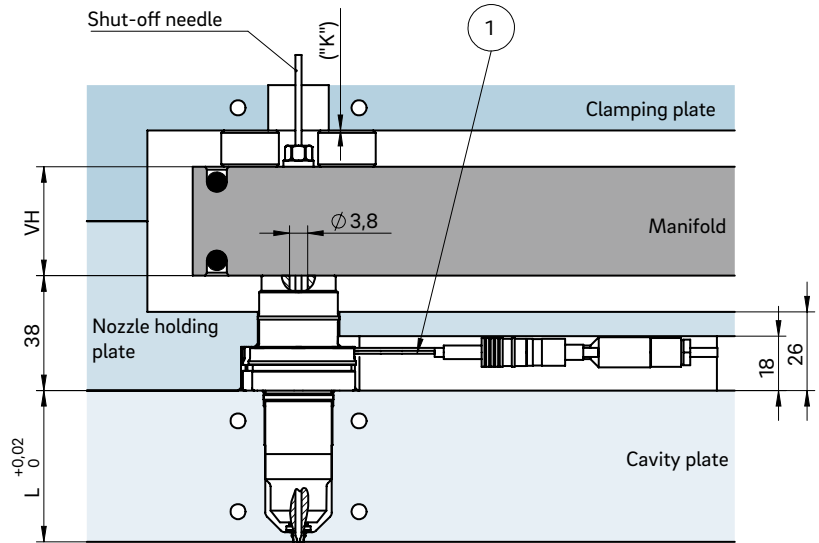


Nozzle with needle guide antechamber design LA



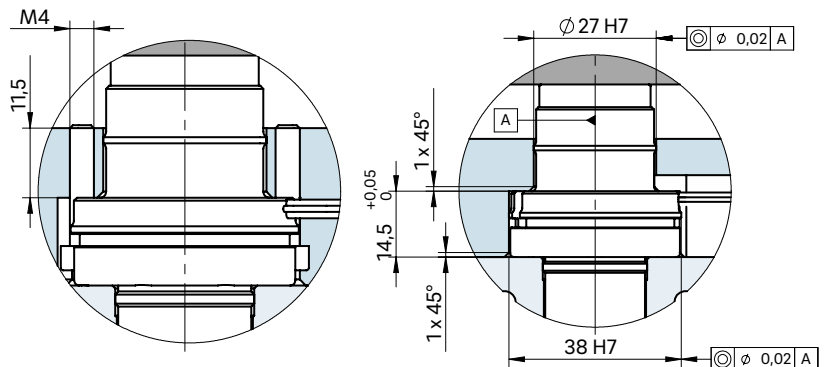
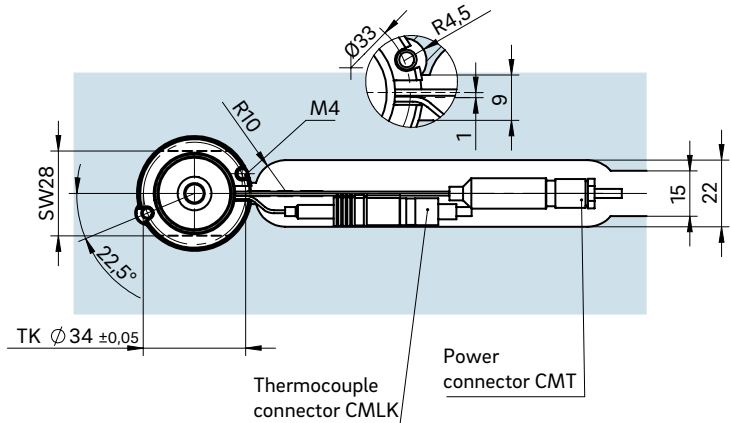
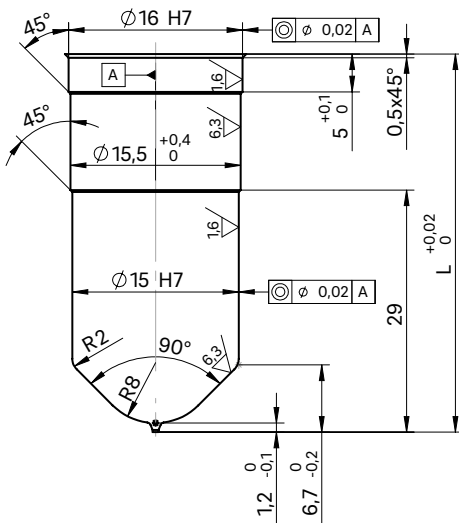
For "X" version of the needle guide see following page

INSTALLATION



Example cutout for nozzle head, power and thermocouple plug connections

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 |

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

SW = flat area on nozzle head



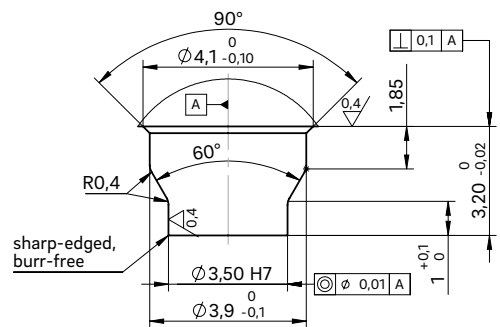
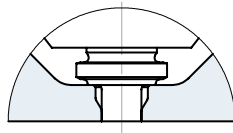
Valve gate nozzle type 4NTT

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

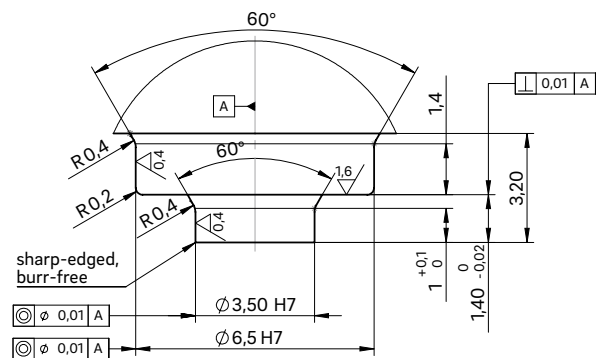
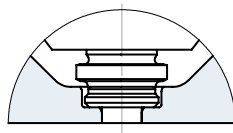
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

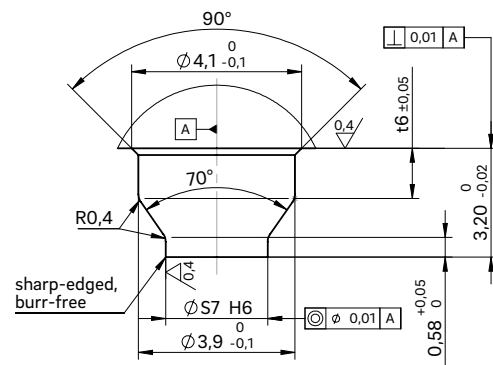
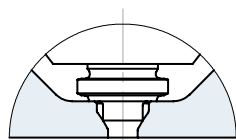


Installation dimensions of needle guide version LAZ

| 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

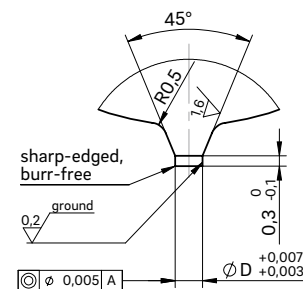
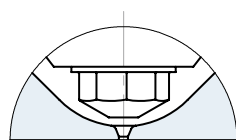
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Advantages:

- 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 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 _{AC} * |

Nominal length of the nozzle (L) in mm

| | | | | |
|----|----|----|-----|-----|
| 50 | 60 | 80 | 100 | 120 |
| ■ | ■ | ■ | ■ | ■ |

Contact us for other nozzle lengths!

*Volts alternating current

■ available

NOTE

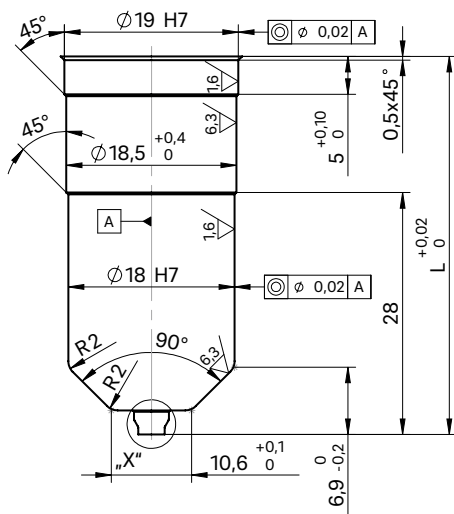
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



WEBCODE
32120

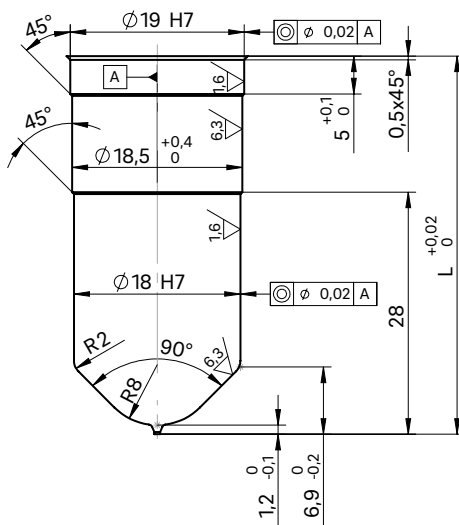


Nozzle with needle guide antechamber design LA



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

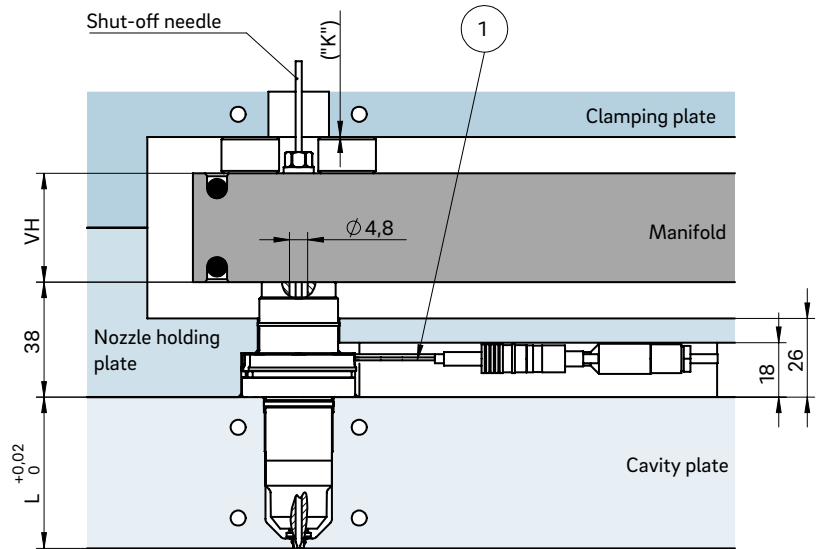
Nozzle with needle guide antechamber design KA



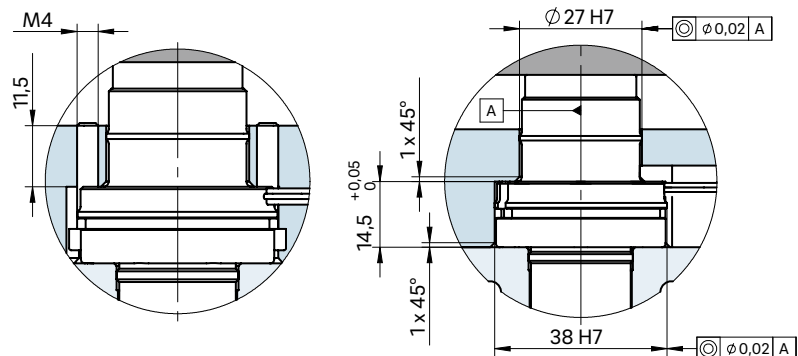
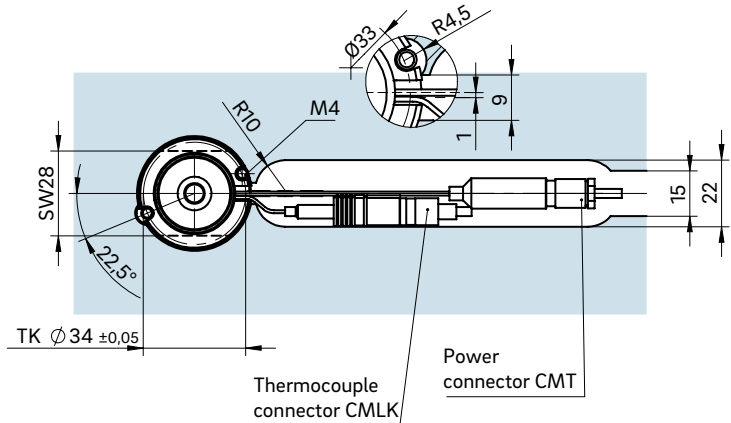
Dimension "K" required for heat expansion is to be ensured by grinding the pressure pad (12 + 0.1 mm)! Determine the difference between the height of the manifold system and the height of the frame plate when installed! ΔT specifies the temperature differential between the processing temperature and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



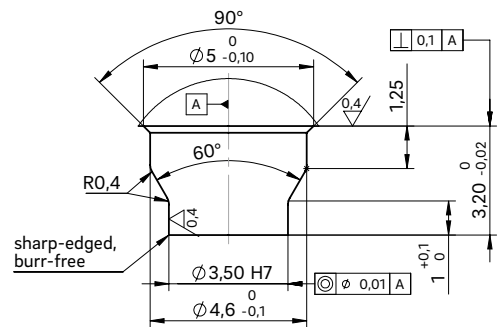
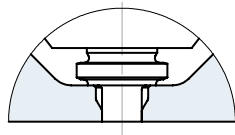
Valve gate nozzle type 5NTT

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

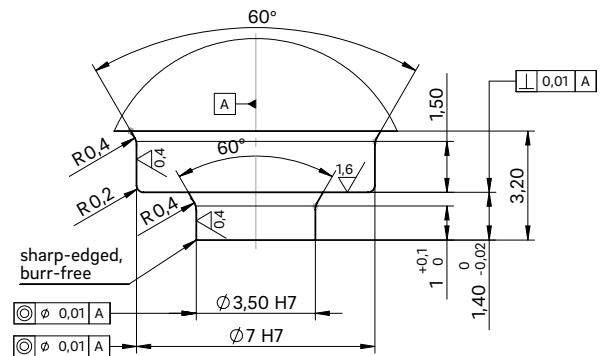
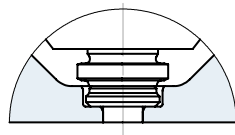
If necessary, the needle guide can be changed without great effort. By replacing the needle guide and needle, the gate point diameter can be made larger or smaller without subsequent reworking of the mould cavity. Thanks to a precise needle guide, the clean gate point can be closed with nearly no wear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

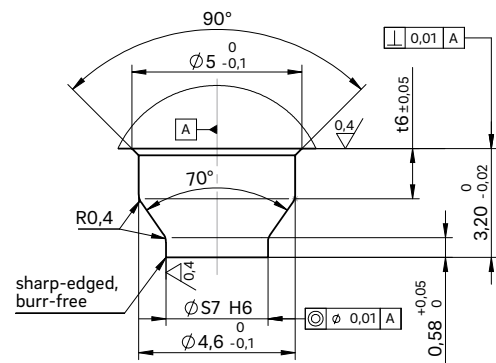
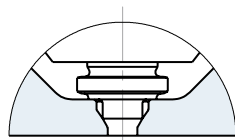


Installation dimensions of needle guide version LAZ

| 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

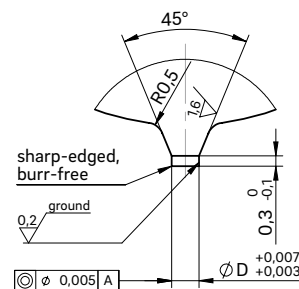
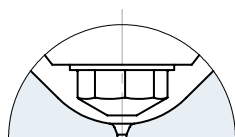
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Advantages:

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- Wear parts are easy to replace
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- Very good visual surface quality
- No replacement or subsequent reworking of the mould inserts required
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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 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 _{AC} * |

Nominal length of the nozzle (L) in mm

| | | | | |
|----|----|----|-----|-----|
| 50 | 60 | 80 | 100 | 120 |
| ■ | ■ | ■ | ■ | ■ |

Contact us for other nozzle lengths!

*Volts alternating current

■ available

NOTE

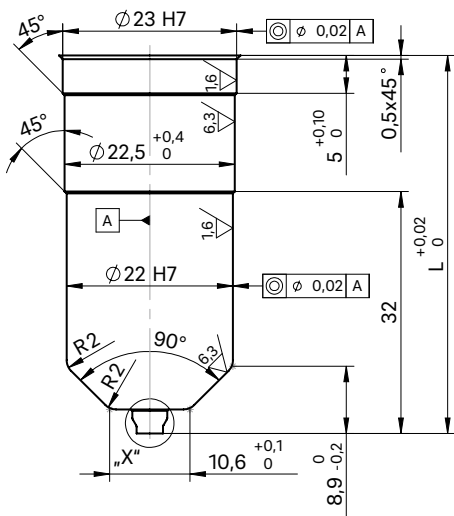
Power connector CMT and thermocouple connector CMLK are to be ordered separately.



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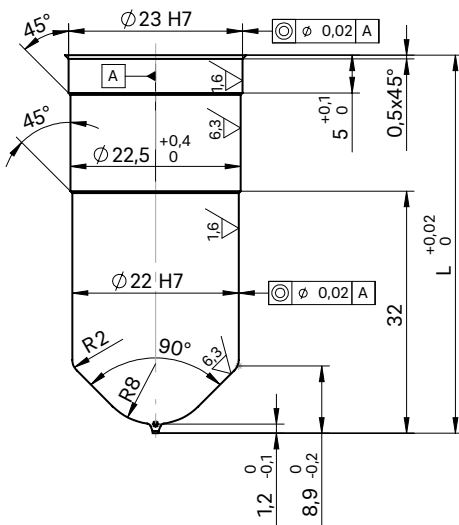


Nozzle with needle guide antechamber design LA



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

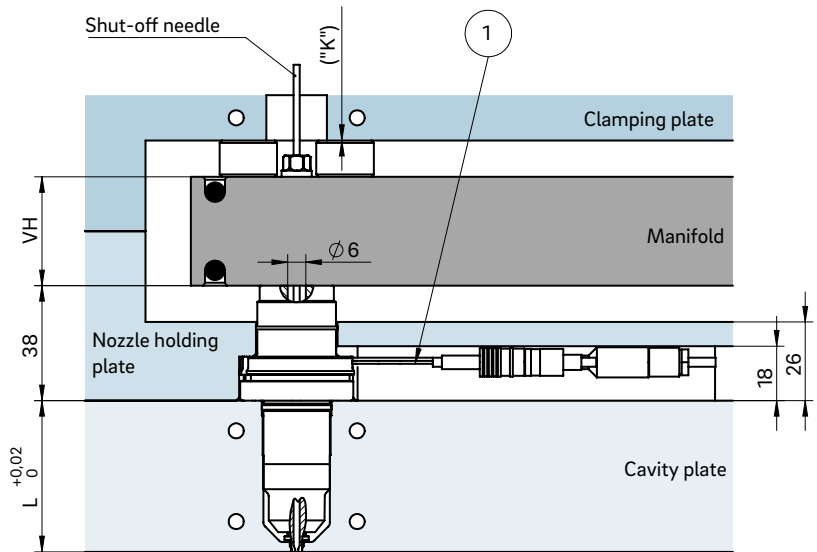
Nozzle with needle guide antechamber design KA



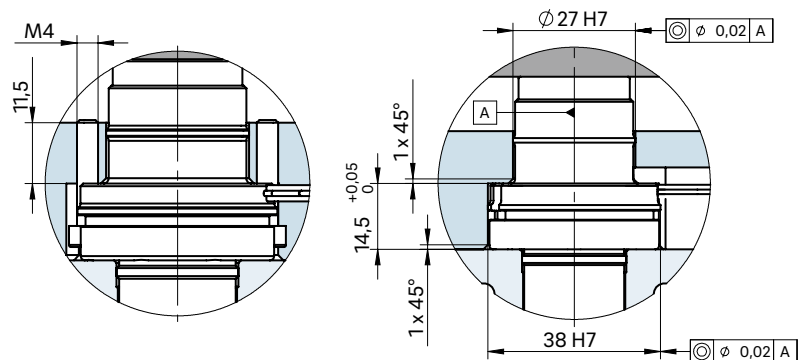
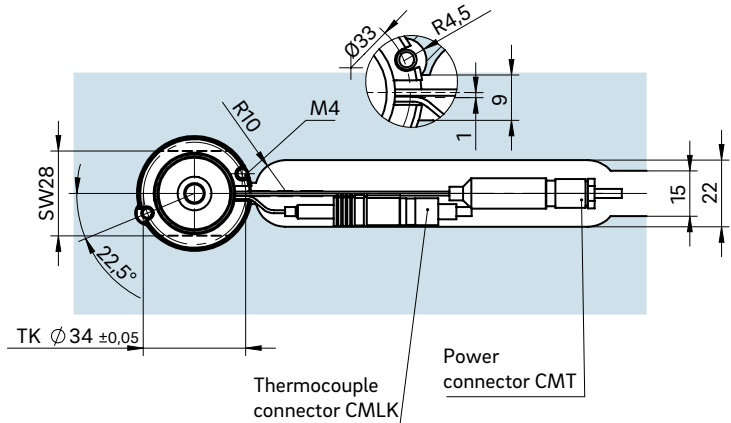
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| VH | ΔT (°C) | 100 | 150 | 200 | 250 | 300 | 350 |
|-------|---------|-------|-------|-------|-------|-------|-------|
| 36 mm | K (mm) | 0.021 | 0.059 | 0.098 | 0.137 | 0.177 | 0.217 |
| 46 mm | K (mm) | 0.033 | 0.078 | 0.124 | 0.170 | 0.218 | 0.264 |
| 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



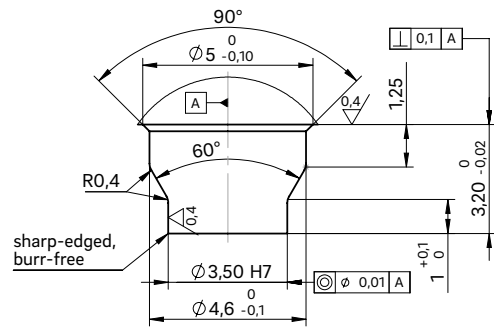
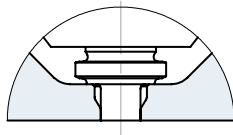
Valve gate nozzle type 6NTT

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

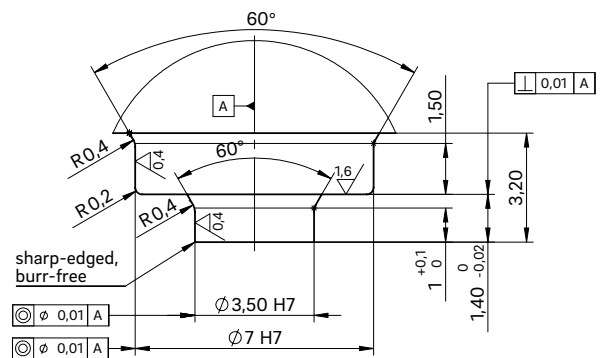
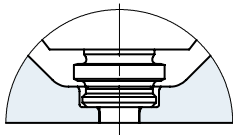
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Advantages:

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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)

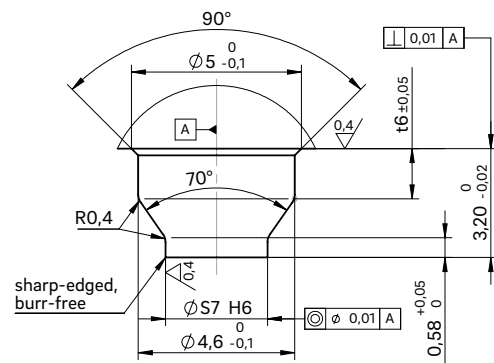
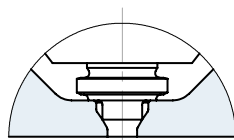


Installation dimensions of needle guide version LAZ

| 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 |



Needle guide version
Antechamber version LAZ



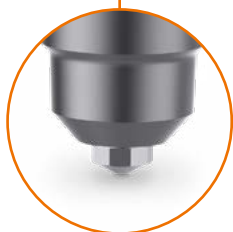
Needle guide LAZ

Made of powder-metallurgical steel

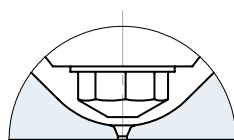
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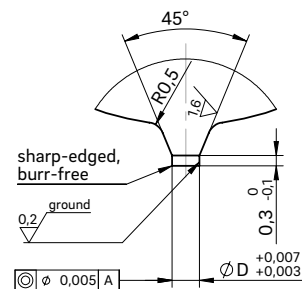
Needle guide version
Antechamber version KA



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!





3.3 Valve gate manifolds

STRAIGHT MANIFOLDS

Page



NGCP
Manifold length (VL) 160-360

30



NGCP
Manifold length (VL) 410-510

40



NGDP
Manifold length (VL) 160-360

50



NGDP
Manifold length (VL) 410-510

60

H-MANIFOLDS



NHCP/NHDP/NHEP

70

CROSS MANIFOLDS



NKCP4/NKDP4
Manifold length (VL) 135-165

80



NKCP4/NKDP4
Manifold length (VL) 180

90



NKCP4/NKDP4
Manifold length (VL) 210

100



NKCP4/NKDP4
Manifold length (VL) 240/270/300

110

STAR MANIFOLDS



NSCP/NSDP/NSEP

120

T-MANIFOLDS

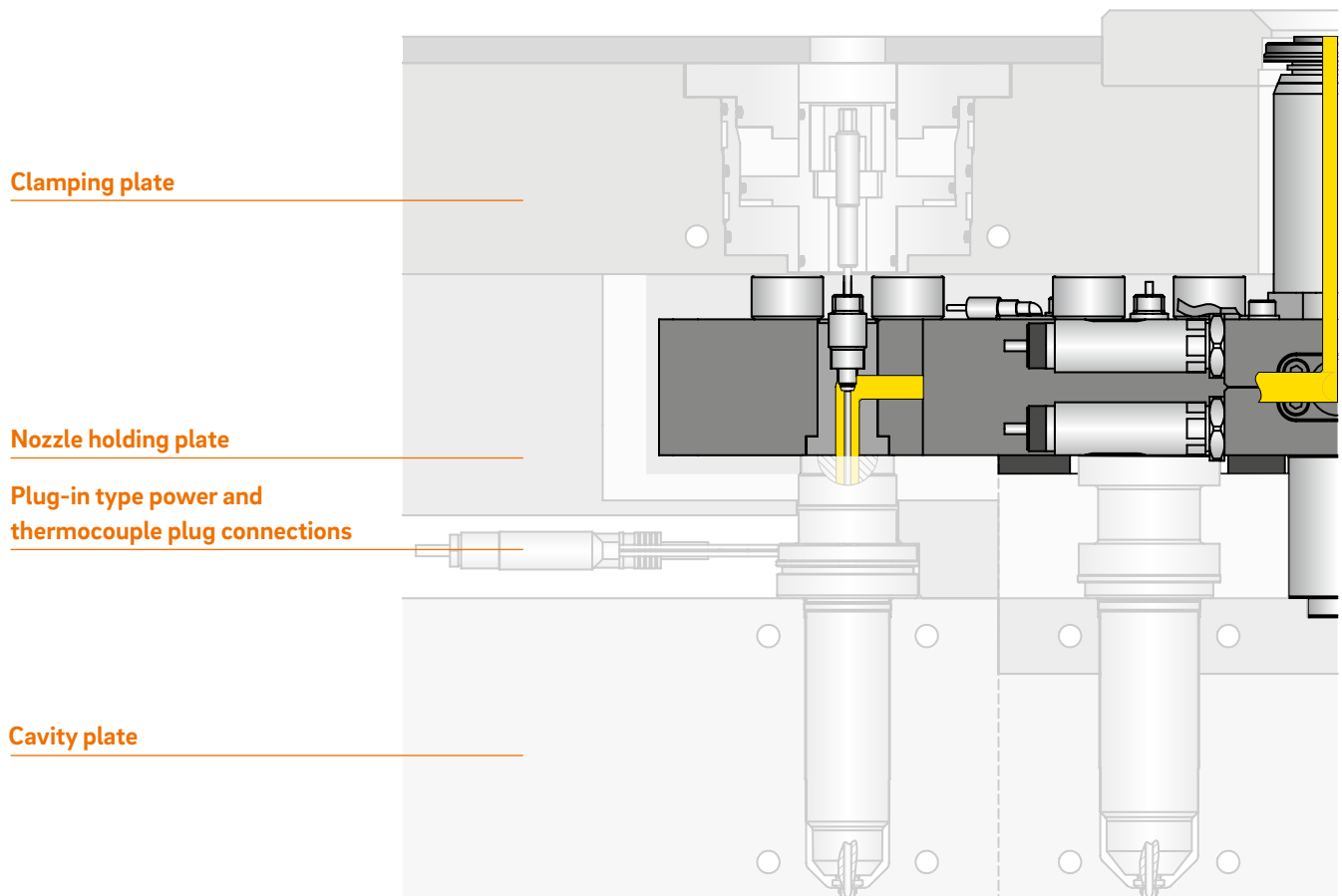


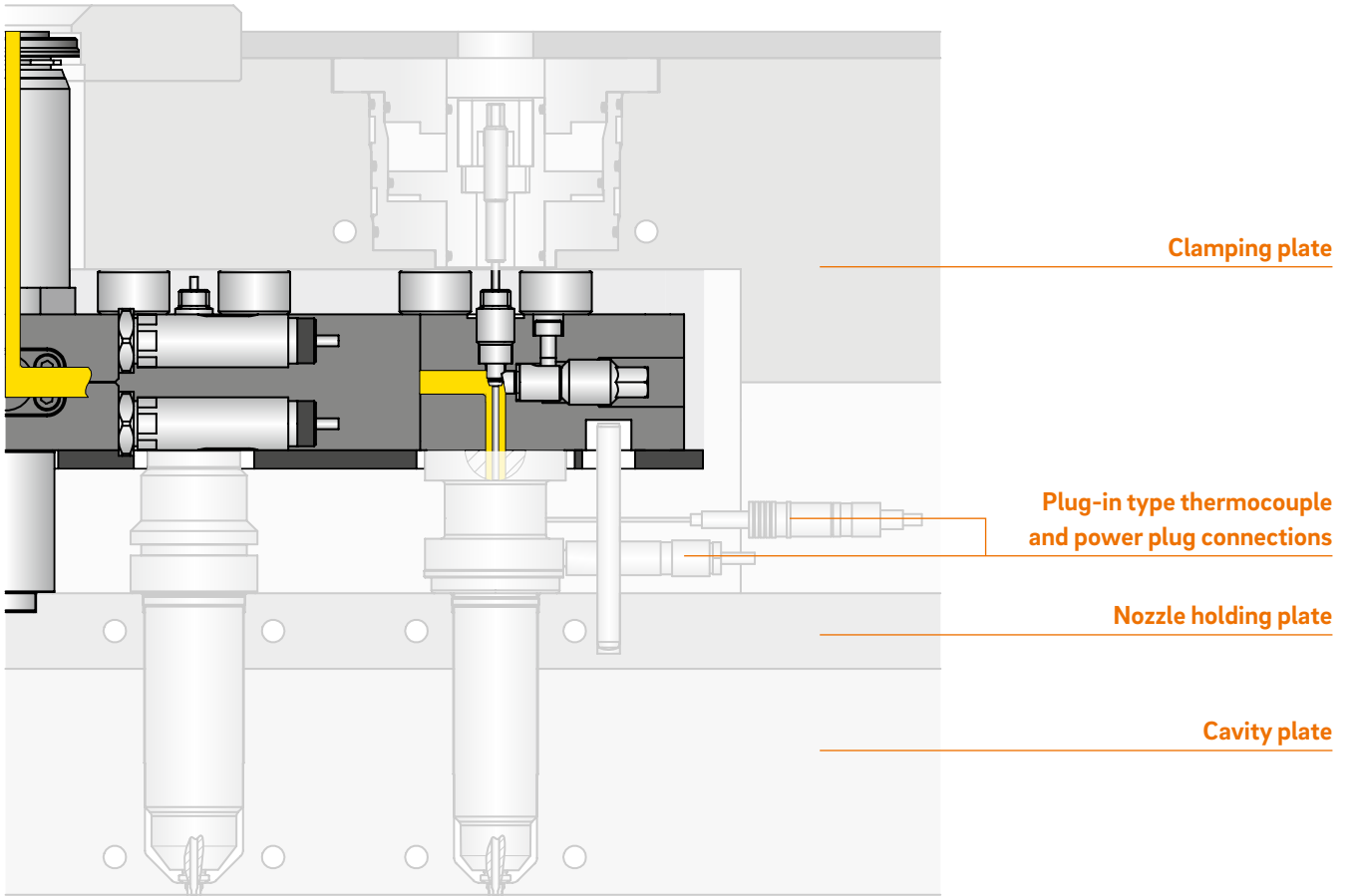
NTCP/NTDP/NTEP

130



Overview of overall design for valve gate manifolds

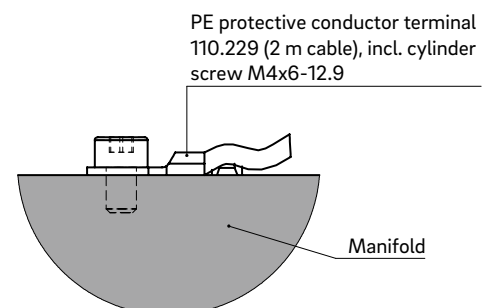
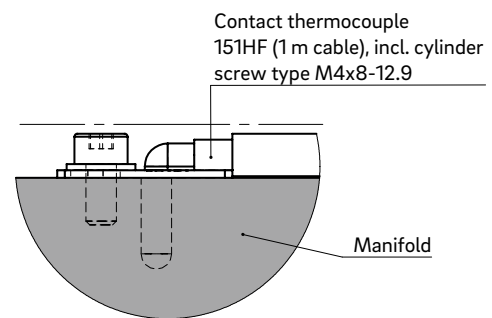
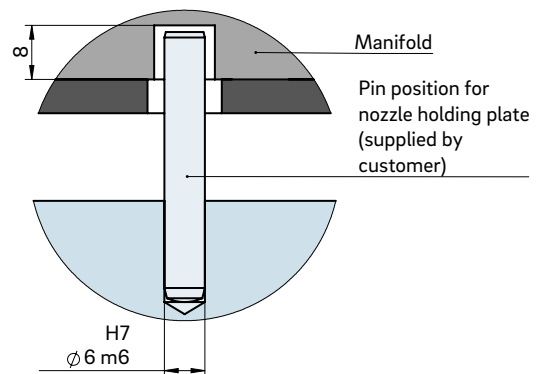






Straight manifold type NGCP

Manifold length (VL) 160-360



TECHNICAL DATA

NGCP VL 160-360

Manifold height (VH) 36 mm

Operating voltage 230 V_{AC} *

| Manifold length (VL) | 160 | 210 | 260 | 310 | 360 |
|--|---------|---------|----------|----------|----------|
| Control circuits | 1 | 1 | 1 | 1 | 1 |
| Power (watts) per control circuit | 2 × 750 | 2 × 950 | 2 × 1000 | 2 × 1350 | 2 × 1500 |

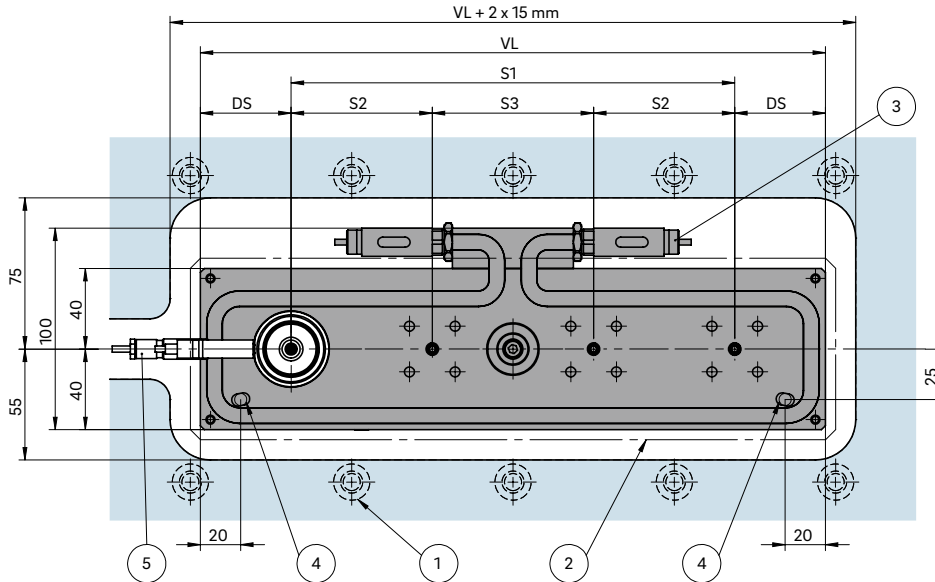
*Volts alternating current

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33010



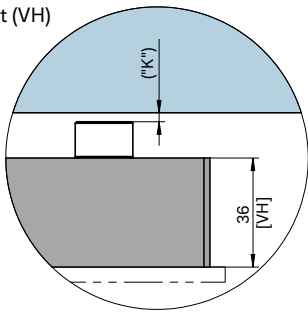
INSTALLATION

Nozzle tip view



- DS Edge distance:
 - a. min. 35.0 with nozzle size ≤ 6
 - b. min. 45.0 with nozzle size 8
 - S1 Largest pitch (max. pitch)
 - S2 Pitch between the nozzles (min./max. pitch)
 - S3 Pitch between the nozzles, taking connecting element and spacer into account (min./max. pitch)
- ① Screw connection close to manifold
 - ② High-temperature insulation plate
 - ③ Heating connections
 - ④ Possible pin position
 - ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |

Design examples/Balancing

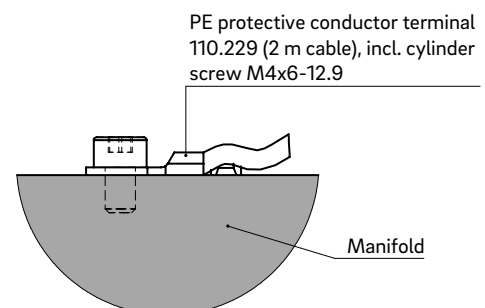
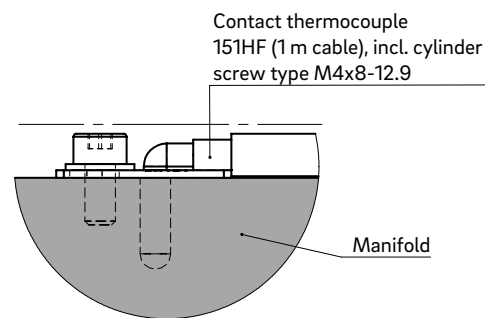
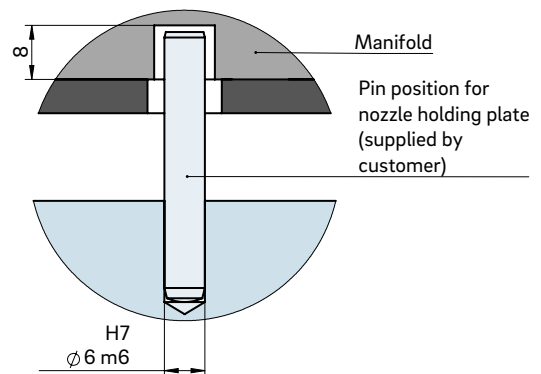
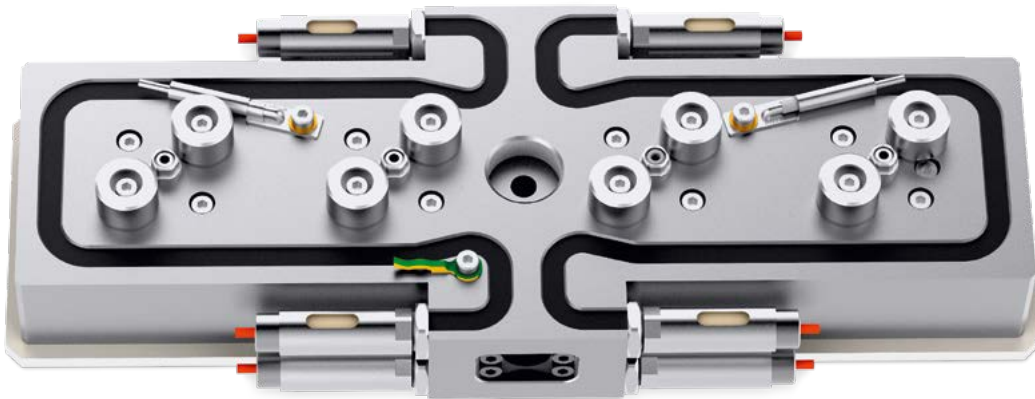
| Type | | Melt channel \varnothing in mm | Number of drops |
|--------|--|----------------------------------|-----------------|
| NGCP1B | | ≤ 8 | 1 |
| NGCP2B | | ≤ 8 | 2 |
| NGCP4B | | ≤ 8 | 4 |
| NGCP8T | | ≤ 8 | 8 |

B = balanced T = partially balanced



Straight manifold type NGCP

Manifold length (VL) 410-510



TECHNICAL DATA

NGCP VL 410-510

Manifold height (VH) 36 mm

Operating voltage 230 V_{AC} *

| | | | |
|----------------------|-----|-----|-----|
| Manifold length (VL) | 410 | 460 | 510 |
|----------------------|-----|-----|-----|

| | | | |
|------------------|---|---|---|
| Control circuits | 2 | 2 | 2 |
|------------------|---|---|---|

| | | | |
|--------------------------------------|------------|------------|-------------|
| Power (watts) per control circuit | 2 × 850 | 2 × 950 | 2 × 1000 |
|--------------------------------------|------------|------------|-------------|

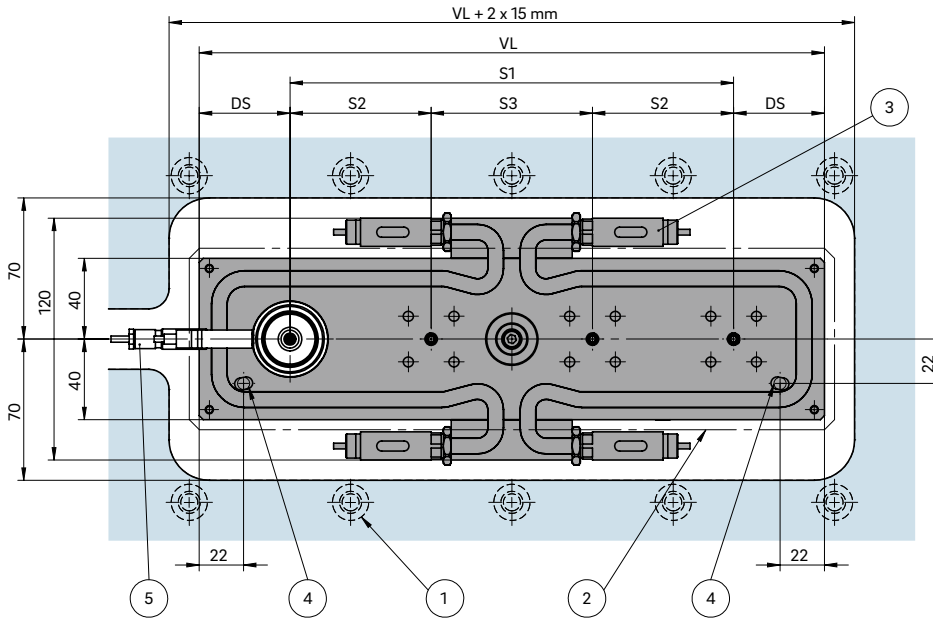
*Volts alternating current

WEBCODE
33020



INSTALLATION

Nozzle tip view



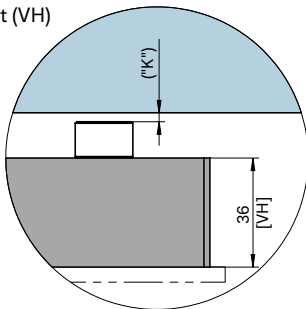
DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8

S1 Largest pitch (max. pitch)
 S2 Pitch between the nozzles (min./max. pitch)

S3 Pitch between the nozzles, taking connecting element and spacer into account (min./max. pitch)

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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|-------|-----------------|-------|-------|-------|-------|-------|-------|
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Design examples/Balancing

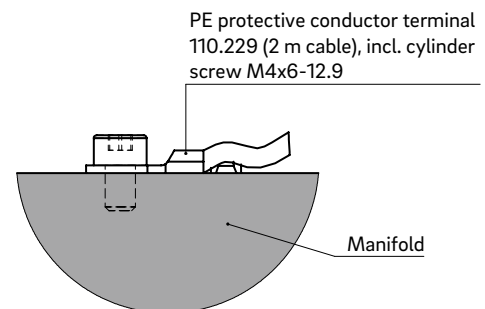
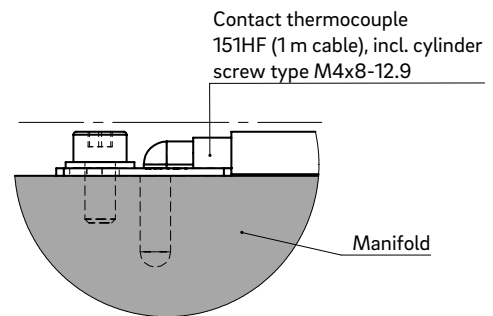
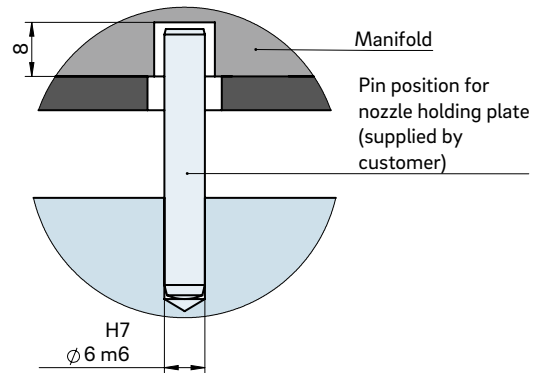
| Type | | Melt channel $\varnothing d$ in mm | Number of drops |
|--------|--|------------------------------------|-----------------|
| NGCP1B | | ≤ 8 | 1 |
| NGCP2B | | ≤ 8 | 2 |
| NGCP4B | | ≤ 8 | 4 |
| NGCP6T | | ≤ 8 | 6 |
| NGCP8T | | ≤ 8 | 8 |

B = balanced T = partially balanced



Straight manifold type NGDP

Manifold length (VL) 160-360



TECHNICAL DATA

NGDP VL 160-360

Manifold height (VH) 46 mm

Operating voltage 230 V_{AC} *

| Manifold length (VL) | 160 | 210 | 260 | 310 | 360 |
|-----------------------------------|---------|---------|----------|----------|----------|
| Control circuits | 1 | 1 | 1 | 1 | 1 |
| Power (watts) per control circuit | 2 × 750 | 2 × 950 | 2 × 1000 | 2 × 1350 | 2 × 1500 |

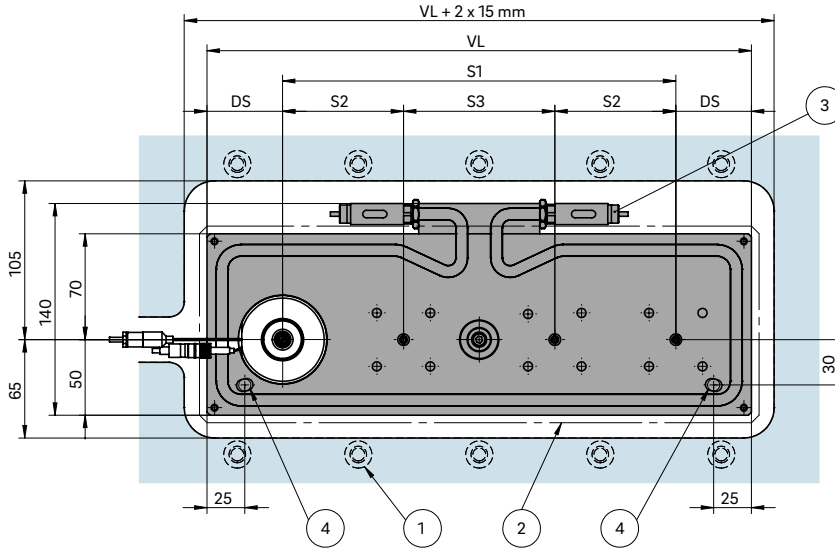
*Volts alternating current

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33030



INSTALLATION

Nozzle tip view

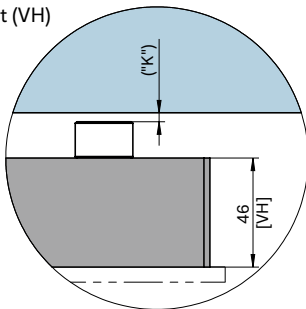


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

S1 Largest pitch (max. pitch)
 S2 Pitch between the nozzles (min./max. pitch)
 S3 Pitch between the nozzles, taking connecting element and spacer into account (min./max. pitch)

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |
|-------|-----------------|-------|-------|-------|-------|-------|-------|
| 46 mm | K (mm) | 0.033 | 0.078 | 0.124 | 0.170 | 0.218 | 0.264 |

Design examples/Balancing

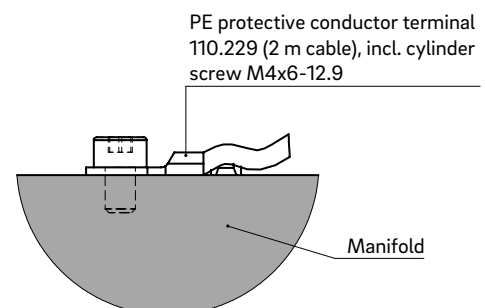
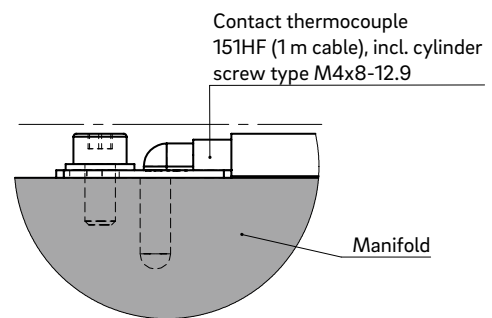
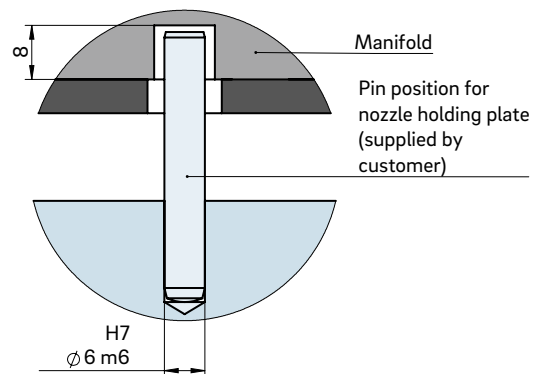
| Type | | Melt channel \varnothing d in mm | Number of drops |
|--------|--|------------------------------------|-----------------|
| NGDP1B | | ≥ 10 to 12 | 1 |
| NGDP2B | | ≥ 10 to 12 | 2 |
| NGDP4B | | ≥ 10 to 12 | 4 |
| NGDP6T | | ≤ 8 | 6 |

B = balanced T = partially balanced



Straight manifold type NGDP

Manifold length (VL) 410-510



TECHNICAL DATA

NGDP VL 410-510

Manifold height (VH) 46 mm

Operating voltage 230 V_{AC} *

| | | | |
|----------------------|-----|-----|-----|
| Manifold length (VL) | 410 | 460 | 510 |
|----------------------|-----|-----|-----|

| | | | |
|------------------|---|---|---|
| Control circuits | 2 | 2 | 2 |
|------------------|---|---|---|

| | | | |
|--------------------------------------|------------|------------|-------------|
| Power (watts) per control circuit | 2 × 850 | 2 × 950 | 2 × 1000 |
|--------------------------------------|------------|------------|-------------|

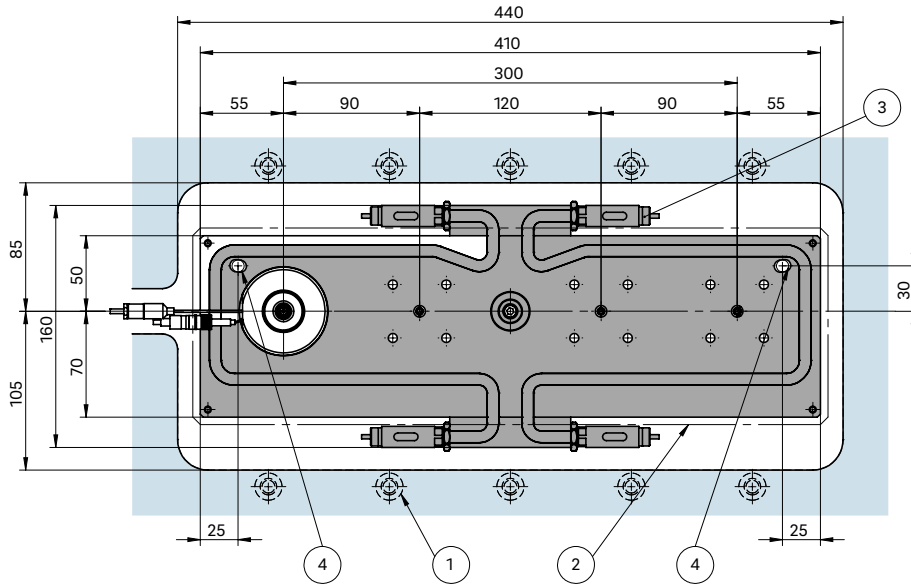
*Volts alternating current

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33040



INSTALLATION

Nozzle tip view

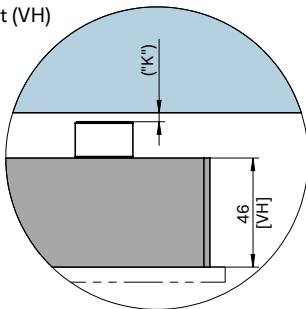


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

S1 Largest pitch (max. pitch)
 S2 Pitch between the nozzles (min./max. pitch)
 S3 Pitch between the nozzles, taking connecting element and spacer into account (min./max. pitch)

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |
|-------|-----------------|-------|-------|-------|-------|-------|-------|
| 46 mm | K (mm) | 0.033 | 0.078 | 0.124 | 0.170 | 0.218 | 0.264 |

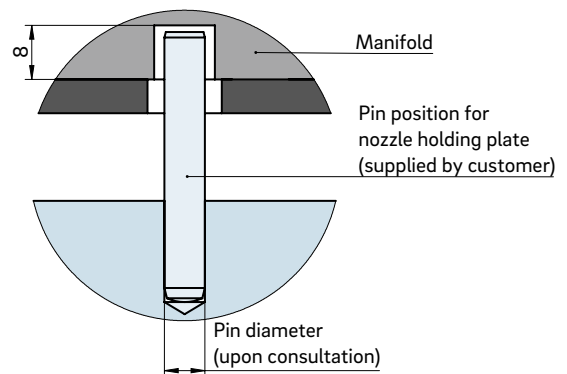
Design examples/Balancing

| Type | | Melt channel \varnothing d in mm | Number of drops |
|--------|--|------------------------------------|-----------------|
| NGDP1B | | ≥ 12 | 1 |
| NGDP2B | | ≥ 12 | 2 |
| NGDP4B | | ≥ 12 | 4 |
| NGDP6T | | ≤ 8 | 6 |
| NGDP8T | | ≥ 12 | 8 |

B = balanced T = partially balanced



H-manifold type NHCP/NHDP/NHEP



TECHNICAL DATA

NHCP/NHDP/NHEP

Manifold height (VH) NHCP: 36 mm
NHDP: 46 mm
NHEP: 56 mm

Operating voltage 230 V_{AC}*

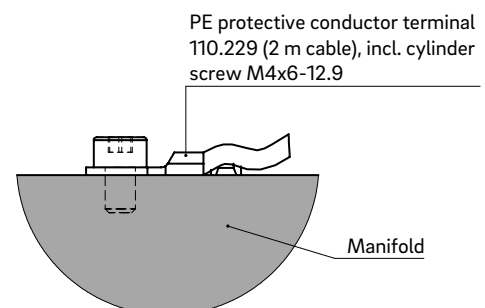
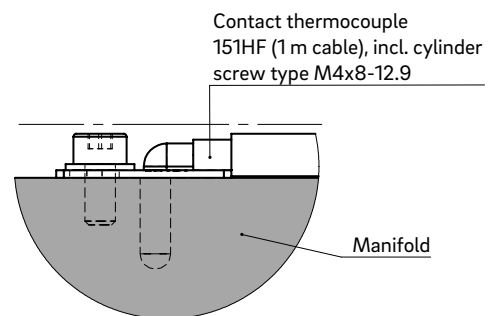
Manifold length (VL) $H + 2 \times DS$

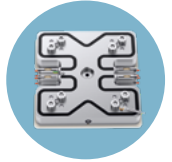
Manifold width (VB) $B + 2 \times DS$

The heating output of each control circuit is calculated individually.

*Volts alternating current

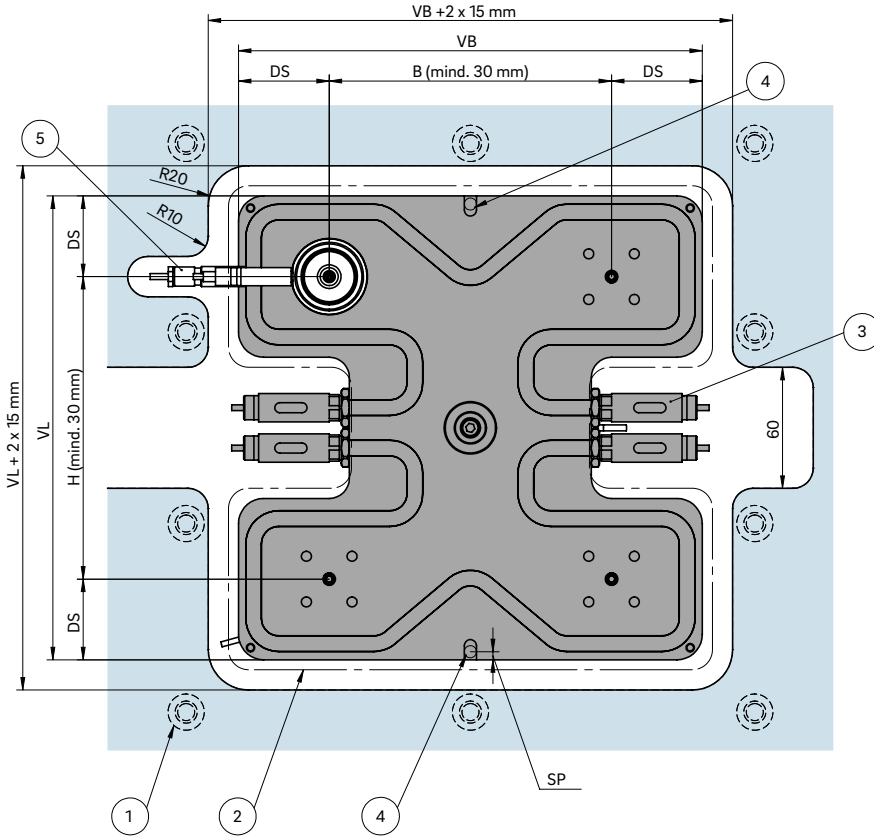
WEBCODE
33050





INSTALLATION

Nozzle tip view

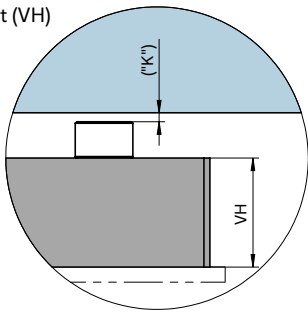


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

H Pitch between the nozzles
 B Pitch between the nozzles

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
"SP" = $d/2 + 1$ mm
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |

Design examples/Balancing

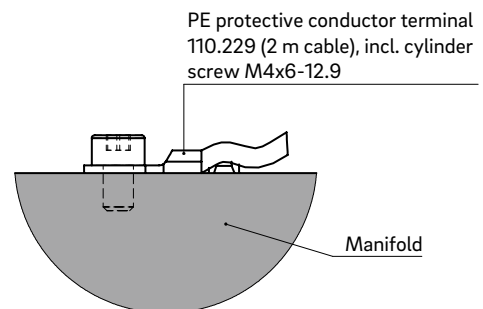
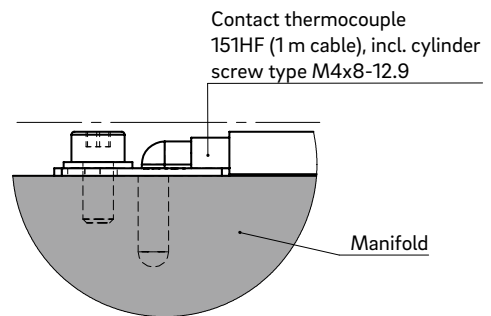
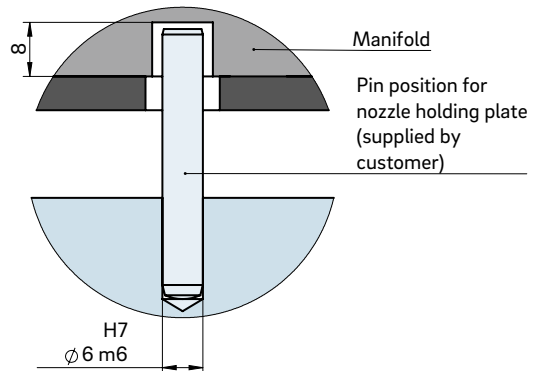
| Type | | NHCP = 36 (VH) Melt channel $\varnothing d$ in mm | NHDP = 46 (VH) Melt channel $\varnothing d$ in mm | NHEP = 56 (VH) Melt channel $\varnothing d$ in mm | Number of drops |
|---------|--|---|---|---|-----------------|
| NH_P4B | | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 4 |
| NH_P6T | | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 6 |
| NH_P6B | | | ≤ 8 | ≤ 10 | 6 |
| NH_P8B | | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 8 |
| NH_P12B | | | ≤ 8 | ≤ 10 | 12 |
| NH_P16B | | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 16 |

B = balanced T = partially balanced



Cross manifold type NKCP4/NKDP4

Manifold length (VL) 135-165



TECHNICAL DATA

NKCP4/NKDP4 135/165

Manifold height (VH) NKCP: 36 mm
NKDP: 46 mm

Operating voltage 230 V_{AC} *

| | | |
|-----------------------------|-----|-----|
| Manifold length (VL) | 135 | 165 |
|-----------------------------|-----|-----|

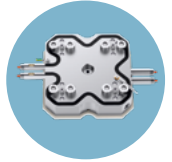
| | | |
|--------------------------|------|------|
| Pin position (SP) | 63.5 | 68.0 |
|--------------------------|------|------|

| | | |
|-------------------------|---|---|
| Control circuits | 1 | 1 |
|-------------------------|---|---|

| | | |
|--|---------|----------|
| Power (watts) per control circuit | 2 × 850 | 2 × 1000 |
|--|---------|----------|

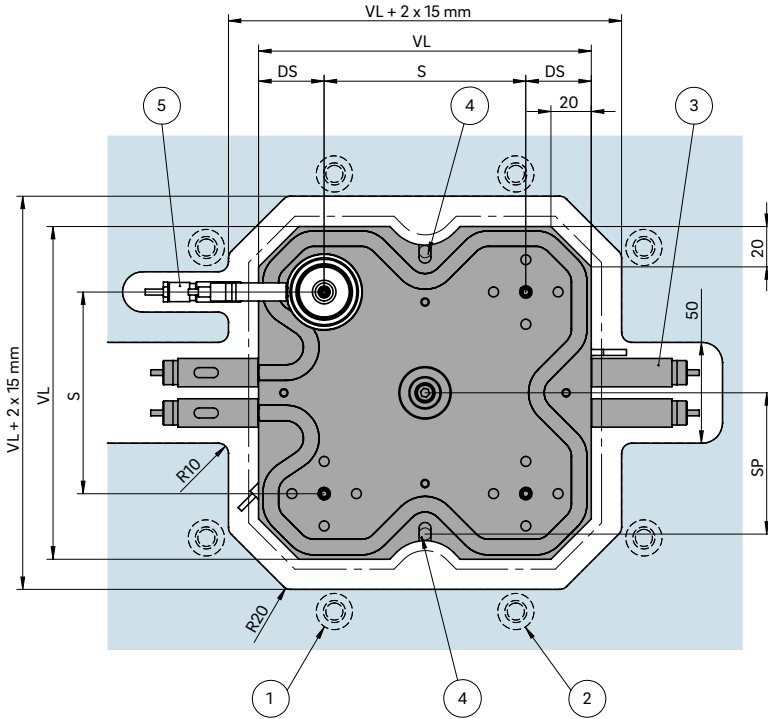
*Volts alternating current

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33060



INSTALLATION

Nozzle tip view

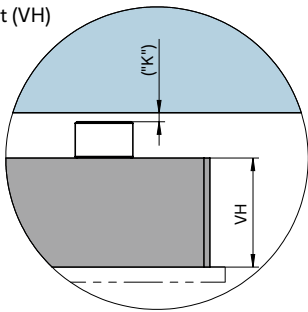


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

S Pitch between the nozzles

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |

Design examples/Balancing

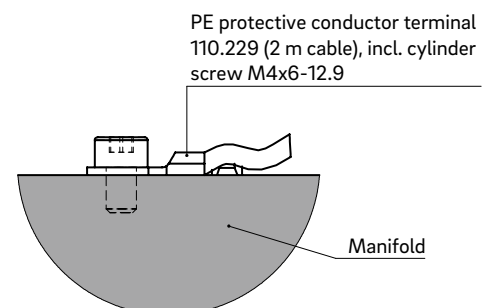
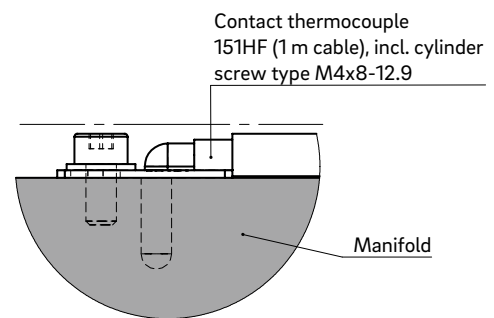
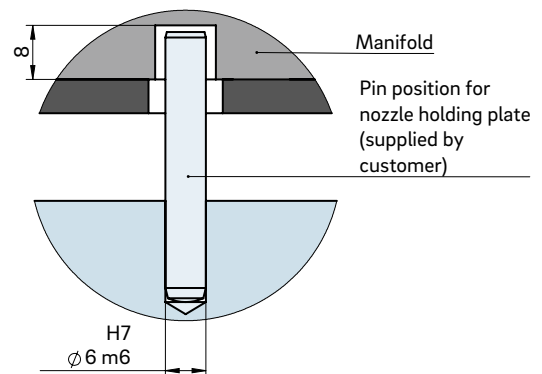
| Type | | NKCP = 36 (VH) Melt channel $\varnothing d$ in mm | NKDP = 46 (VH) Melt channel $\varnothing d$ in mm | Number of drops |
|--------|--|---|---|--------------------|
| NK_P4B | | ≤ 8 DS min. 35 | ≥ 10 to 12 DS min. 50 | 4 |

B = balanced



Cross manifold type NKCP4/NKDP4

Manifold length (VL) 180



TECHNICAL DATA

NKCP4/NKDP4 180

Manifold height (VH) NKCP: 36 mm
NKDP: 46 mm

Operating voltage 230 V_{AC}*

Manifold length (VL) 180

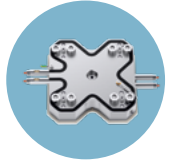
Pin position (SP) 59.0

Control circuits 1

Power (watts) per control circuit 2 × 1000

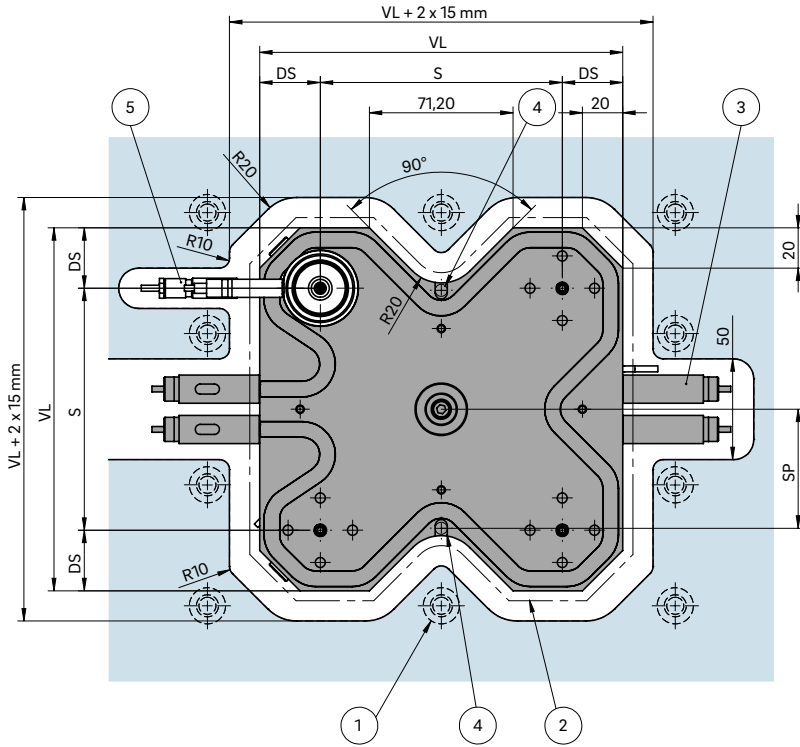
*Volts alternating current

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33070



INSTALLATION

Nozzle tip view

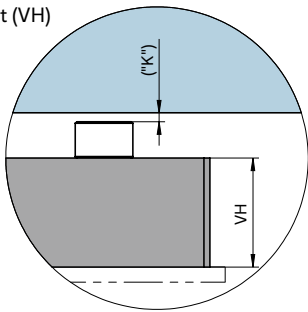


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

S Pitch between the nozzles

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |

Design examples/Balancing

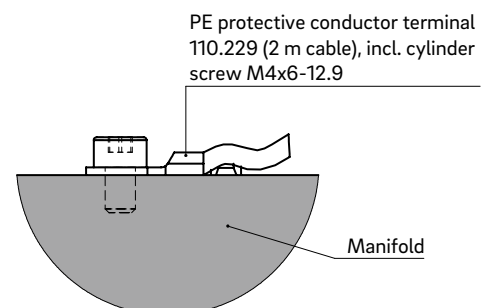
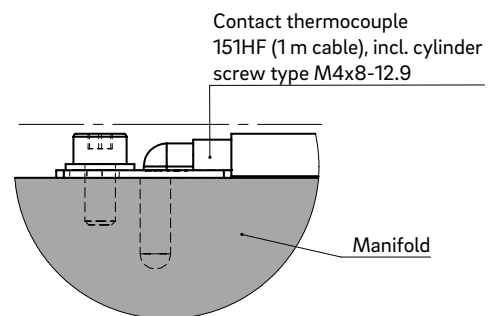
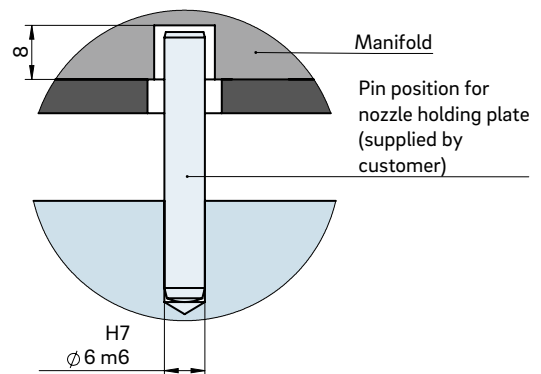
| Type | | NKCP = 36 (VH) Melt channel $\varnothing d$ in mm | NKDP = 46 (VH) Melt channel $\varnothing d$ in mm | Number of drops |
|--------|--|---|---|--------------------|
| NK_P4B | | ≤ 8 DS min. 35 | ≥ 10 to 12 DS min. 50 | 4 |

B = balanced



Cross manifold type NKCP4/NKDP4

Manifold length (VL) 210



TECHNICAL DATA

NKCP4/NKDP4 210

Manifold height (VH) NKCP: 36 mm
NKDP: 46 mm

Operating voltage 230 V_{AC}*

Manifold length (VL) 210

Pin position (SP) 60.8

Control circuits 1

Power (watts) per control circuit 2 ×
1000

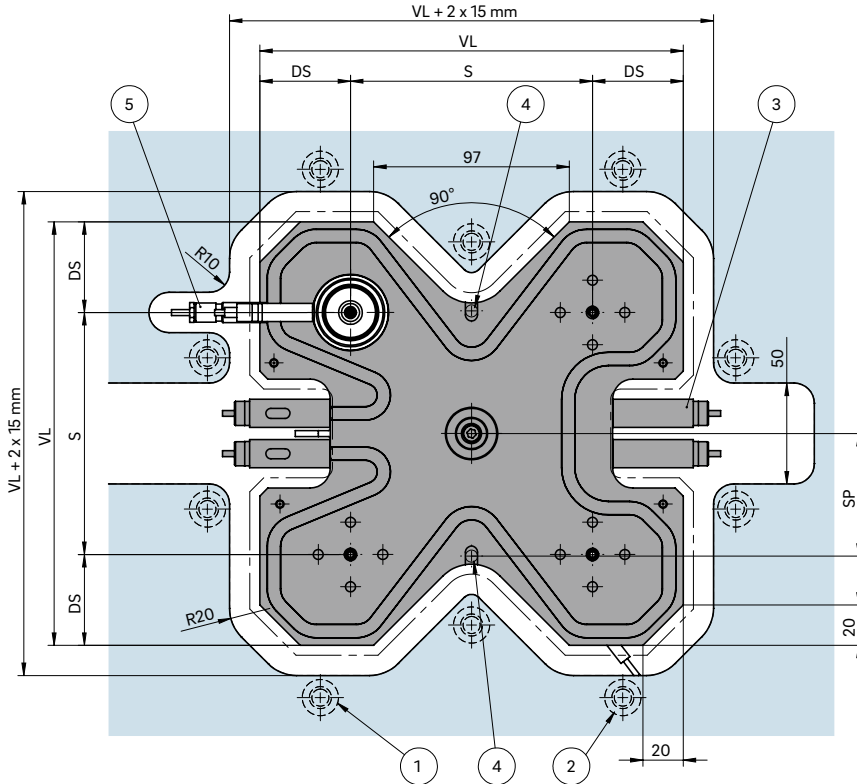
*Volts alternating current

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33080



INSTALLATION

Nozzle tip view

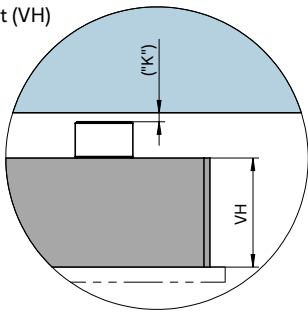


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

S Pitch between the nozzles

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



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 |

Design examples/Balancing

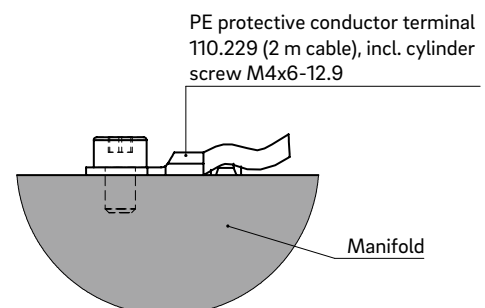
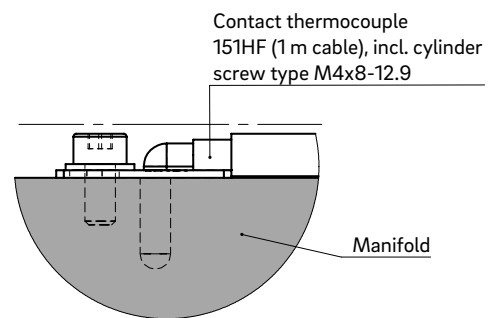
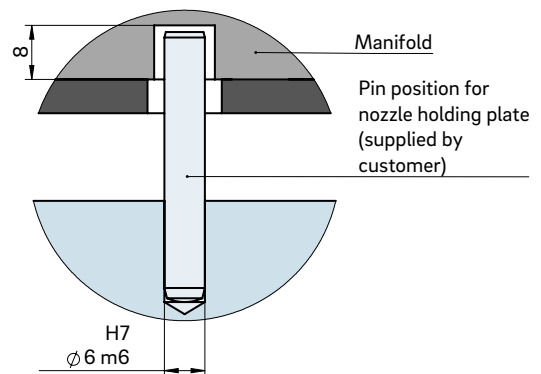
| Type | | NKCP = 36 (VH) Melt channel $\varnothing d$ in mm | NKDP = 46 (VH) Melt channel $\varnothing d$ in mm | Number of drops |
|--------|--|---|---|--------------------|
| NK_P4B | | ≤ 8 DS min. 35 | ≥ 10 to 12 DS min. 50 | 4 |

B = balanced



Cross manifold type NKCP4/NKDP4

Manifold length (VL) 240/270/300



TECHNICAL DATA

NKCP4/NKDP4 240/270/300

Manifold height (VH) NKCP: 36 mm
NKDP: 46 mm

Operating voltage 230 V_{AC} *

| Manifold length (VL) | 240 | 270 | 300 |
|-----------------------------------|----------|----------|----------|
| Pin position (SP) | 81.0 | 87.5 | 101.0 |
| Dimension B | 127.0 | 156.6 | 187.0 |
| Control circuits | 2 | 2 | 2 |
| Power (watts) per control circuit | 2 × 1000 | 2 × 1350 | 2 × 1500 |

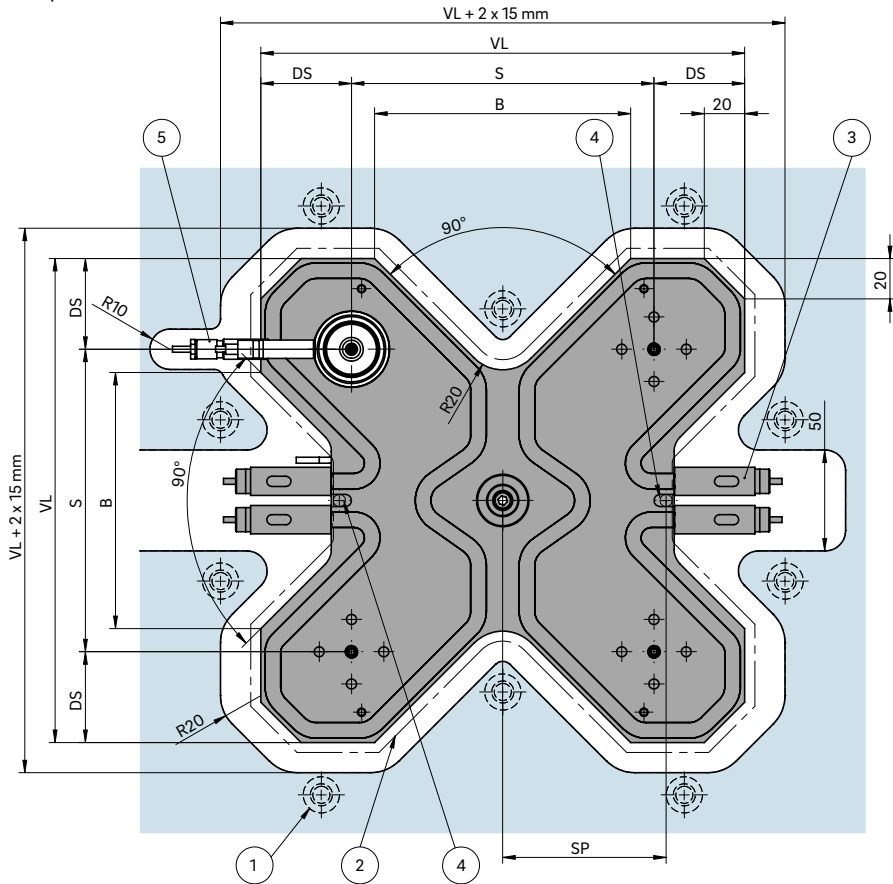
*Volts alternating current

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33090



INSTALLATION

Nozzle tip view

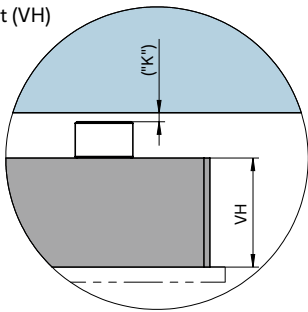


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

S Pitch between the nozzles

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type

Manifold height (VH)



Design examples/Balancing

| Type | | NKCP = 36 (VH) Melt channel Ød in mm | NKDP = 46 (VH) Melt channel Ød in mm | Number of drops |
|--------|--|--|--|--------------------|
| NK_P4B | | ≤ 8 | ≥ 10 to 12 | 4 |
| | | DS min. 35 | DS min. 50 | |

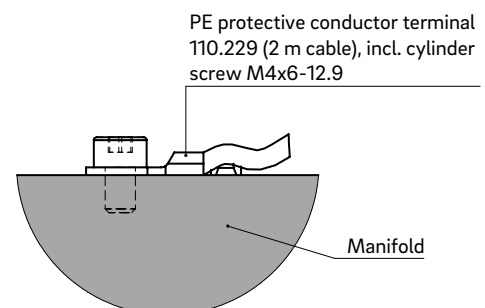
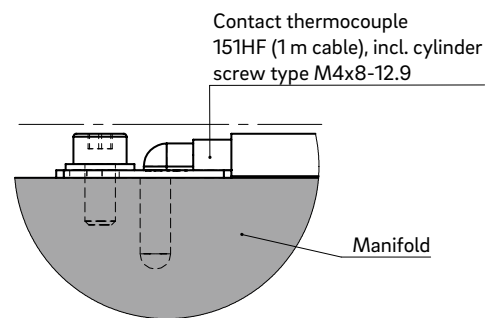
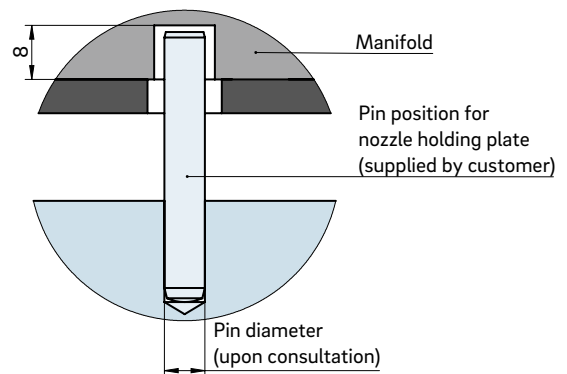
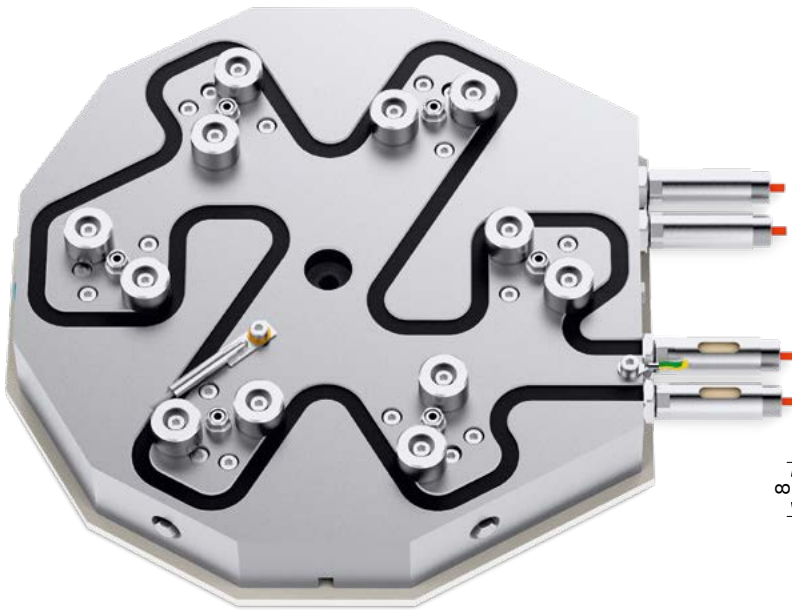
B = balanced

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 |



Star manifold type NSCP/NSDP/NSEP



TECHNICAL DATA

NSCP/NSDP/NSEP

Manifold height (VH) NSCP: 36 mm
NSDP: 46 mm
NSEP: 56 mm

Operating voltage 230 V_{AC}*

Manifold length (VL) ØTK + 2 × DS

The heating output of each control circuit is calculated individually.

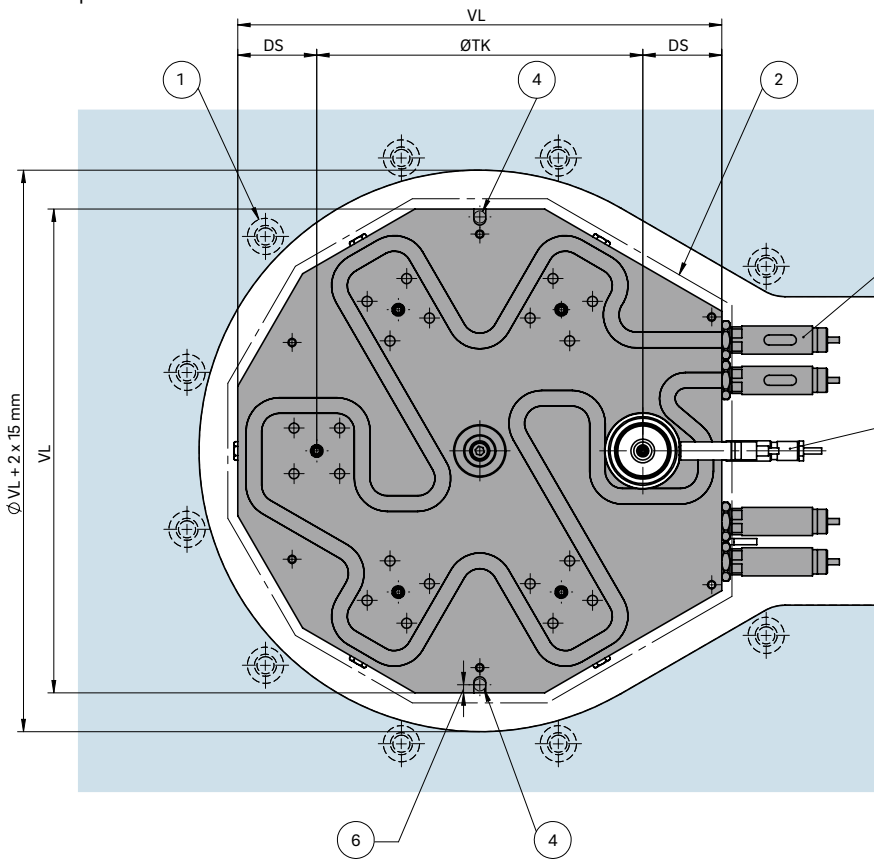
*Volts alternating current

WEBCODE
33100



INSTALLATION

Nozzle tip view

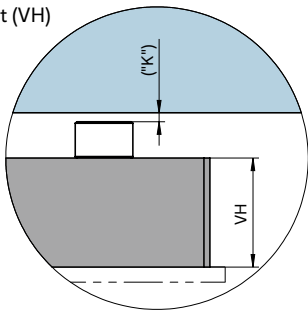


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

ØTK Pitch circle diameter

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Heating connections
- ④ Possible pin position
- ⑤ Opening and plug location dependent upon nozzle type
- ⑥ Pin position "SP" = $d/2 + 1$ mm

Manifold height (VH)



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 |

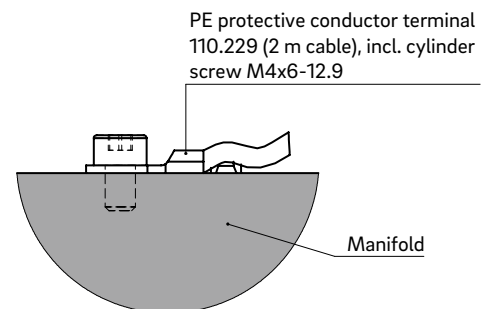
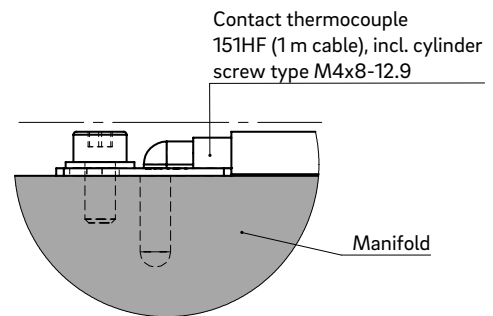
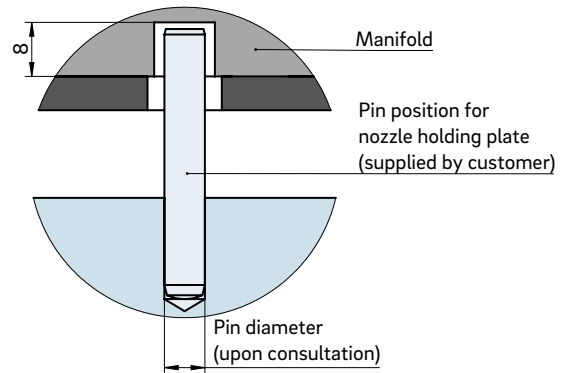
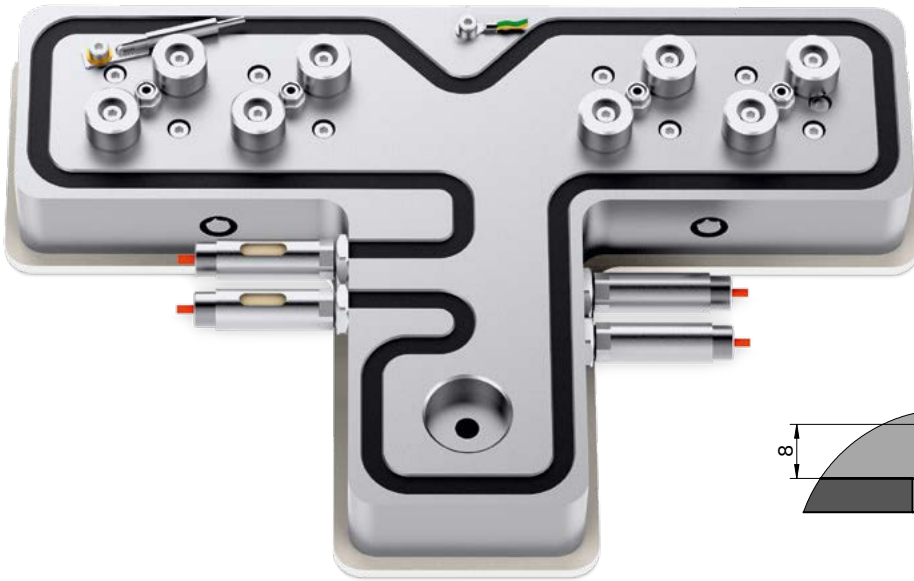
Design examples/Balancing

| Type | | NSCP = 36 (VH) Melt channel Ød in mm | NSDP = 46 (VH) Melt channel Ød in mm | NSP = 56 (VH) Melt channel Ød in mm | Number of drops |
|--------|--|--|--|---|--------------------|
| NS_P3B | | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 3 |
| NS_P6B | | | ≤ 8 | ≤ 10 | 6 |
| NS_P8B | | | ≤ 8 | ≤ 10 | 8 |

B = balanced



T-manifold type NTCP/NTDP/NTEP



TECHNICAL DATA

NTCP/NTDP/NTEP

Manifold height (VH) NTCP: 36 mm
 NTDP: 46 mm
 NTEP: 56 mm

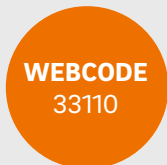
Operating voltage 230 V_{AC}*

Manifold length (VL) S1 + 2 × DS

Manifold width (VB) T + 2 × 40 mm

The heating output of each control circuit is calculated individually.

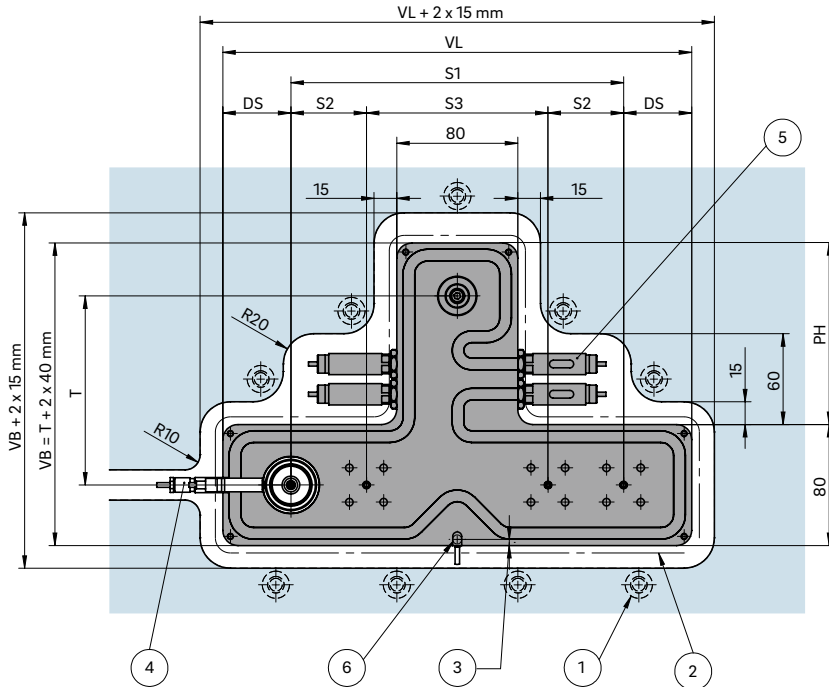
*Volts alternating current





INSTALLATION

Nozzle tip view

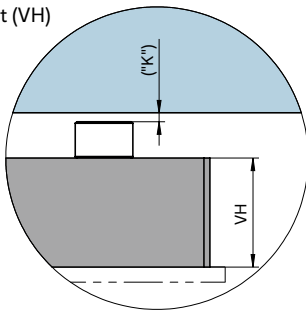


DS Edge distance:
 a. min. 35.0 with nozzle size ≤ 6
 b. min. 45.0 with nozzle size 8 or 10
 c. min. 50.0 with nozzle size ≥ 12

T Distance from the connecting nozzle to the nozzle row

- ① Screw connection close to manifold
- ② High-temperature insulation plate
- ③ Pin position "SP" = $d/2 + 1$ mm
- ④ Opening and plug location dependent upon nozzle type
- ⑤ Position of the heating connections with $PH \geq 100$
- ⑥ Position of the heating connections with $PH \leq 100$; different heating connection positions require consultation with the design office

Manifold height (VH)



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 |

Design examples/Balancing

| Type | NTCP = 36 (VH) Melt channel $\varnothing d$ in mm | NTDP = 46 (VH) Melt channel $\varnothing d$ in mm | NTEP = 56 (VH) Melt channel $\varnothing d$ in mm | Number of drops |
|--------|---|---|---|-----------------|
| NT_P2B | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 2 |
| NT_P4- | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 4 |
| NT_P4B | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 4 |
| NT_P6T | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 6 |
| NT_P8T | ≤ 8 | ≥ 10 to 12 | ≥ 16 | 8 |

B = balanced T = partially balanced - = not balanced



3.4 Connecting elements

CONNECTING NOZZLES

Page



AKD

Connecting nozzle linking the machine nozzle and manifold

20



ASD6-12

Connecting nozzle linking the machine nozzle and manifold

30



ASD14-16

Connecting nozzle linking the machine nozzle and manifold

40



Connecting nozzle type AKD

Connecting nozzle linking the machine nozzle and manifold

TECHNICAL DATA

AKD

Operating voltage 230 V_{AC} *

Adapter straight (G)/radius (R)/
angle (W)

**Nominal length L (mm) of connecting nozzle/
Delivery times:**

| Type | 80 | 90 | 110 |
|------|-------------------------------------|-------------------------------------|-------------------------------------|
| AKD3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AKD4 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AKD5 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| AKD6 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| AKD8 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

*Volts alternating current

available on request

NOTE

Specify the machine nozzle version when ordering.



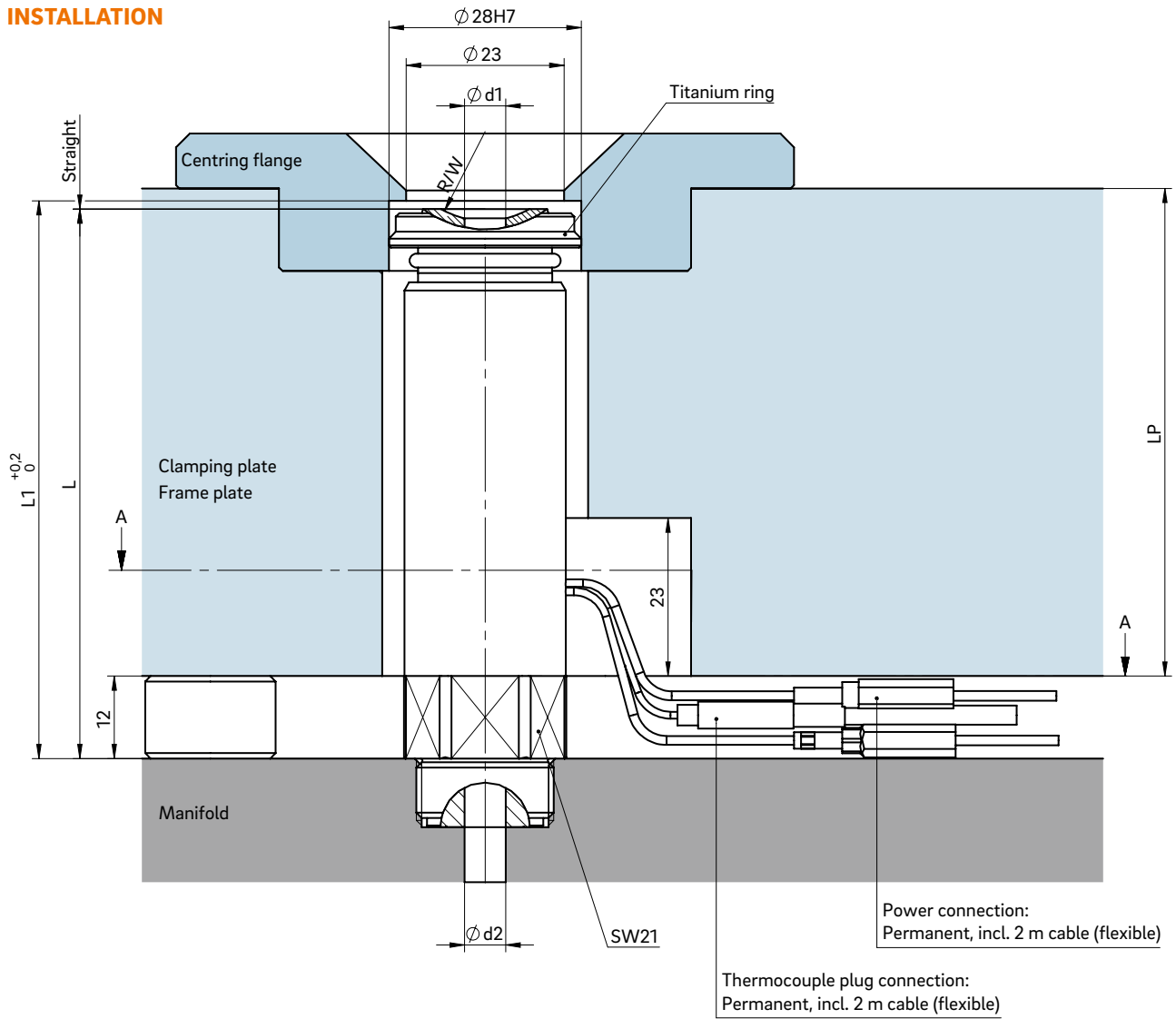
| Type | Connecting nozzle (mm) | |
|------|------------------------|-----|
| | Ød1 | Ød2 |
| AKD3 | 3 | 3 |
| AKD4 | 4 | 4 |
| AKD5 | 5 | 5 |
| AKD6 | 6 | 6 |
| AKD8 | 6 | 8 |

| Nozzle length L (mm) | Installation length L1 (mm) | Plate height LP (mm) |
|----------------------|-----------------------------|----------------------|
| 80 | 80.7 | 66 |
| 90 | 90.7 | 76 |
| 110 | 110.7 | 96 |

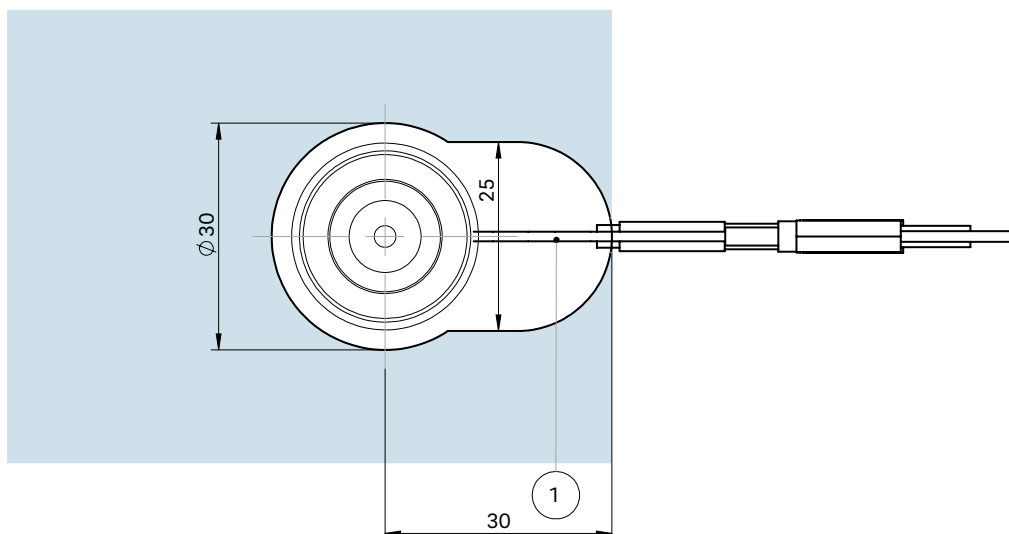
WEBCODE
35110



INSTALLATION



Cross-section A-A: Cutout for connecting nozzle, power and thermocouple cables





Connecting nozzle type ASD6-12

Connecting nozzle linking the machine nozzle and manifold

TECHNICAL DATA

ASD6-12

Operating voltage 230 V_{AC} *

Adapter straight (G)/radius (R)/
angle (W)

**Nominal length L (mm) of connecting nozzle/
Delivery times:**

| Typ | 75 | 85 | 95 | 105 | 115 | 125 | 150 | 175 |
|-------|----|----|----|-----|--------------------------|-----|--------------------------|--------------------------|
| ASD6 | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| ASD8 | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| ASD10 | ■ | ■ | ■ | ■ | ■ | ■ | <input type="checkbox"/> | <input type="checkbox"/> |
| ASD12 | ■ | ■ | ■ | ■ | <input type="checkbox"/> | ■ | <input type="checkbox"/> | <input type="checkbox"/> |

*Volts alternating current

■ *available* *on request*

NOTE

Specify the machine nozzle version when ordering.



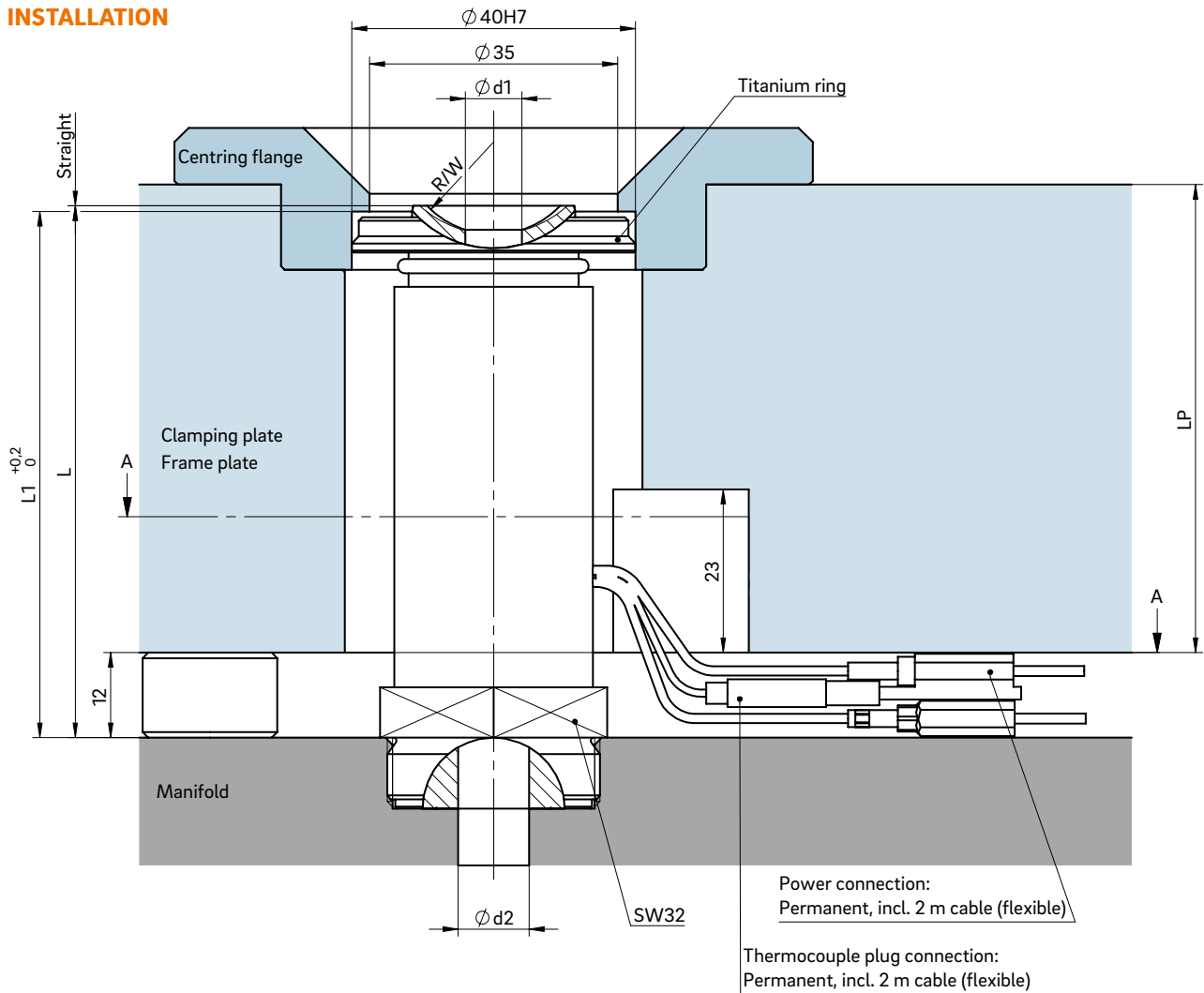
| Typ | Connecting nozzle (mm) | |
|-------|------------------------|-----|
| | Ød1 | Ød2 |
| ASD6 | 6 | 6 |
| ASD8 | 6 | 8 |
| ASD10 | 8 | 10 |
| ASD12 | 10 | 12 |

| Nozzle length L (mm) | Installation length L1 (mm) | Plate height LP (mm) |
|----------------------|-----------------------------|----------------------|
| 75 | 74.7 | 56 |
| 85 | 84.7 | 66 |
| 95 | 94.7 | 76 |
| 105 | 104.7 | 86 |
| 115 | 114.7 | 96 |
| 125 | 124.7 | 106 |
| 150 | 147.7 | 131 |
| 175 | 174.7 | 156 |

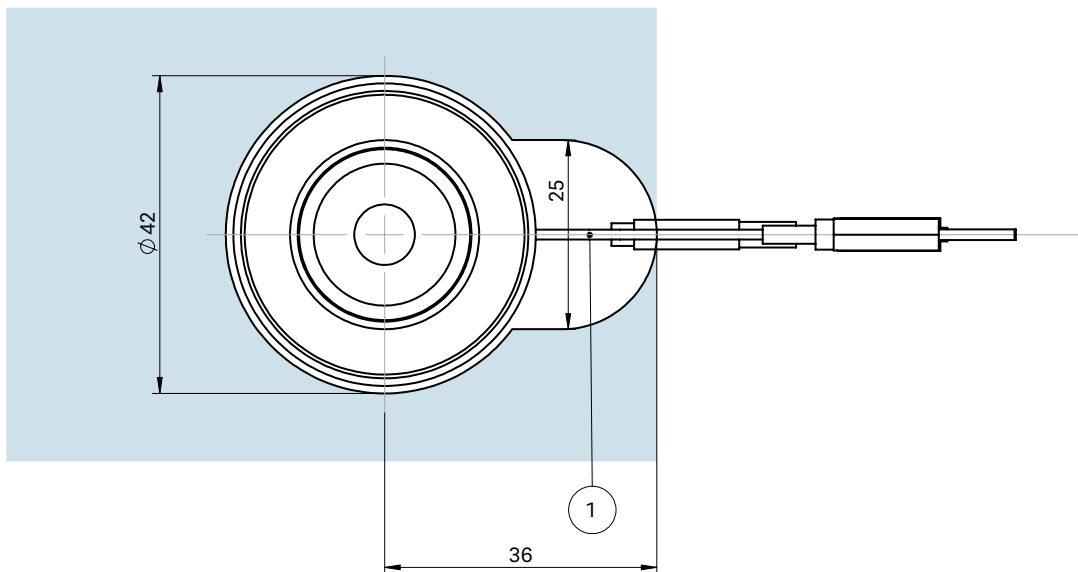
WEBCODE
35120



INSTALLATION



Cross-section A-A: Cutout for connecting nozzle, power and thermocouple cables



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



Connecting nozzle type ASD14-16

Connecting nozzle linking the machine nozzle and manifold

TECHNICAL DATA

ASD14-16

Operating voltage 230 V_{AC} *

Adapter straight (G)/radius (R)/
angle (W)

**Nominal length L (mm) of connecting nozzle/
Delivery times:**

| Type | 75 | 85 | 95 | 105 | 115 | 125 |
|-------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ASD14 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ASD16 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

*Volts alternating current

■ available on request

NOTE

Specify the machine nozzle version when ordering.



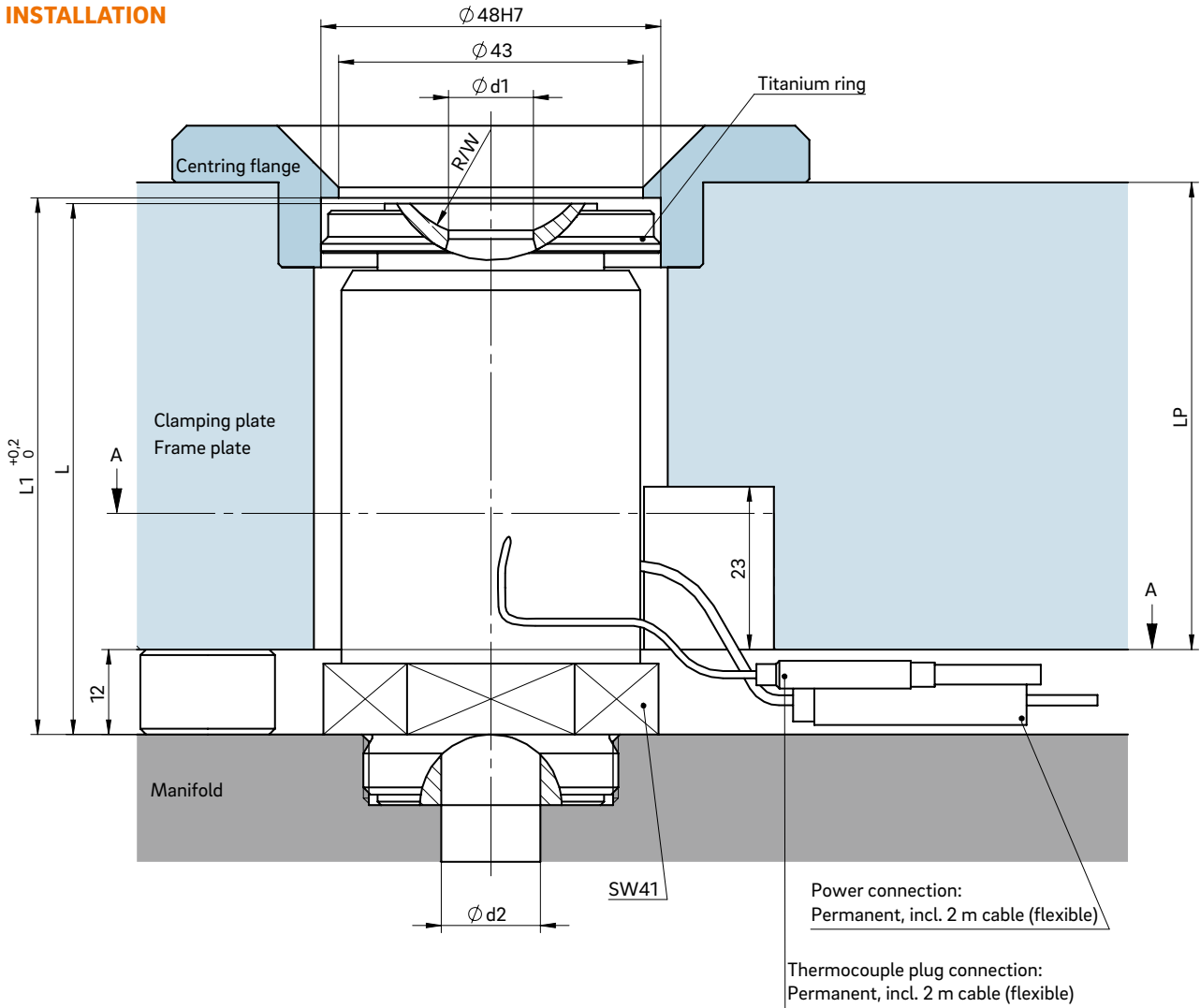
| Type | Connecting nozzle (mm) | |
|-------|------------------------|-----|
| | Ød1 | Ød2 |
| ASD14 | 12 | 14 |
| ASD16 | 14 | 16 |

| Nozzle length L (mm) | Installation length L1 (mm) | Plate height LP (mm) |
|----------------------|-----------------------------|----------------------|
| 75 | 75.3 | 56 |
| 85 | 85.3 | 66 |
| 95 | 95.3 | 76 |
| 105 | 105.3 | 86 |
| 115 | 115.3 | 96 |
| 125 | 125.3 | 106 |

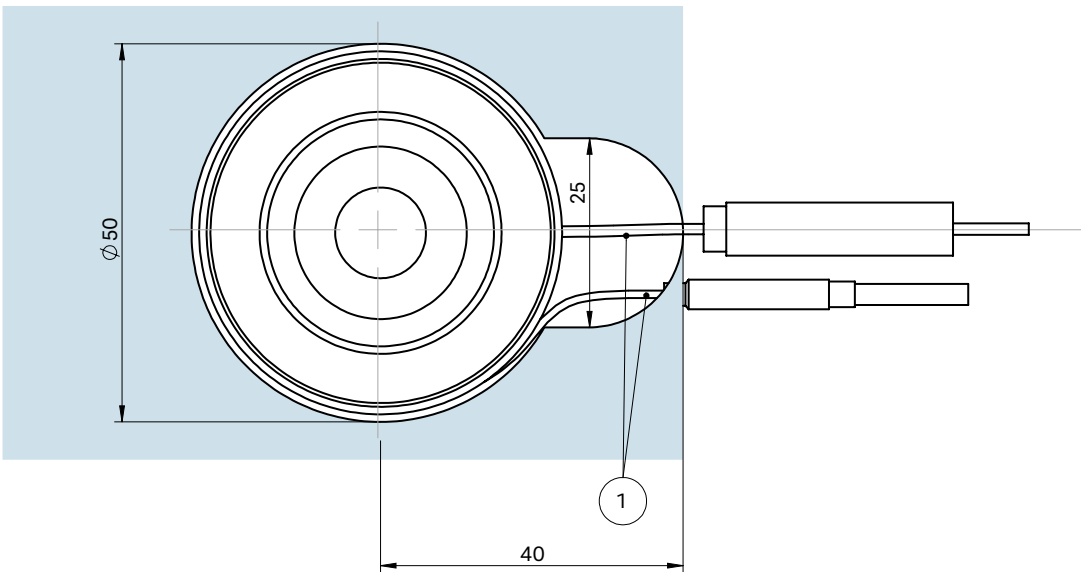
WEBCODE
35130



INSTALLATION



Cross-section A-A: Cutout for connecting nozzle, power and thermocouple cables



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



3.5 Needle actuator

SINGLE-NEEDLE DRIVE

Page



Single-needle valve ENV2/ENV3
Pneumatic drive, with housing

30



Single-needle valve ENV2/ENV3
Hydraulic drive, with housing

40



Single-needle valve ENV5
Pneumatic drive, with housing

50



Single-needle valve ENV5
Hydraulic drive, with housing

60



Single-needle valve EEV2/EEV3
Pneumatic drive, with housing

70



Single-needle valve EEV2/EEV3
Hydraulic drive, with housing

80



Stepper motor SMA 10
Electric drive

100

MULTI-NEEDLE DRIVE

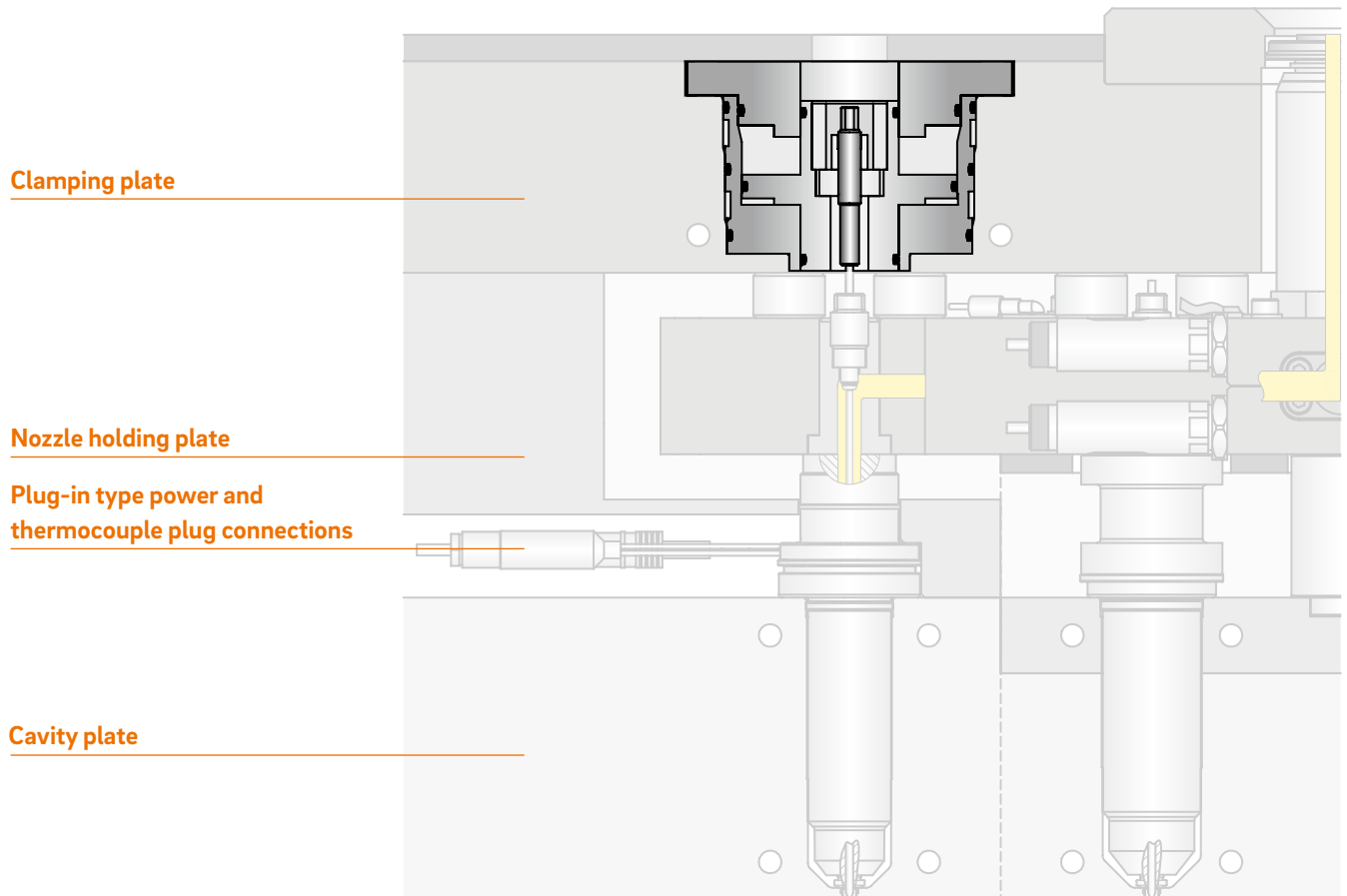


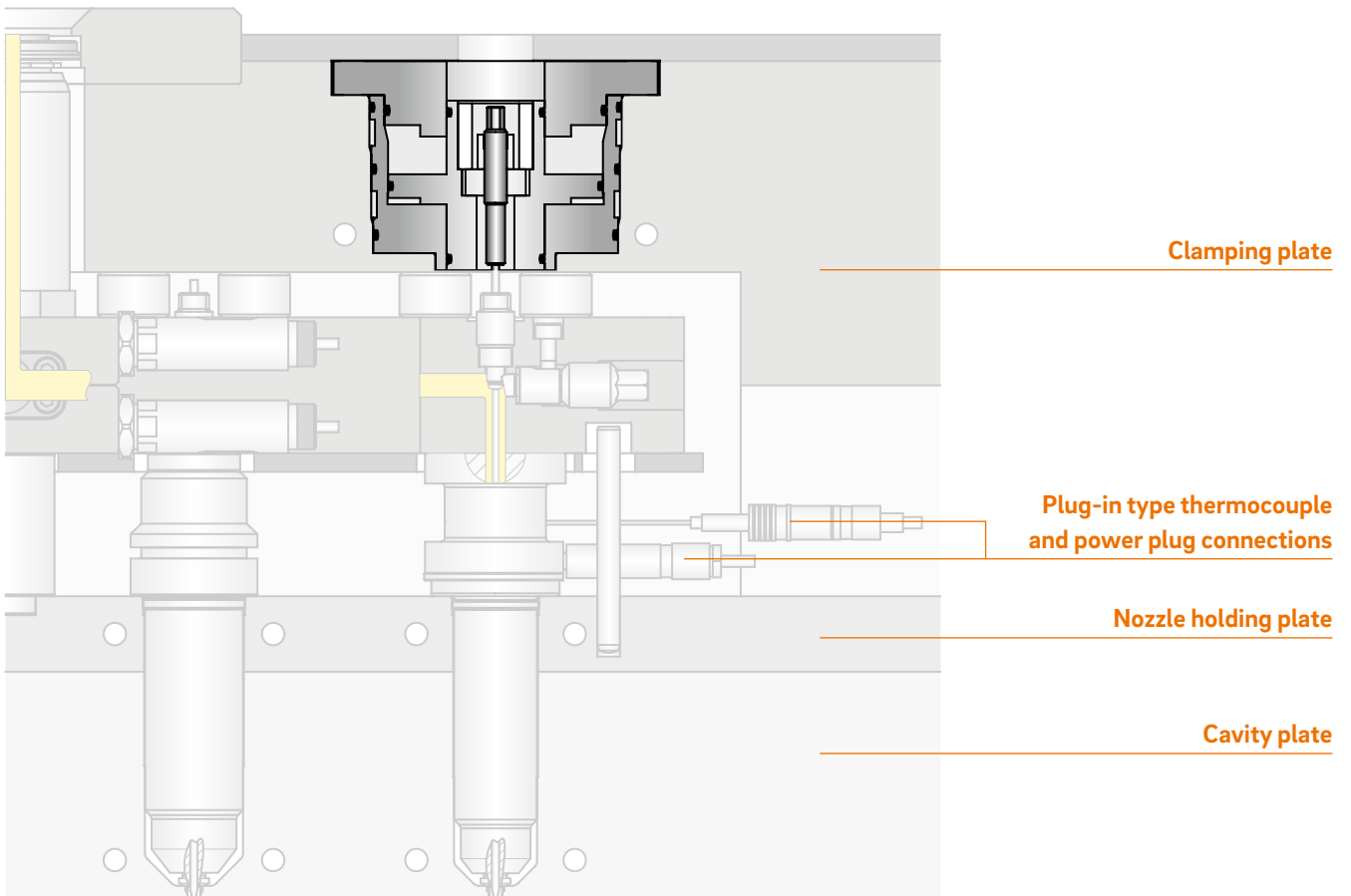
Sliding mechanism ANES
Electric/pneumatic/hydraulic drive

300



Overview of overall design for needle actuator







Single-needle valve ENV2/ENV3

Pneumatic drive, with housing

TECHNICAL DATA

ENV2/10/L/G

| | |
|--------------------|------------------------------|
| Nozzle Ød | 4–5 mm |
| Drive type | pneumatic |
| Operating pressure | min. 6 bar air intake at ENV |

ENV3/10/L/G

| | |
|--------------------|------------------------------|
| Nozzle Ød | 5–10 mm |
| Drive type | pneumatic |
| Operating pressure | min. 6 bar air intake at ENV |

NOTE

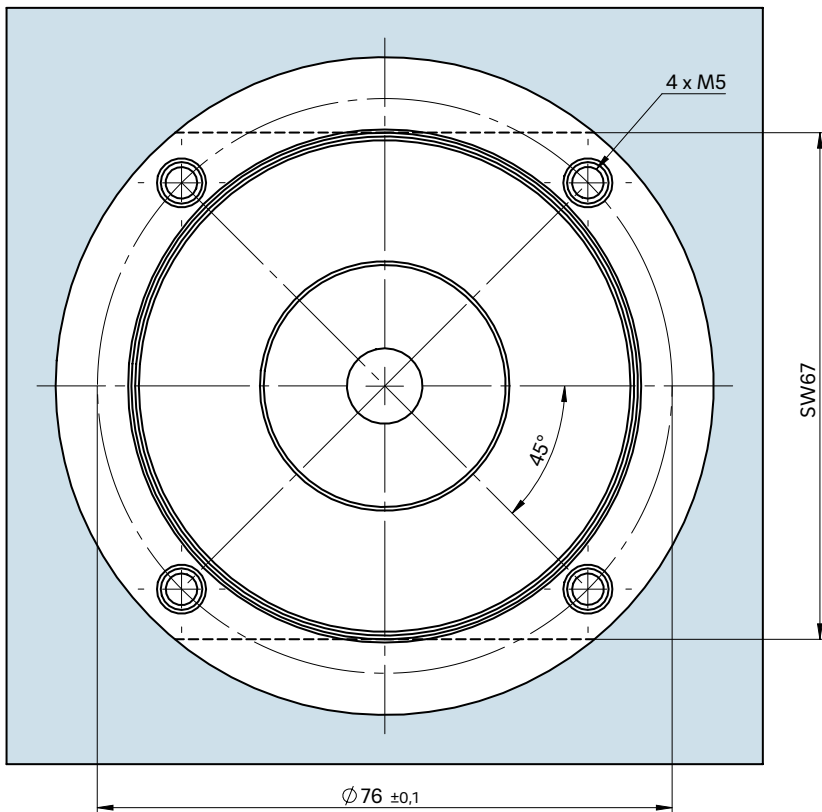
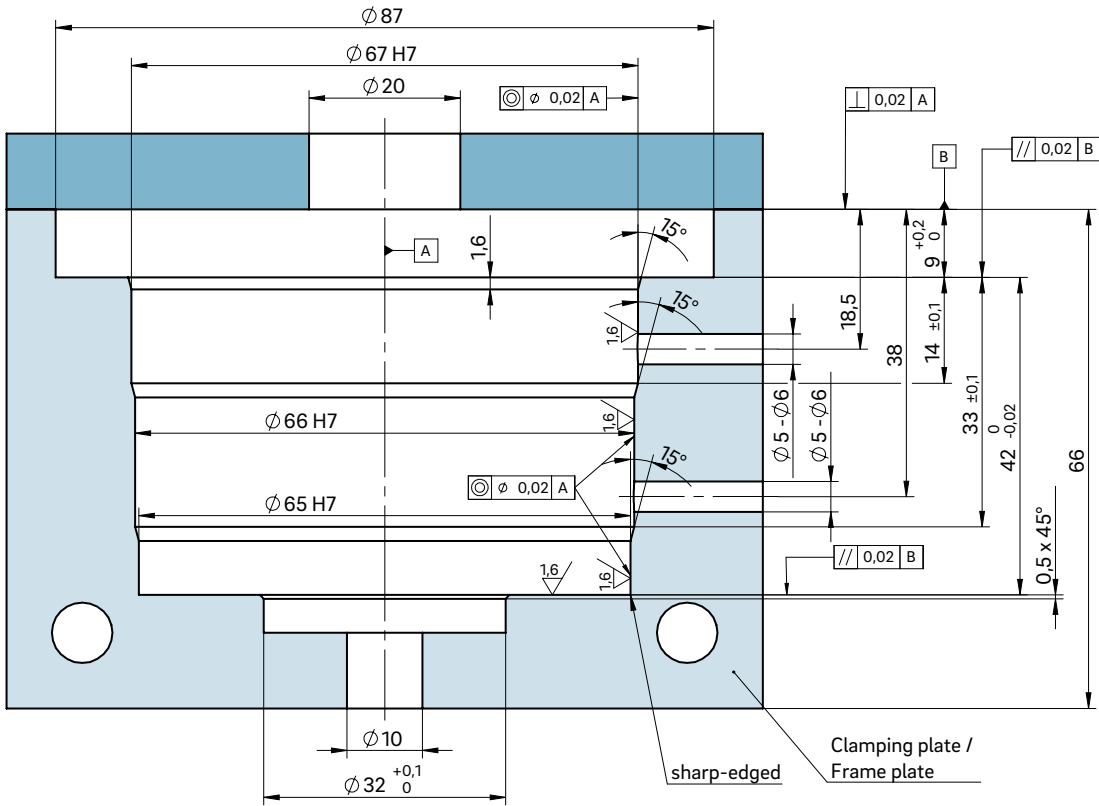
- Adjustable needle
- Maximum usage temperature: 100 °C



WEBCODE
34010



INSTALLATION WITH HOUSING





Single-needle valve ENV2/ENV3

Hydraulic drive, with housing

TECHNICAL DATA

ENV2/10/0/G

| | |
|--------------------|--------------------------------|
| Nozzle Ød | 4–5 mm |
| Drive type | hydraulic |
| Operating pressure | 40–60 bar oil intake at ENV |

ENV3/10/0/G

| | |
|--------------------|--------------------------------|
| Nozzle Ød | 5–10 mm |
| Drive type | hydraulic |
| Operating pressure | 40–60 bar oil intake at ENV |

NOTE

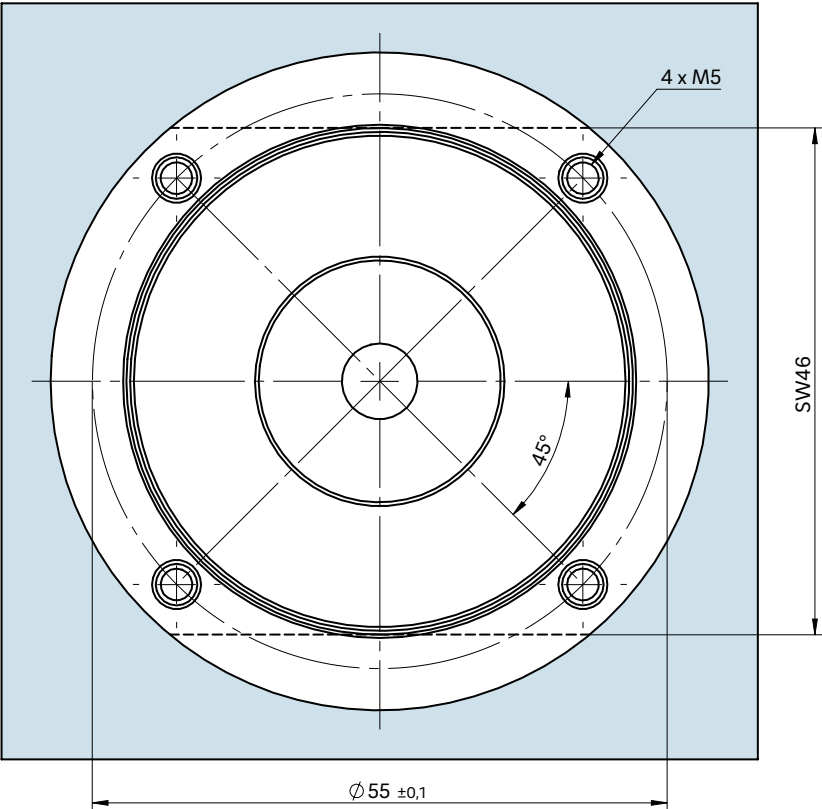
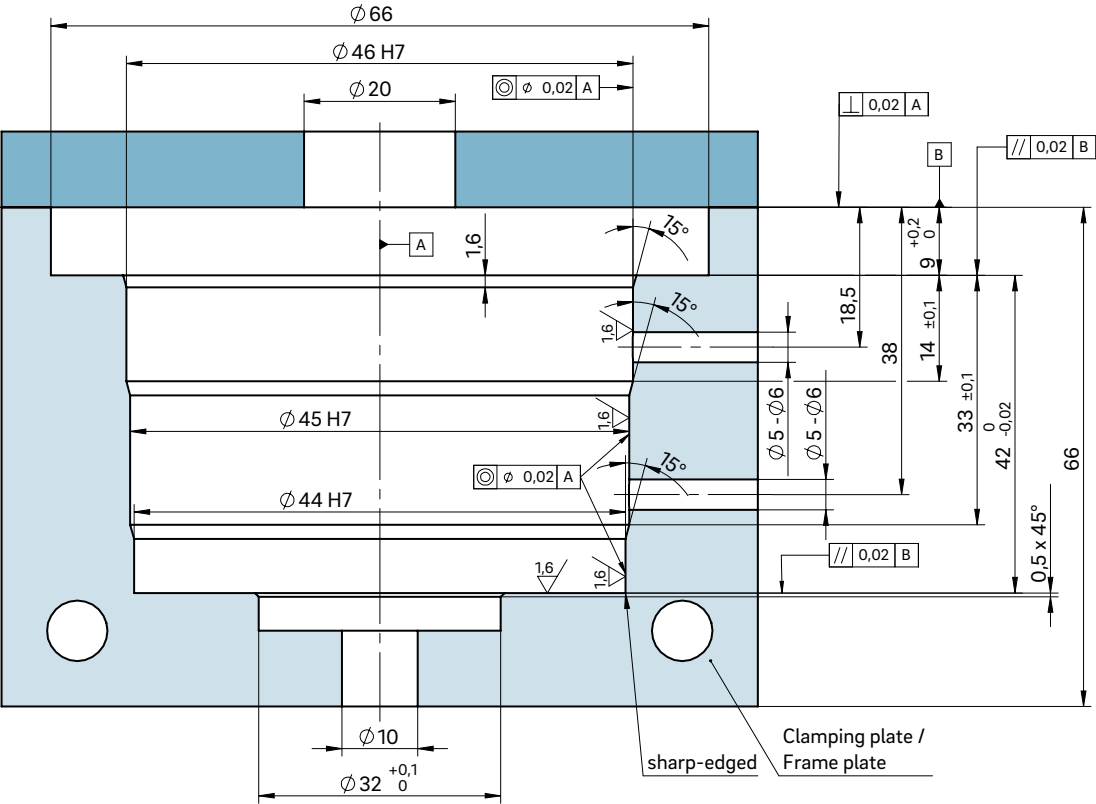
- Adjustable needle
- Maximum usage temperature: 60 °C
- Hydraulic cylinders and the entire hydraulic system are to be carefully vented before commissioning



WEBCODE
34020



INSTALLATION WITH HOUSING





Single-needle valve ENV5

Pneumatic drive, with housing

TECHNICAL DATA

ENV5/10/L/G

| | |
|--------------------|------------------------------|
| Nozzle Ød | 10–12 mm |
| Drive type | pneumatic |
| Operating pressure | min. 6 bar air intake at ENV |

NOTE

- Adjustable needle
- Maximum usage temperature: 100 °C



WEBCODE
34030



Single-needle valve ENV5

Hydraulic drive, with housing

TECHNICAL DATA

ENV5/10/0/G

| | |
|--------------------|--------------------------------|
| Nozzle Ød | 10–12 mm |
| Drive type | hydraulic |
| Operating pressure | 40–60 bar oil intake at ENV |

NOTE

- Adjustable needle
- Maximum usage temperature: 60 °C
- Hydraulic cylinders and the entire hydraulic system are to be carefully vented before commissioning



WEBCODE
34040



Single-needle valve EEV2/EEV3

Pneumatic drive, with housing

TECHNICAL DATA

EEV2/10/L/G

| | |
|--------------------|------------------------------|
| Nozzle Ød | 4–5 mm |
| Drive type | pneumatic |
| Operating pressure | min. 6 bar air intake at ENV |

EEV3/10/L/G

| | |
|--------------------|------------------------------|
| Nozzle Ød | 5–10 mm |
| Drive type | pneumatic |
| Operating pressure | min. 6 bar air intake at ENV |

NOTE

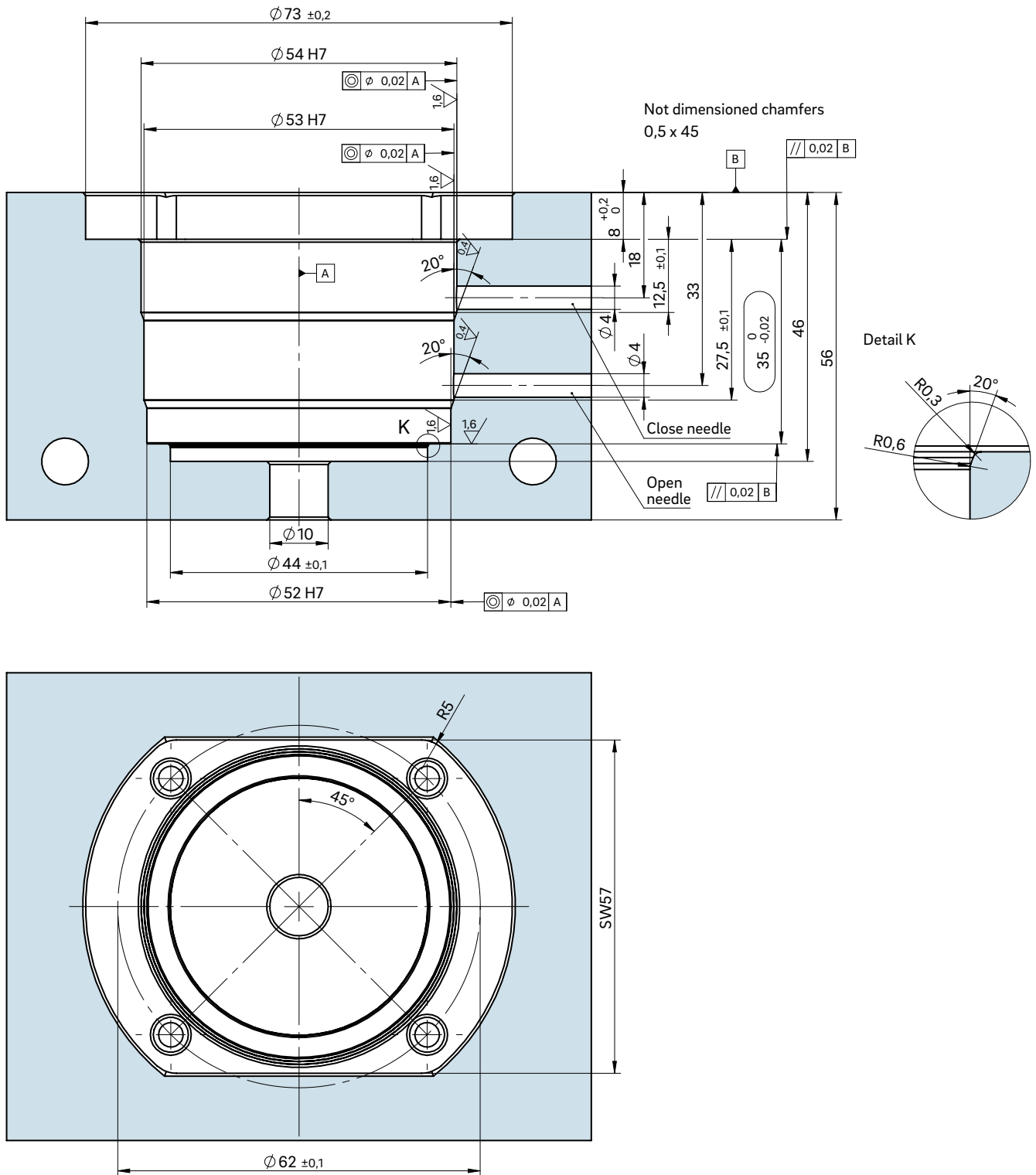
- Non-adjustable needle
- Maximum usage temperature: 100 °C



WEBCODE
34050



INSTALLATION WITH HOUSING





Single-needle valve EEV2/EEV3

Hydraulic drive, with housing

TECHNICAL DATA

EEV2/10/O/G

| | |
|--------------------|--------------------------------|
| Nozzle Ød | 4–5 mm |
| Drive type | hydraulic |
| Operating pressure | 40–60 bar oil intake at ENV |

EEV3/10/O/G

| | |
|--------------------|--------------------------------|
| Nozzle Ød | 5–10 mm |
| Drive type | hydraulic |
| Operating pressure | 40–60 bar oil intake at ENV |

NOTE

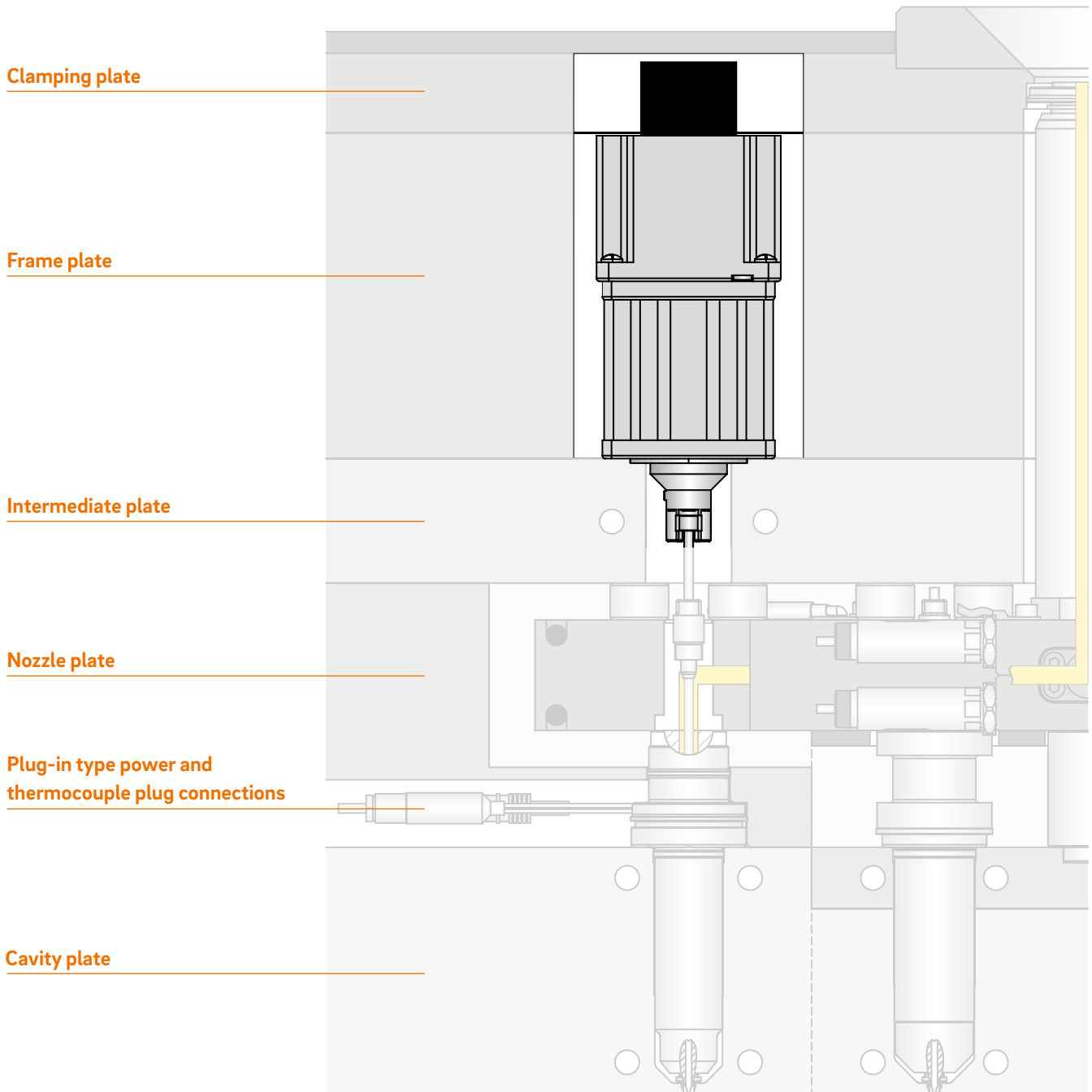
- Non-adjustable needle
- Maximum usage temperature: 60°C
- Hydraulic cylinders and the entire hydraulic system are to be carefully vented before commissioning

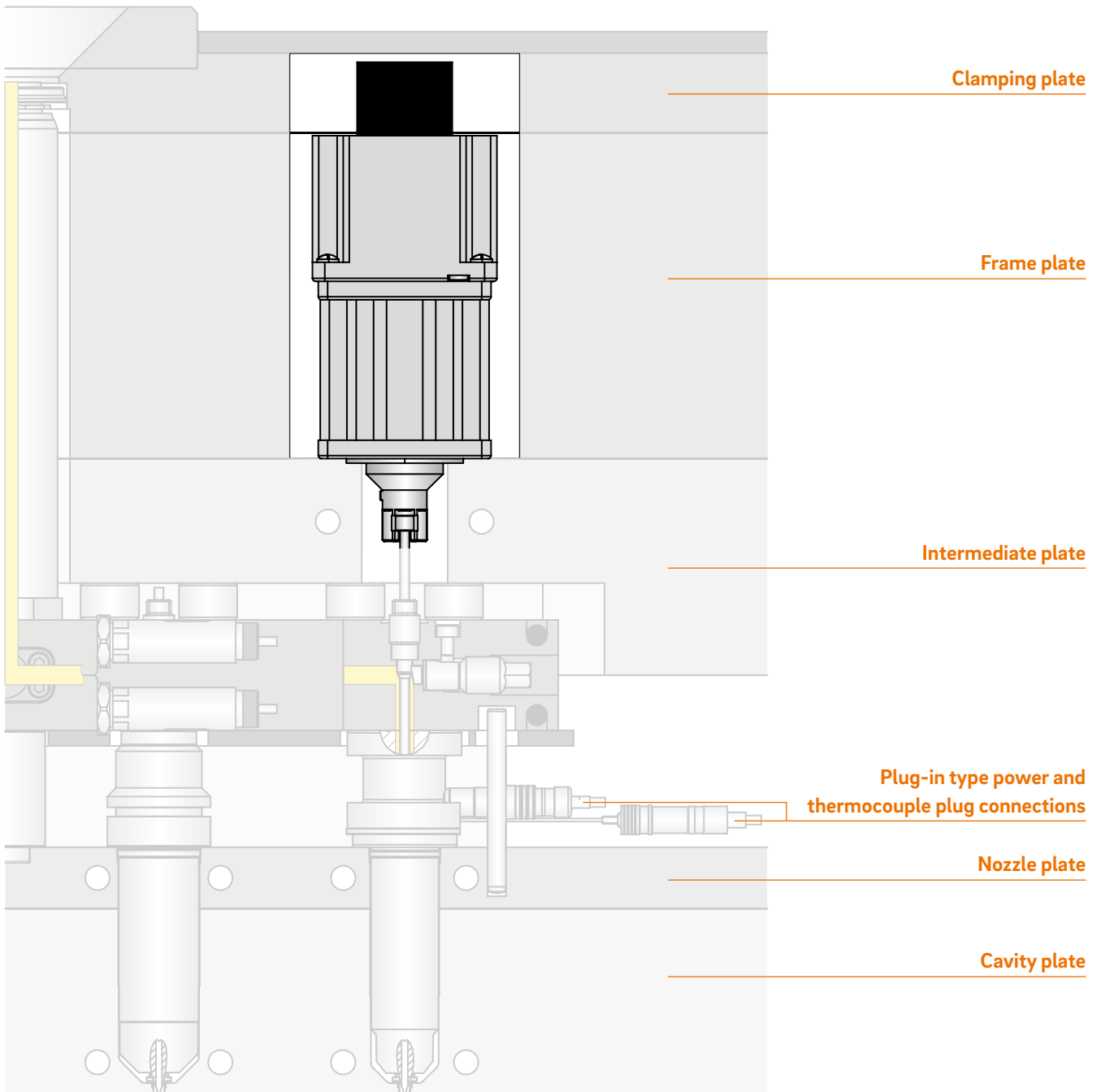


WEBCODE
34060



Overview of overall design for needle actuator – stepper motor SMA 10







Stepper motor SMA 10

Electric drive

TECHNICAL DATA

Stepper motor SMA 10

| | |
|-------------------|-----------------------|
| Nozzle Ød | 4–10 mm |
| Drive type | electrical |
| Operating voltage | 230 V _{AC} * |

*Volts alternating current

NOTE

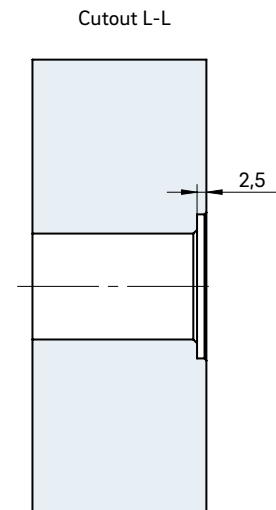
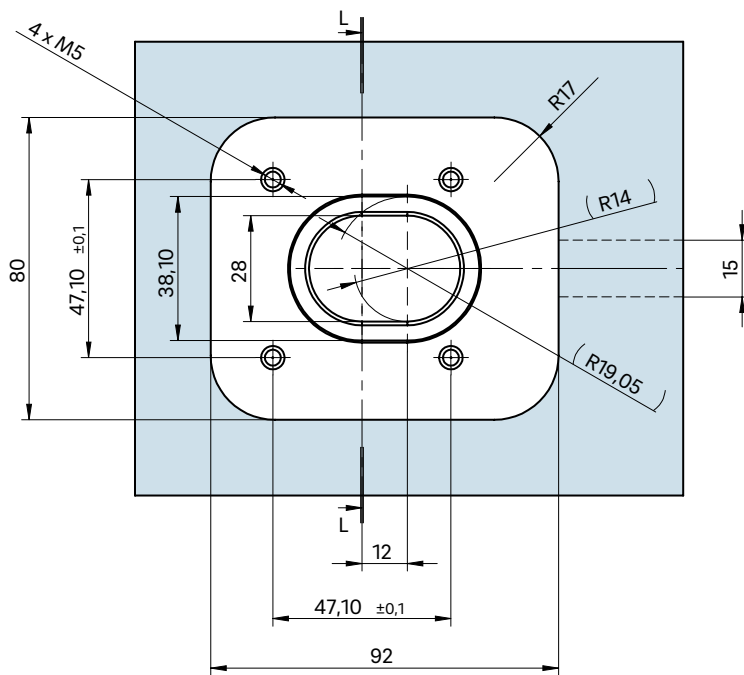
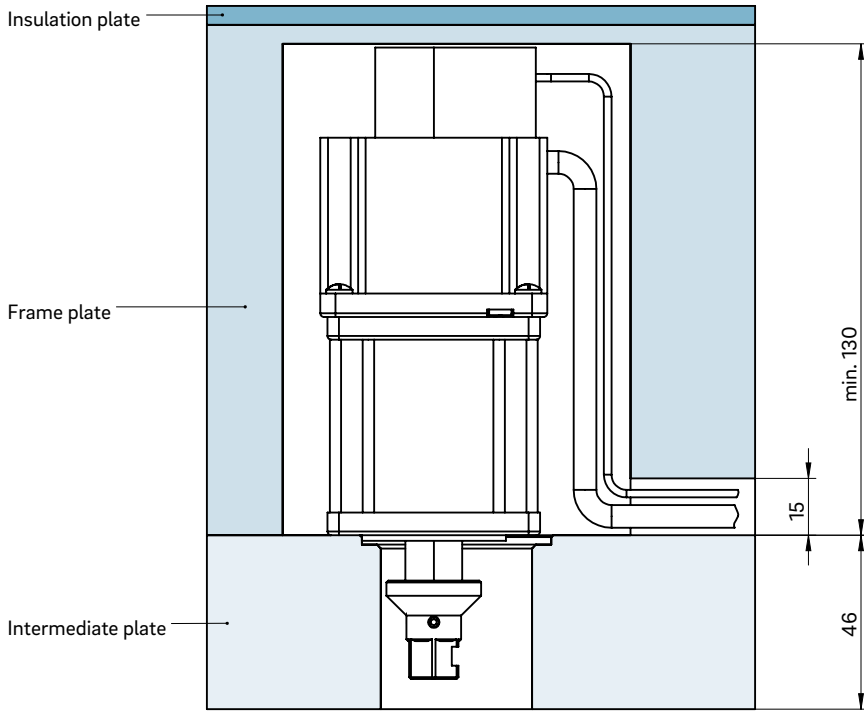
- Adjustable needle



WEBCODE
34070



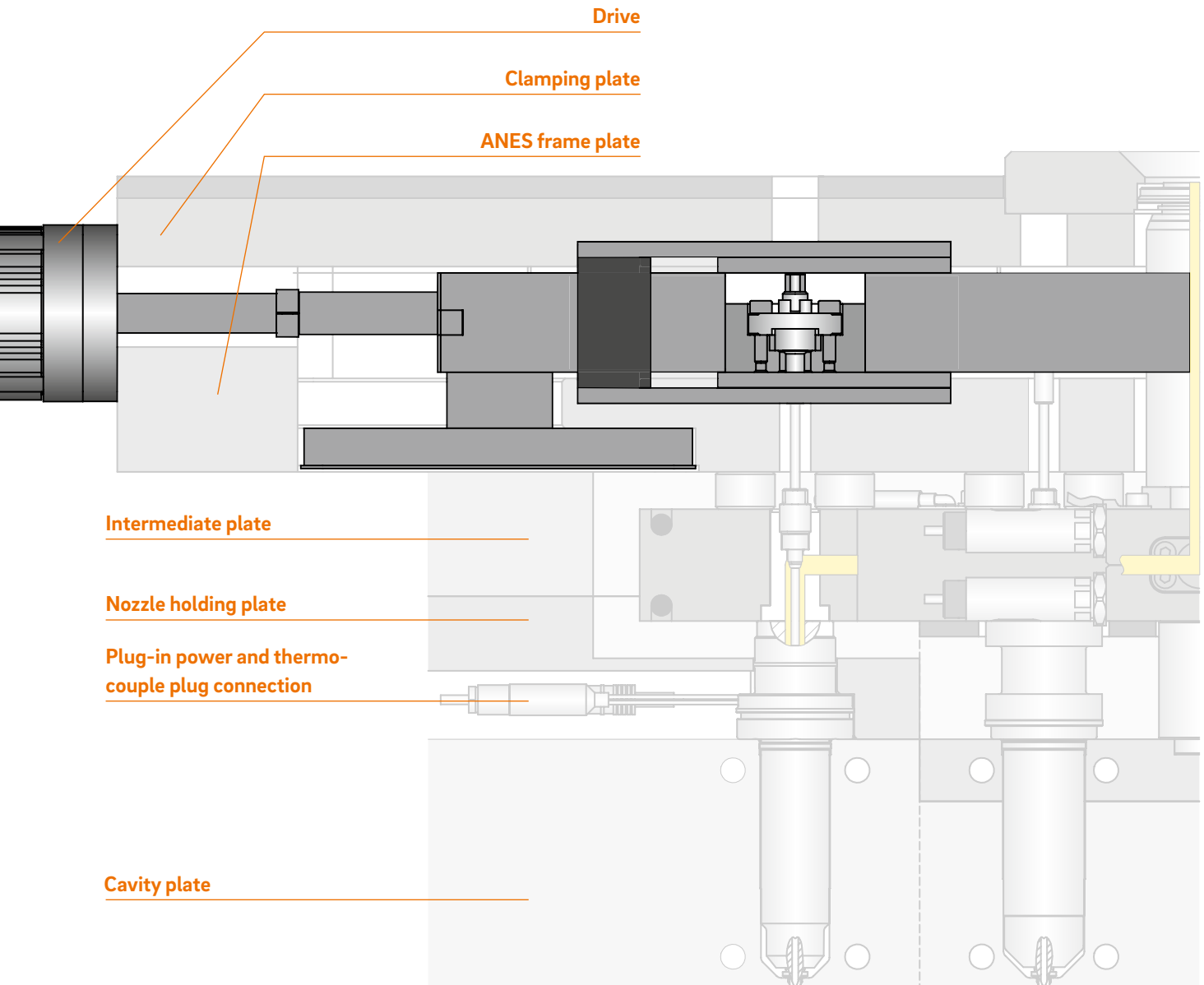
INSTALLATION

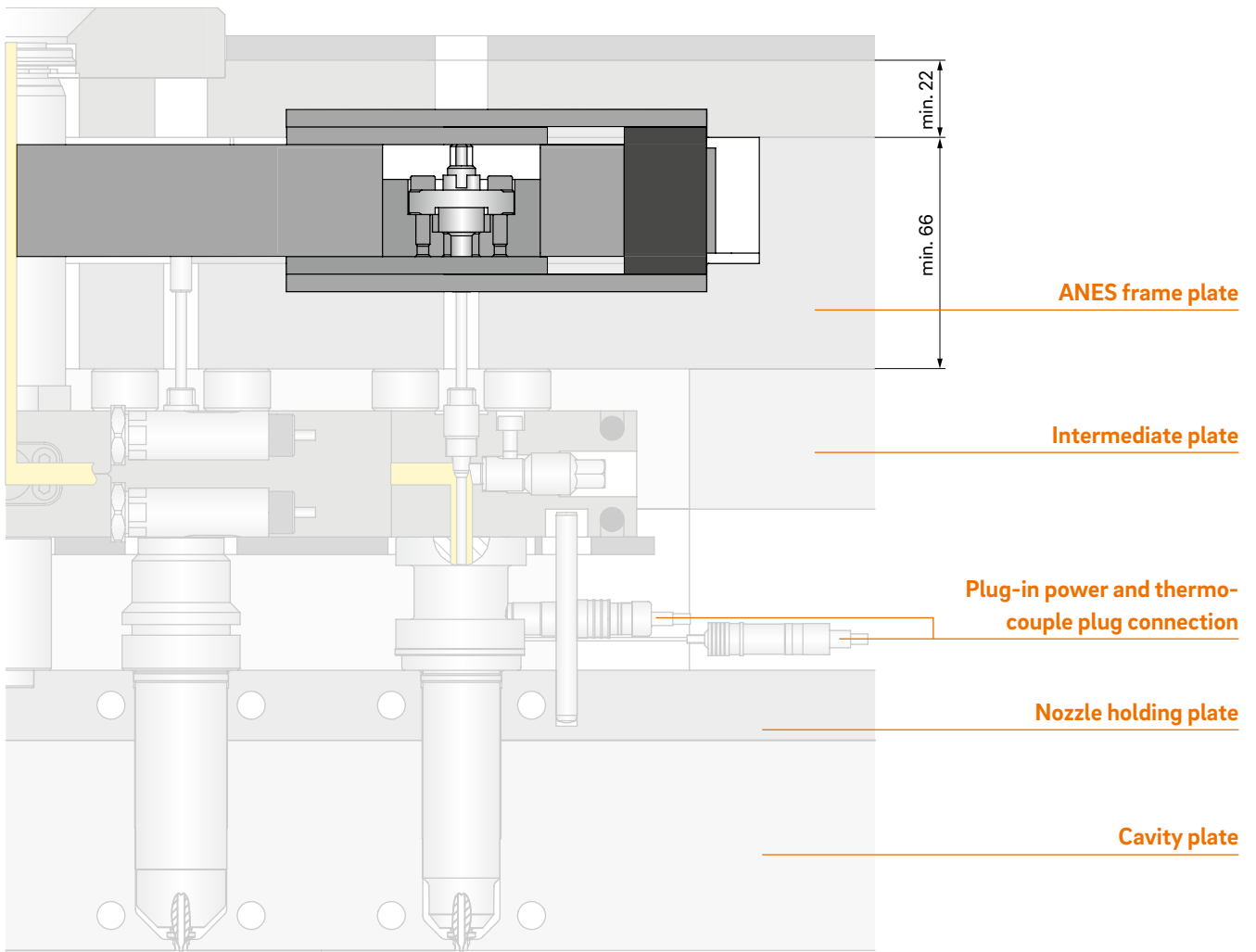




Configuration in overall structure

of needle actuator – ANES multi-needle drive sliding mechanism

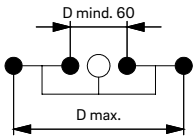






Nozzle arrangement, single row (SR)

Sample nozzle arrangement

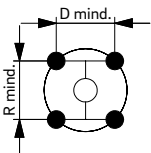


Drive type for nozzle arrangement (SR)

| Number of nozzles/ cavities | Model | Drive type | | | Chapter | Page |
|--------------------------------|-----------------------|------------|-----------|----------|---------|------|
| | | pneumatic | hydraulic | electric | | |
| 4 | ANES-111/ ANES-121 | • | • | • | 3.5 | 320 |
| 8 | | • | • | • | | |
| 12 | | • | • | • | | |
| 16 | | | • | • | | |

Nozzle arrangement, multi-row (MR)

Sample nozzle arrangement



Drive type for nozzle arrangement (MR)

| Number of nozzles/ cavities | Model | Drive type | | | Chapter | Page |
|--------------------------------|-----------------------|------------|-----------|----------|---------|------|
| | | pneumatic | hydraulic | electric | | |
| 4 | ANES-111/ ANES-121 | • | • | • | 3.5 | 330 |
| 8 | | • | • | • | | |
| 12 | | • | • | • | | |
| 16 | | | • | • | | |

ANES multi-needle drive sliding mechanism

Page



ANES-111 sliding mechanism / ANES-121 sliding mechanism
Single row

320



ANES-111 sliding mechanism / ANES-121 sliding mechanism
Multi-row

330



ANES-111, -121 multi-needle drive sliding mechanism

Single row

TECHNICAL DATA

WEBCODE

34710

ANES-111

| | |
|-------------------------------|--|
| Number of stroke element rows | 1 |
| Number of stroke elements | 1 |
| Number of drives | 1 |
| Drive type | pneumatic (L) hydraulic (O) electric (E) |



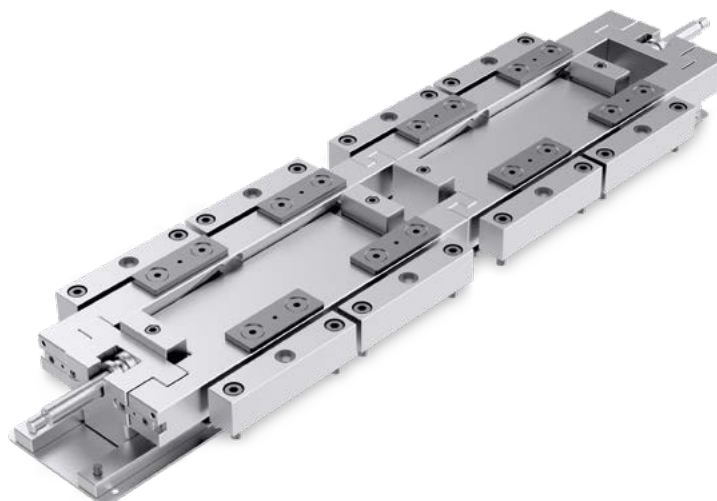
TECHNICAL DATA

WEBCODE

34750

ANES-121

| | |
|-------------------------------|--|
| Number of stroke element rows | 1 |
| Number of stroke elements | 2 |
| Number of drives | 1 |
| Drive type | pneumatic (L) hydraulic (O) electric (E) |

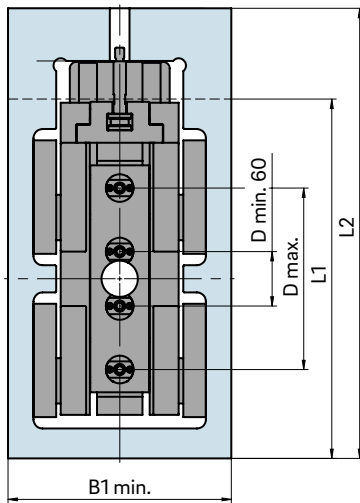


DESCRIPTION

- Maximum operating temperature 100 °C

If you have any questions, please contact the Application Technology Consulting Service:
Tel. +49 6451 5008-510




INSTALLATION



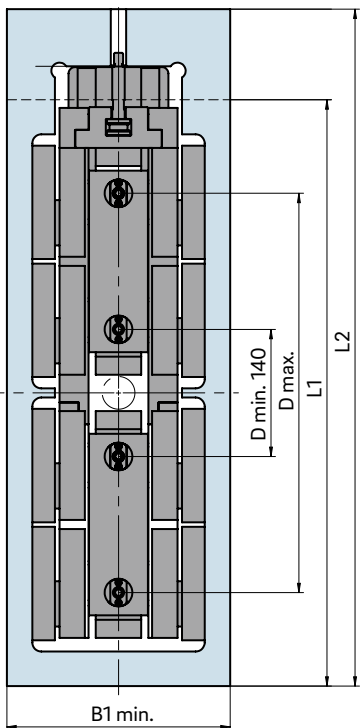
1 drive up to 16 nozzles

| D max. | W1 x L1 | L2 |
|--------|-----------|-----|
| 150 | 246 x 346 | 446 |
| 200 | 246 x 396 | 496 |
| 250 | 246 x 446 | 546 |
| 300 | 246 x 496 | 596 |
| 350 | 246 x 546 | 646 |

All table dimensions in mm

-  pneumatic (6 bar) for up to 12 nozzles
-  hydraulic (100 bar) for up to 16 nozzles
-  electric for up to 16 nozzles




INSTALLATION



1 drive up to 16 nozzles

| D max. | W1 x L1 | L2 |
|--------|-----------|------|
| 440 | 246 x 646 | 746 |
| 490 | 246 x 696 | 796 |
| 540 | 246 x 746 | 846 |
| 590 | 246 x 796 | 896 |
| 640 | 246 x 846 | 946 |
| 690 | 246 x 896 | 996 |
| 740 | 246 x 946 | 1046 |

All table dimensions in mm

-  pneumatic (6 bar) for up to 12 nozzles
-  hydraulic (100 bar) for up to 16 nozzles
-  electric for up to 16 nozzles



ANES-111, -121 multi-needle drive sliding mechanism

Multi-row

TECHNICAL DATA

WEBCODE

34720

ANES-111

| | |
|-------------------------------|--|
| Number of stroke element rows | 1 |
| Number of stroke elements | 1 |
| Number of drives | 1 |
| Drive type | pneumatic (L) hydraulic (O) electric (E) |



TECHNICAL DATA

WEBCODE

34760

ANES-121

| | |
|-------------------------------|--|
| Number of stroke element rows | 1 |
| Number of stroke elements | 2 |
| Number of drives | 1 |
| Drive type | pneumatic (L) hydraulic (O) electric (E) |

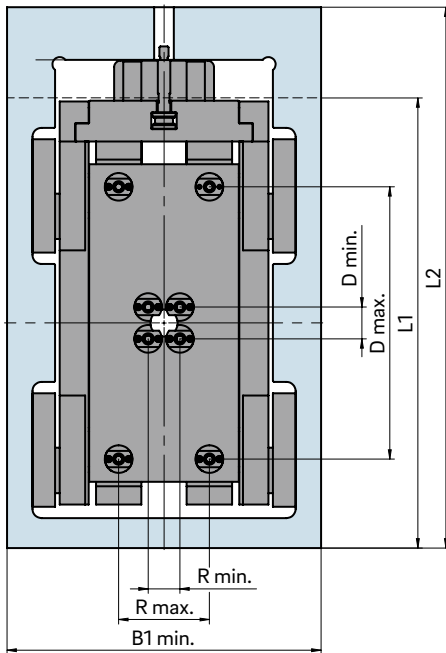


DESCRIPTION

- Maximum operating temperature 100 °C

If you have any questions, please contact the Application Technology Consulting Service:
Tel. +49 6451 5008-510




INSTALLATION



1 drive up to 16 nozzles

| D max. | W1 x L1 | | | | | L2 |
|--------|-----------|-----------|-----------|-----------|-----------|-----|
| | R. max | | | | | |
| | 100 | 150 | 200 | 250 | 300 | |
| 150 | 346 x 346 | 396 x 346 | - | - | - | 446 |
| 200 | 346 x 396 | 396 x 396 | 446 x 396 | - | - | 496 |
| 250 | 346 x 446 | 396 x 446 | 446 x 446 | 496 x 446 | - | 546 |
| 300 | 346 x 496 | 396 x 496 | 446 x 496 | 496 x 496 | 546 x 496 | 596 |
| 350 | 346 x 496 | 396 x 496 | 446 x 496 | 496 x 496 | 546 x 546 | 646 |

All table dimensions in mm

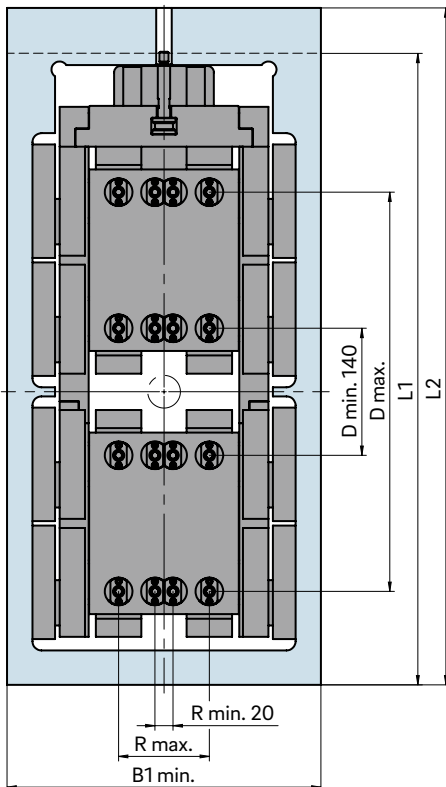
-  pneumatic (6 bar) for up to 12 nozzles
-  hydraulic (100 bar) for up to 16 nozzles
-  electric for up to 16 nozzles

Minimum distances R min./D min.:

- For cross pitch: R min. = 35 mm/D min. = 35 mm
- For asymmetrical pitch: R min. = 20 mm/D min. = 70 mm or
R min. = 70 mm/D min. = 20 mm

* The thickness of the tool plates varies according to their size




INSTALLATION



1 drive up to 16 nozzles

| D max. | W1 x L1 | | | | | L2 |
|--------|-----------|-----------|-----------|-----------|-----------|------|
| | R. max | | | | | |
| | 100 | 150 | 200 | 250 | 300 | |
| 440 | 346 x 646 | 396 x 646 | - | - | - | 746 |
| 490 | 346 x 696 | 396 x 696 | - | - | - | 796 |
| 540 | 346 x 746 | 396 x 746 | 446 x 746 | - | - | 846 |
| 590 | 346 x 796 | 396 x 796 | 446 x 796 | - | - | 896 |
| 640 | 346 x 846 | 396 x 846 | 446 x 846 | 496 x 846 | - | 946 |
| 690 | 346 x 896 | 396 x 896 | 446 x 896 | 496 x 896 | - | 996 |
| 740 | 346 x 946 | 396 x 946 | 446 x 946 | 496 x 946 | 546 x 946 | 1046 |

All table dimensions in mm

-  pneumatic (6 bar) for up to 12 nozzles
-  hydraulic (100 bar) for up to 16 nozzles
-  electric for up to 16 nozzles



ANES-112, -122 multi-needle drive sliding mechanism

Single row

TECHNICAL DATA

WEBCODE
34730

ANES-112

| | |
|-------------------------------|---------------|
| Number of stroke element rows | 1 |
| Number of stroke elements | 1 |
| Number of drives | 2 |
| Drive type | pneumatic (L) |

TECHNICAL DATA

WEBCODE
34770

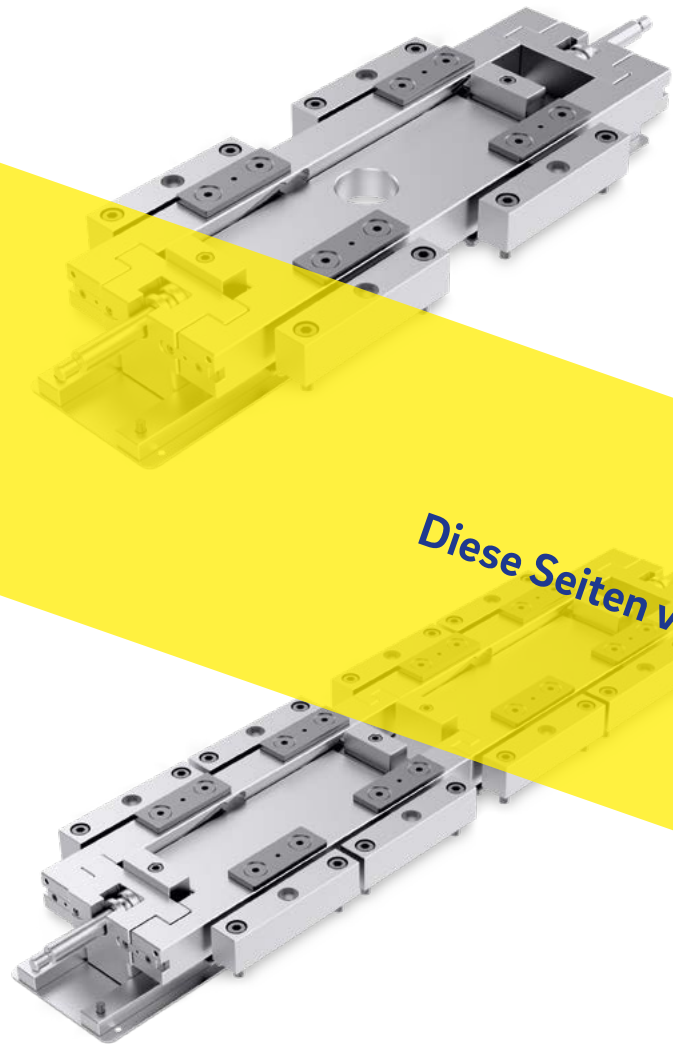
ANES-122

| | |
|-------------------------------|---------------|
| Number of stroke element rows | 1 |
| Number of stroke elements | 2 |
| Number of drives | 2 |
| Drive type | pneumatic (L) |

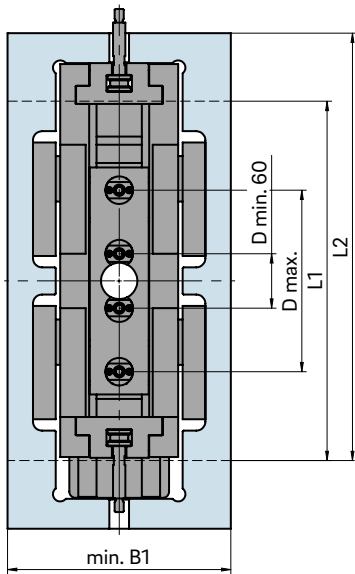
DESCRIPTION

- Maximum operating temperature 100 °C

If you have any questions, please contact the Application Technology Consulting Service:
Tel. +49 6451 5008-510




INSTALLATION



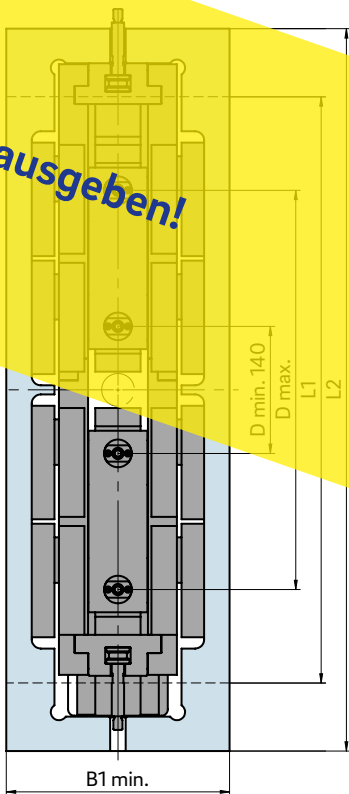
2 drives 16 nozzles

| D max. | W1 x L1 | L2 |
|--------|-----------|-----|
| 150 | 246 x 346 | 496 |
| 200 | 246 x 396 | 546 |
| 250 | 246 x 446 | 596 |

All table dimensions in mm

 pneumatic (6 bar)

INSTALLATION



2 drives 16 nozzles

| D max. | W1 x L1 | L2 |
|--------|-----------|------|
| 440 | 246 x 646 | 796 |
| 490 | 246 x 696 | 846 |
| 540 | 246 x 746 | 896 |
| 590 | 246 x 796 | 946 |
| 640 | 246 x 846 | 996 |
| 690 | 246 x 896 | 1046 |
| 740 | 246 x 946 | 1096 |

All table dimensions in mm

 pneumatic (6 bar)



ANES-112, -122 multi-needle drive sliding mechanism

Multi-row

TECHNICAL DATA

WEBCODE

34740

ANES-112

| | |
|-------------------------------|---------------|
| Number of stroke element rows | 1 |
| Number of stroke elements | 1 |
| Number of drives | 2 |
| Drive type | pneumatic (L) |

TECHNICAL DATA

WEBCODE

34780

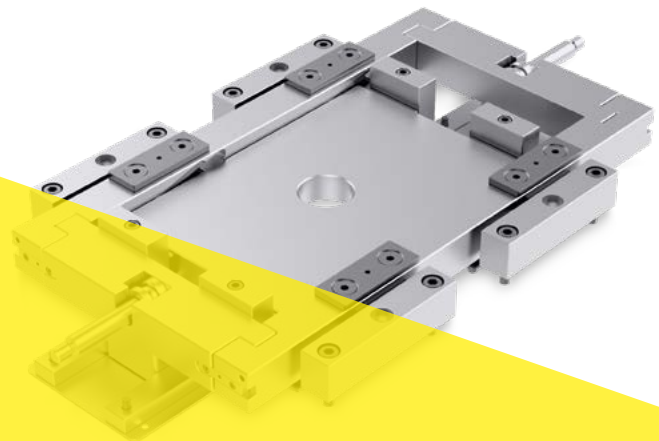
ANES-122

| | |
|-------------------------------|---------------|
| Number of stroke element rows | 1 |
| Number of stroke elements | 2 |
| Number of drives | 2 |
| Drive type | pneumatic (L) |

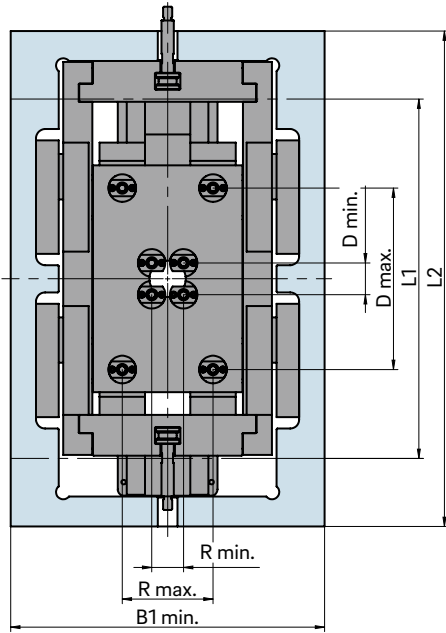
DESCRIPTION

- Maximum operating temperature 100 °C

If you have any questions, please contact the Application Technology Consulting Service:
Tel. +49 6451 5008-510



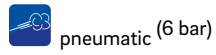
INSTALLATION



2 drives up to 16 nozzles

| D max. | W1 x L1 | | | | L2 |
|--------|-----------|-----------|-----------|-----------|-----|
| | R max. | | | | |
| | 100 | 150 | 200 | 250 | |
| 150 | 346 x 346 | 346 x 396 | - | - | 496 |
| 200 | 346 x 396 | 396 x 396 | 346 x 396 | - | 546 |
| 250 | 346 x 446 | 396 x 446 | 446 x 446 | 446 x 496 | 596 |

All table dimensions in mm

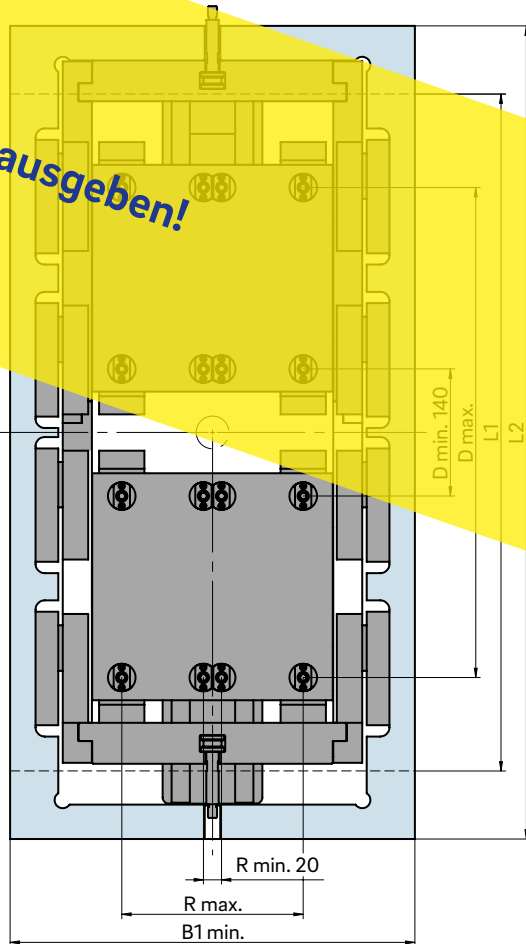


Minimum distances R min./D min.:

- For cross pitch: R min. = 35 mm/D min. = 35 mm
- For asymmetrical pitch: R min. = 20 mm/D min. = 70 mm or R min. = 70 mm/D min. = 20 mm

* The thickness of the tool plates varies according to their size

INSTALLATION



2 drives up to 16 nozzles

| D max. | W1 x L1 | | | | L2 |
|--------|-----------|-----------|-----------|-----------|------|
| | R max. | | | | |
| | 100 | 150 | 200 | 250 | |
| 440 | 346 x 646 | 396 x 646 | - | - | 796 |
| 490 | 346 x 696 | 396 x 696 | - | - | 846 |
| 540 | 346 x 746 | 396 x 746 | 446 x 746 | - | 896 |
| 590 | 346 x 796 | 396 x 796 | 446 x 796 | - | 946 |
| 640 | 346 x 846 | 396 x 846 | 446 x 846 | 496 x 846 | 996 |
| 690 | 346 x 896 | 396 x 896 | 446 x 896 | 496 x 896 | 1046 |
| 740 | 346 x 946 | 396 x 946 | 446 x 946 | 496 x 946 | 1096 |

All table dimensions in mm

