GÜNTHER®
HOT RUNNER TECHNOLOGY



# Open hot runner systems

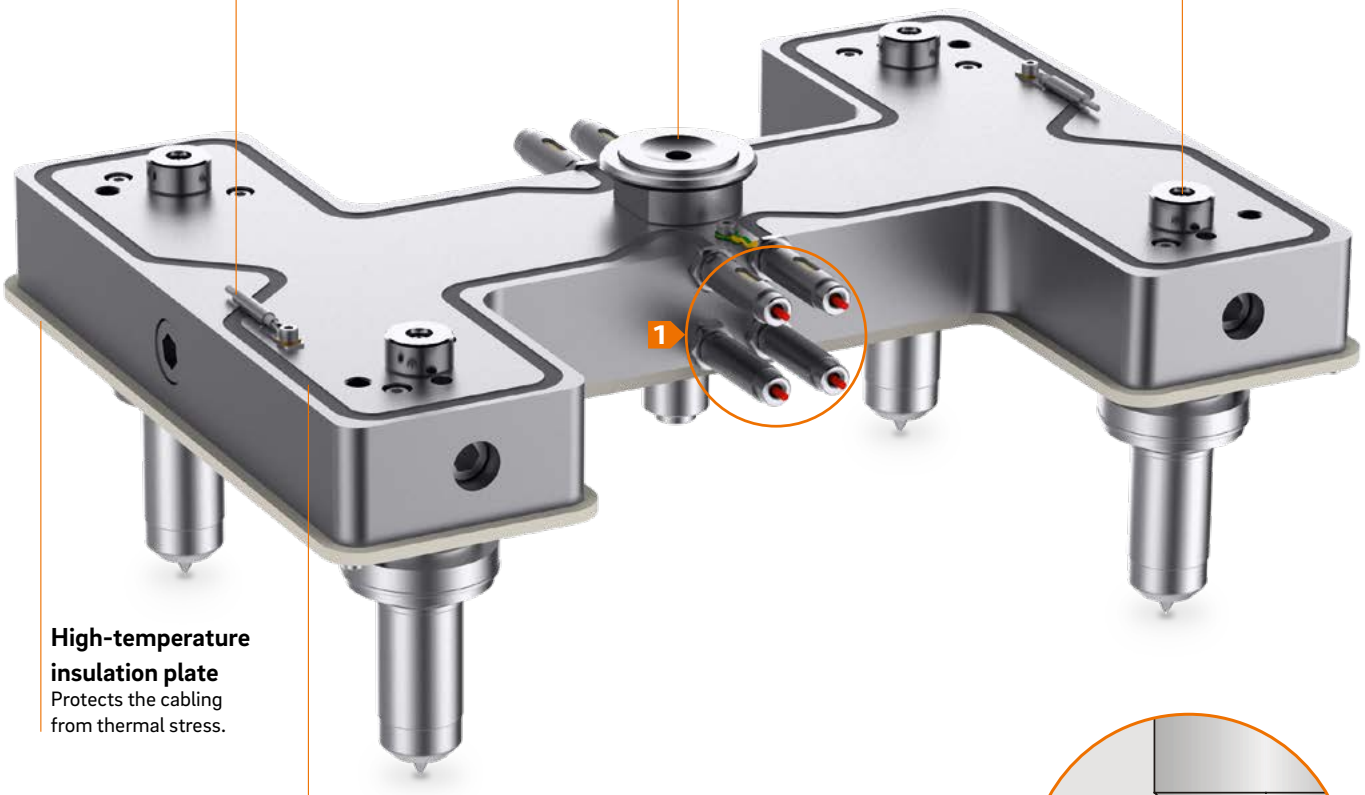
# Manifold systems

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.

**Connection piece**
Heating is carried out via manifolds or separate heaters.

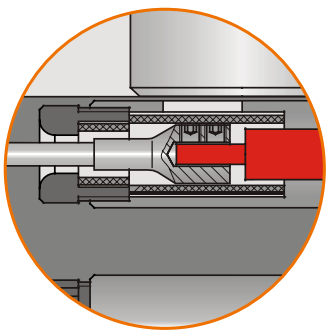
**Contact thermocouple**
Guarantees precise temperature measurement.

**Pressure pieces**
With minimal heat conductivity.




**High-temperature insulation plate**
Protects the cabling from thermal stress.

**Pressed-in heaters on both sides**
Guarantees optimum heat transfer to the manifold and thus homogeneous temperature distribution.



1 **Protected heating connections**



## 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 PLUG 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.

### 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**

## 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 email with a link to the product data of the configured hot runner system.


**WEBCODE** 91890

## RAPID SYSTEMS FROM GÜNTHER

Rapid systems and BlueFlow® nozzles are stored in the CADHOC® System Designer library and are quickly accessible. They enable you as a registered user to configure your rapid system in a very short period of time. You can immediately download all relevant 3D data – including negative volume and price information – quickly, easily and securely. Information on our rapid systems can be found **starting on Page 2.4.140**.

**WEBCODE** 25120

# 2.4 Hot runner manifolds/Rapid systems

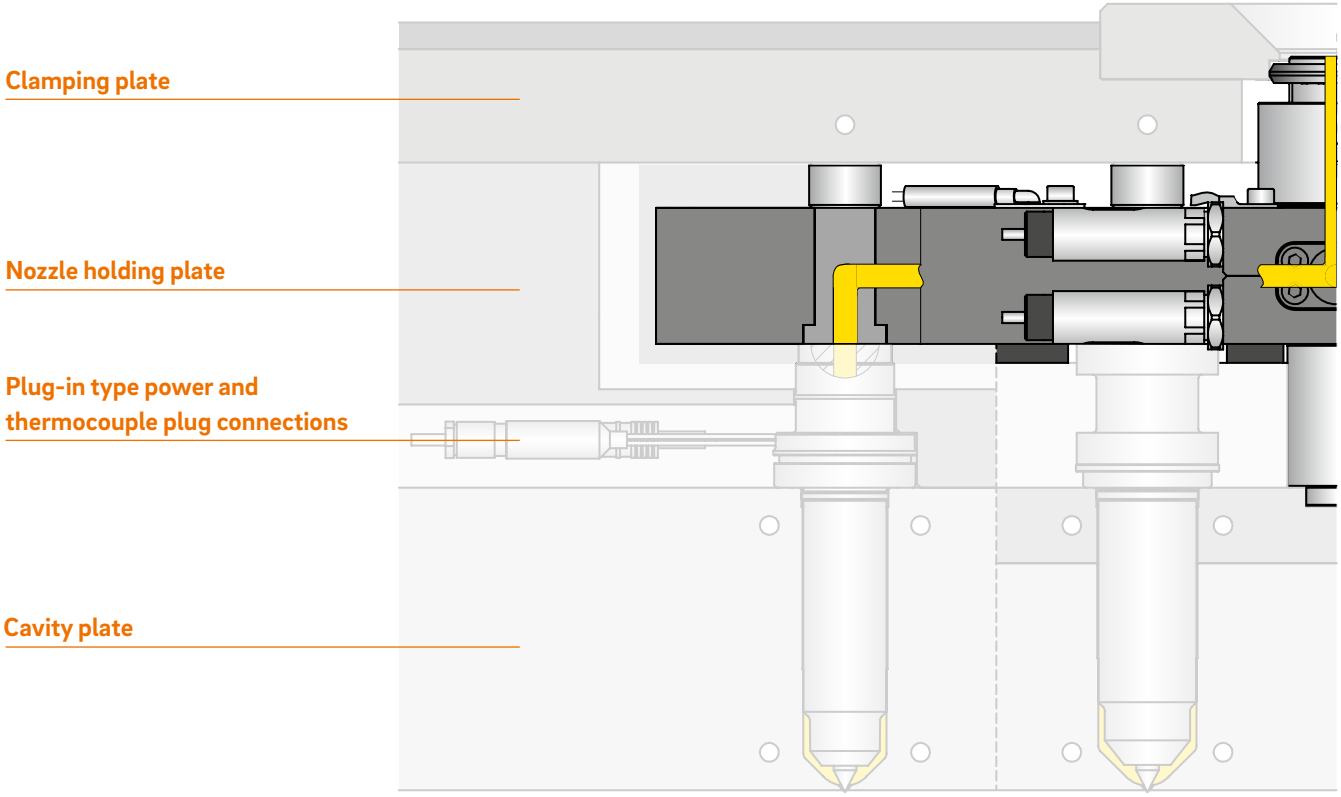
## Manifolds

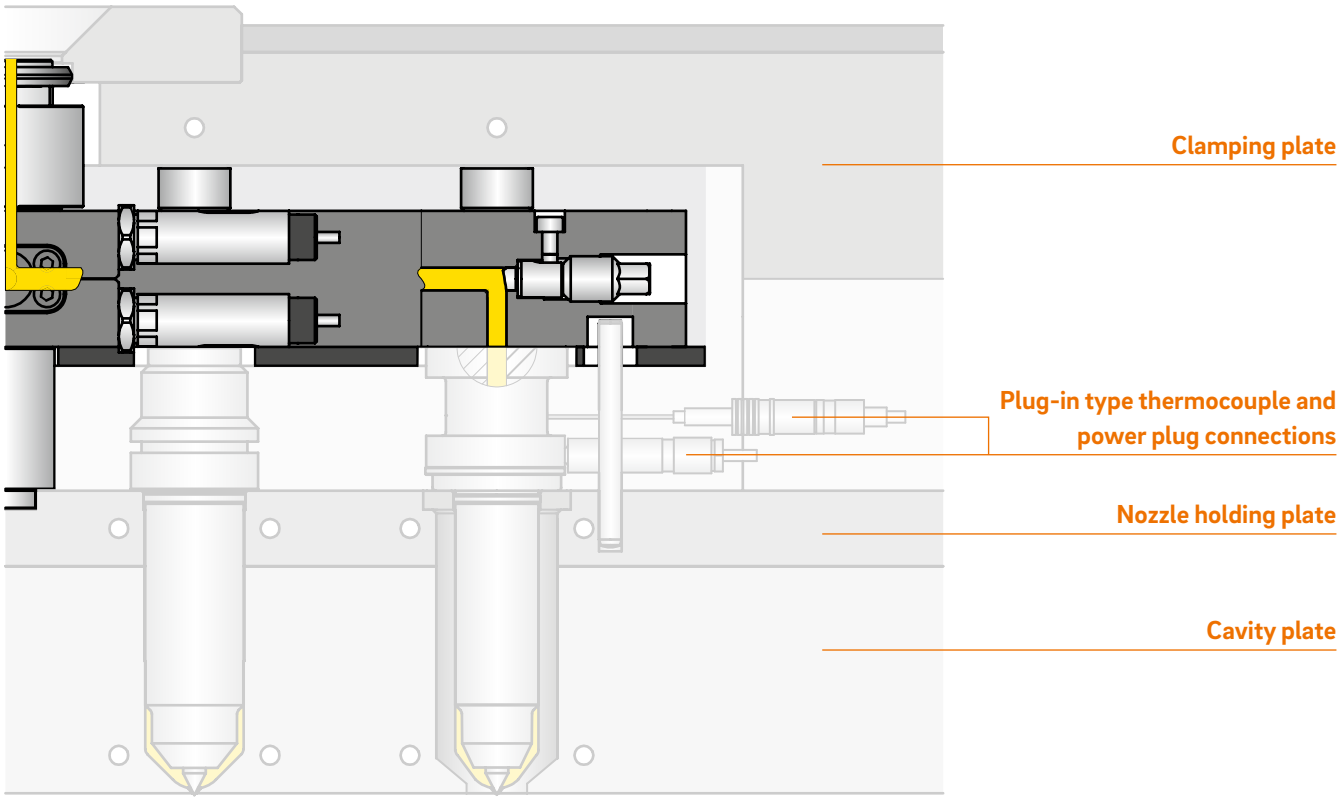


## Rapid systems

# Overview of overall design

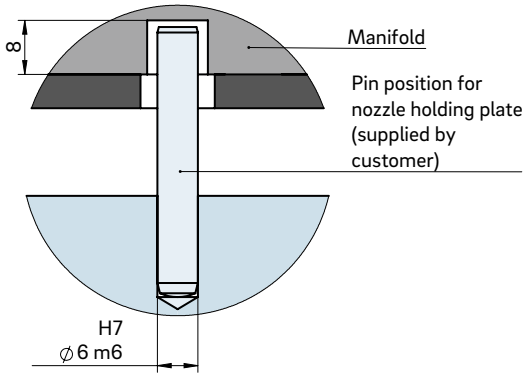
## Hot runner manifold

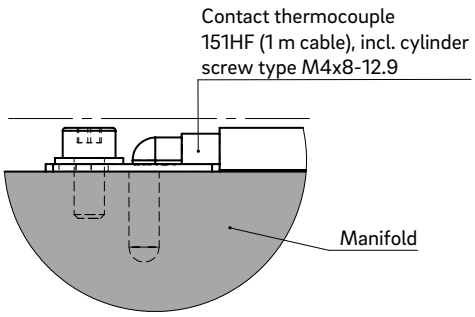


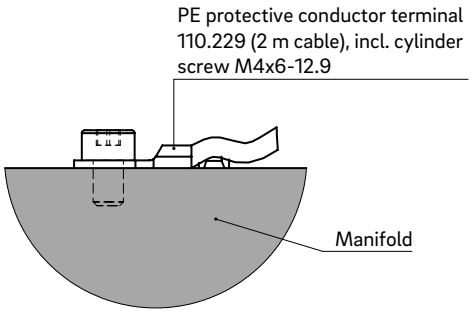

Clamping plate
Plug-in type thermocouple and power plug connections
Nozzle holding plate
Cavity plate

# Straight manifold type GCP

## Manifold length (VL) 160-360




## TECHNICAL DATA

### GCP 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

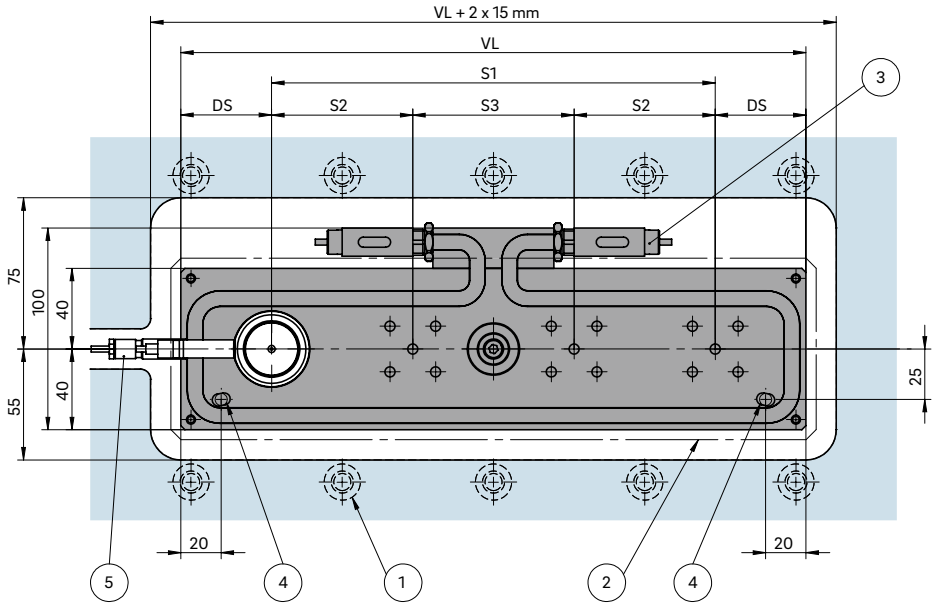
**WEBCODE**
25010



## INSTALLATION

Nozzle tip view

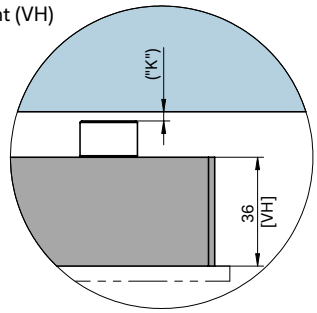



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8

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

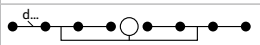
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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 |

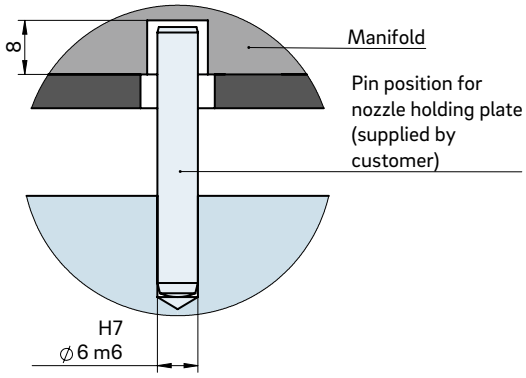
**Design examples/Balancing**

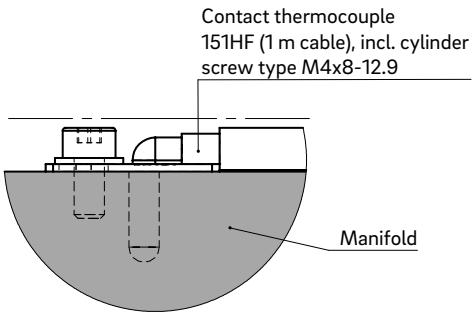
| Type | | Melt channel Ød in mm | Number of drops |
|---|---|---|---|
| GCP1B |  | ≤ 10 | 1 |
| GCP2B |  | ≤ 10 | 2 |
| GCP3– |  | ≤ 10 | 3 |
| GCP4B |  | ≤ 8 | 4 |
| GCP8T |  | ≤ 8 | 8 |

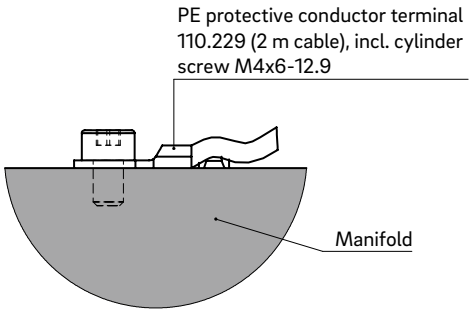
B = balanced T = partially balanced – = not balanced

# Straight manifold type GCP

## Manifold length (VL) 410-510




## TECHNICAL DATA

### GCP 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

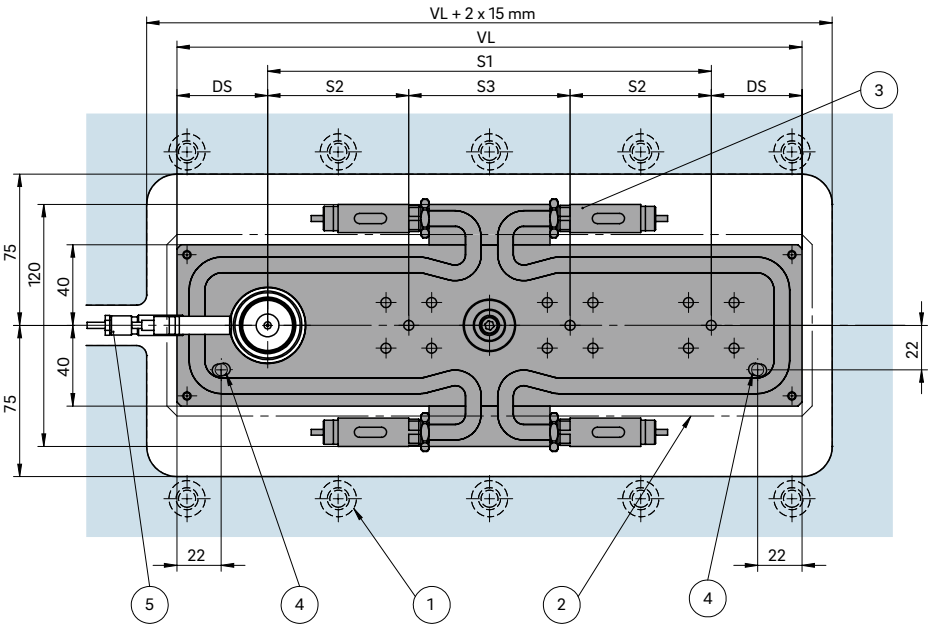
**WEBCODE**
25020



## INSTALLATION

Nozzle tip view

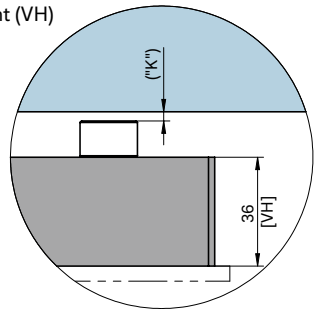



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8

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

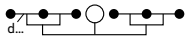
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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 |

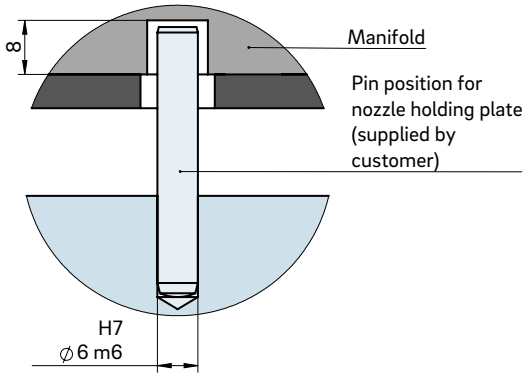
**Design examples/Balancing**

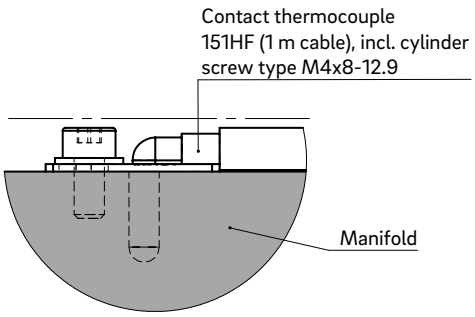
| Type | | Melt channel Ød in mm | Number of drops |
|---|---|---|---|
| GCP1B |  | ≤ 10 | 1 |
| GCP2B |  | ≤ 10 | 2 |
| GCP3– |  | ≤ 10 | 3 |
| GCP4B |  | ≤ 8 | 4 |
| GCP6T |  | ≤ 8 | 6 |
| GCP8T |  | ≤ 8 | 8 |

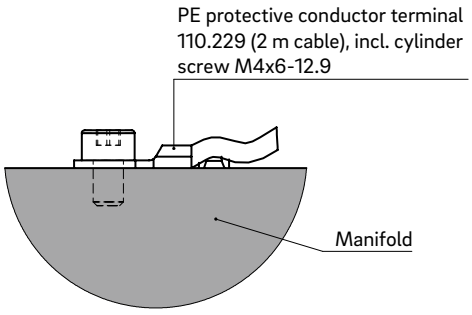
B = balanced T = partially balanced – = not balanced

# Straight manifold type GDP

## Manifold length (VL) 160-360




## TECHNICAL DATA

### GDP 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

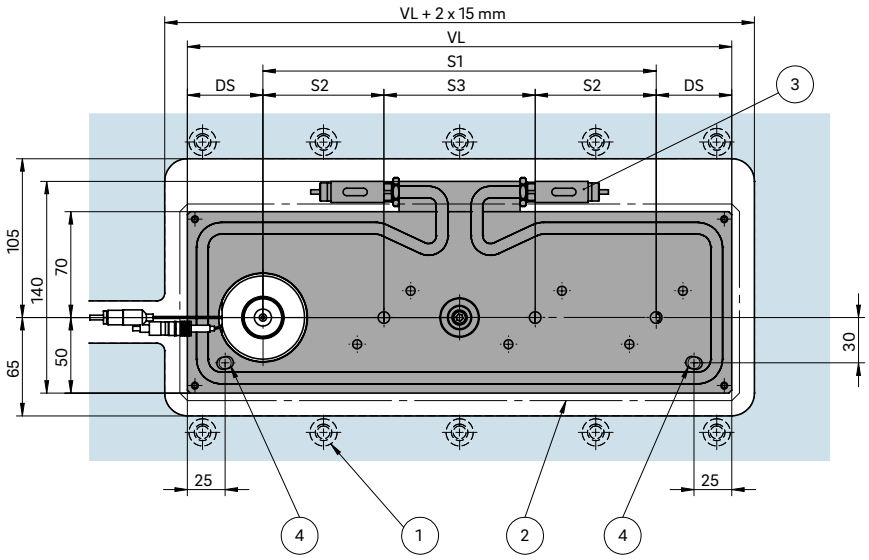
**WEBCODE**
25030



## INSTALLATION

Nozzle tip view

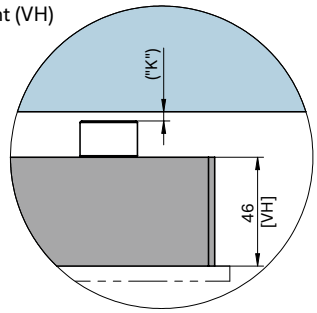



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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

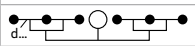
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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 |

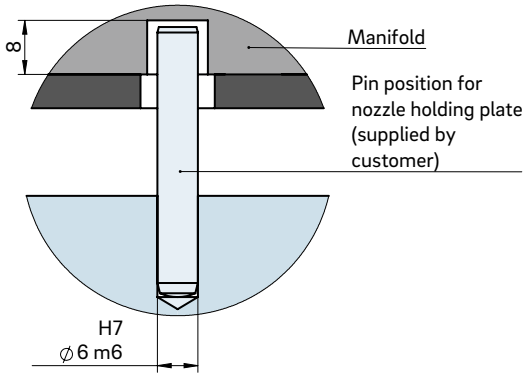
**Design examples/Balancing**

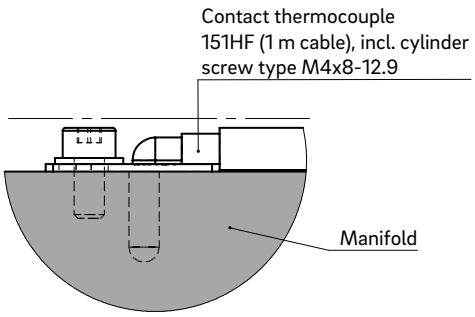
| Type | | Melt channel Ød in mm | Number of drops |
|---|---|---|---|
| GDP1B |  | ≥ 12 to 16 | 1 |
| GDP2B |  | ≥ 12 to 16 | 2 |
| GDP3– |  | ≥ 12 to 16 | 3 |
| GDP3T |  | ≤ 6 | 3 |
| GDP4B |  | ≤ 12 to 16 | 4 |
| GDP6T |  | ≤ 8 | 6 |

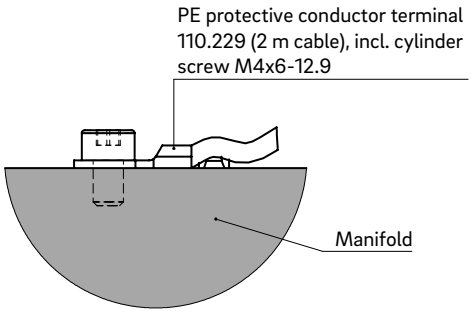
B = balanced T = partially balanced – = not balanced

# Straight manifold type GDP

## Manifold length (VL) 410-510




## TECHNICAL DATA

### GDP 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

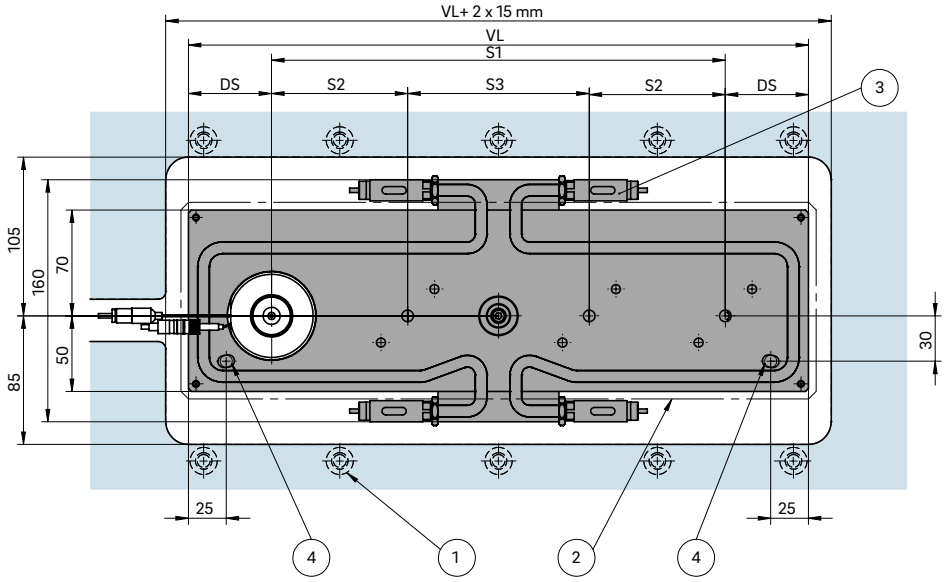
**WEBCODE**
25040



## INSTALLATION

Nozzle tip view

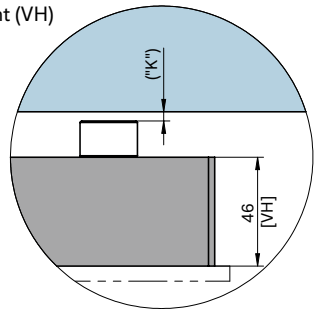



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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

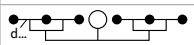
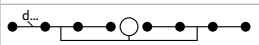
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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!

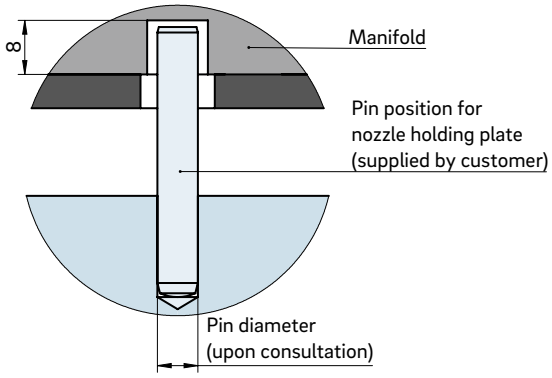
| VH | ΔT (°C) | 100 | 150 | 200 | 250 | 300 | 350 |
|---|---|---|---|---|---|---|---|
| 46 mm | K (mm) | 0.033 | 0.078 | 0.124 | 0.170 | 0.218 | 0.264 |

**Design examples/Balancing**

| Type | | Melt channel Ød in mm | Number of drops |
|---|---|---|---|
| GDP1B |  | ≥ 12 to 16 | 1 |
| GDP2B |  | ≥ 12 to 16 | 2 |
| GDP3– |  | ≥ 12 to 16 | 3 |
| GDP3T |  | ≤ 6 | 3 |
| GDP4B |  | ≥ 12 to 16 | 4 |
| GDP6T |  | ≤ 8 | 6 |
| GDP8T |  | ≥ 12 to 16 | 8 |

B = balanced T = partially balanced – = not balanced

# H-manifold type HCP/HDP/HEP




## TECHNICAL DATA

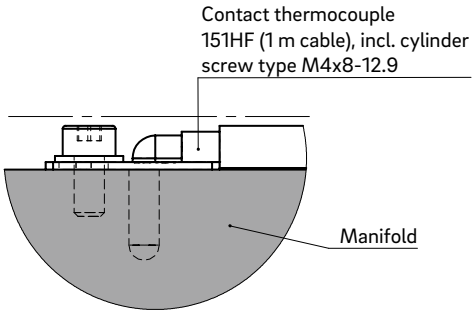
### HCP/HDP/HEP

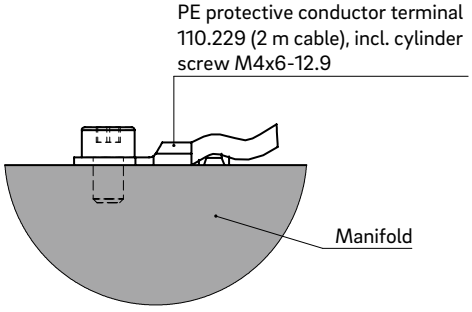
| | |
|---|---|
| **Manifold height (VH)** | **HCP:** 36 mm<br>**HDP:** 46 mm<br>**HEP:** 56 mm |
| **Operating voltage** | 230 $V_{AC}$* |
| **Manifold length (VL)** | H + 2 × DS |
| **Manifold width (VB)** | B + 2 × DS |

The heating output of each control circuit is calculated individually.

*Volts alternating current

**WEBCODE**
25050



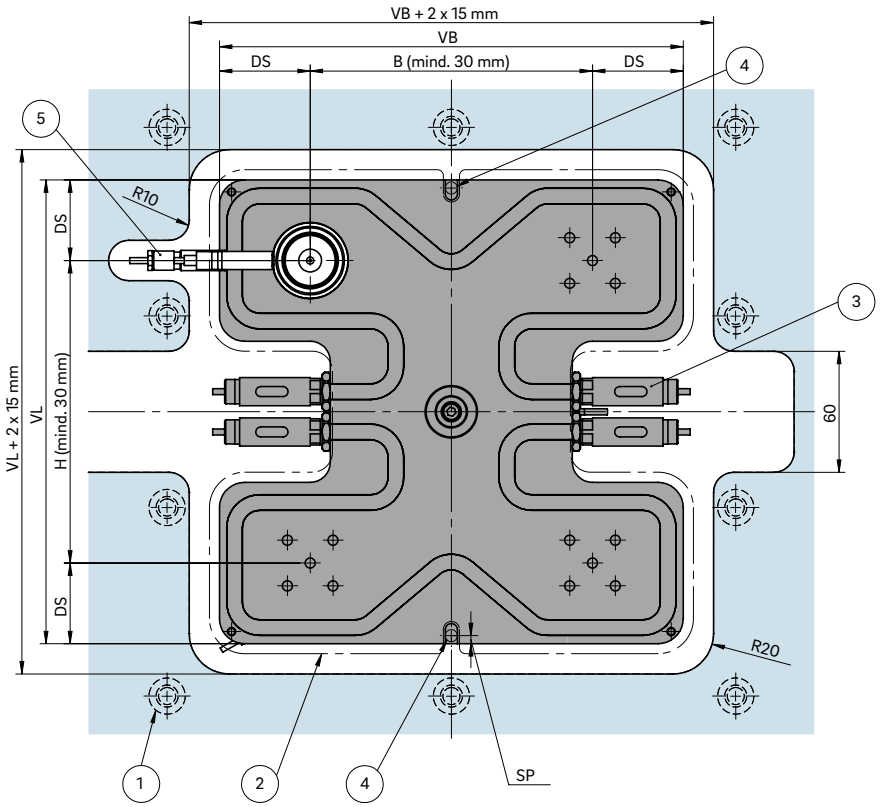





## INSTALLATION

Nozzle tip view

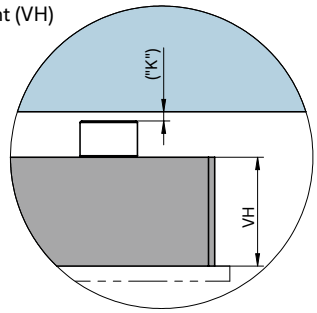



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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

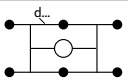
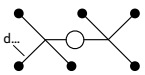
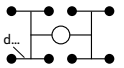
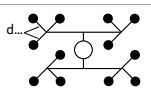
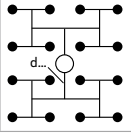
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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 |

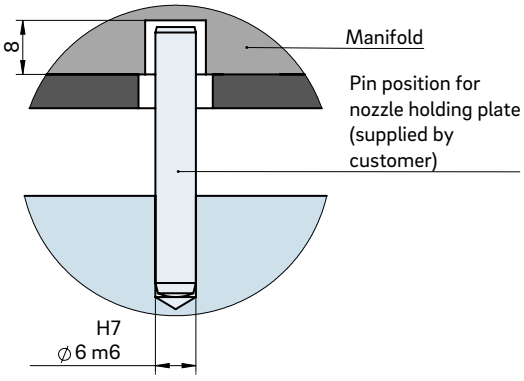
**Design examples/Balancing**

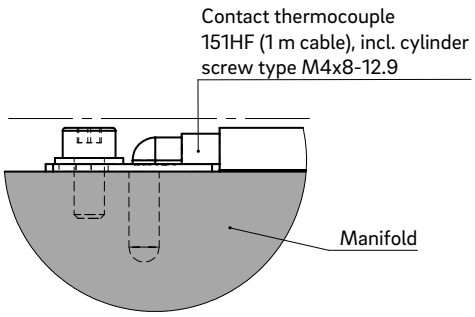
| Type | | HCP = 36 (VH) Melt channel Ød in mm | HDP = 46 (VH) Melt channel Ød in mm | HEP = 56 (VH) Melt channel Ød in mm | Number of drops |
|---|---|---|---|---|---|
| H_P4B |  | ≤ 10 | ≥ 12 to 16 | > 16 | 4 |
| H_P6T |  | ≤ 10 | ≥ 12 to 16 | > 16 | 6 |
| H_P6B |  | | ≤ 8 | ≤ 10 | 6 |
| H_P8B |  | ≤ 10 | ≥ 12 to 16 | > 16 | 8 |
| H_P12B |  | | ≤ 8 | ≤ 10 | 12 |
| H_P16B |  | ≤ 10 | ≥ 12 to 16 | > 16 | 16 |

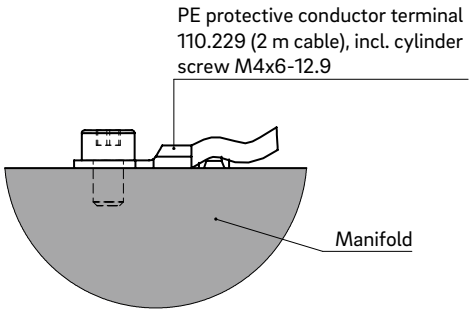
B = balanced T = partially balanced

# Cross manifold type KCP4/KDP4

## Manifold length (VL) 135-165




## TECHNICAL DATA

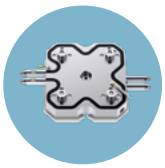
### KCP4/KDP4 135/165

| | |
|---|---|
| **Manifold height (VH)** | **KCP:** 36 mm<br>**KDP:** 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 |

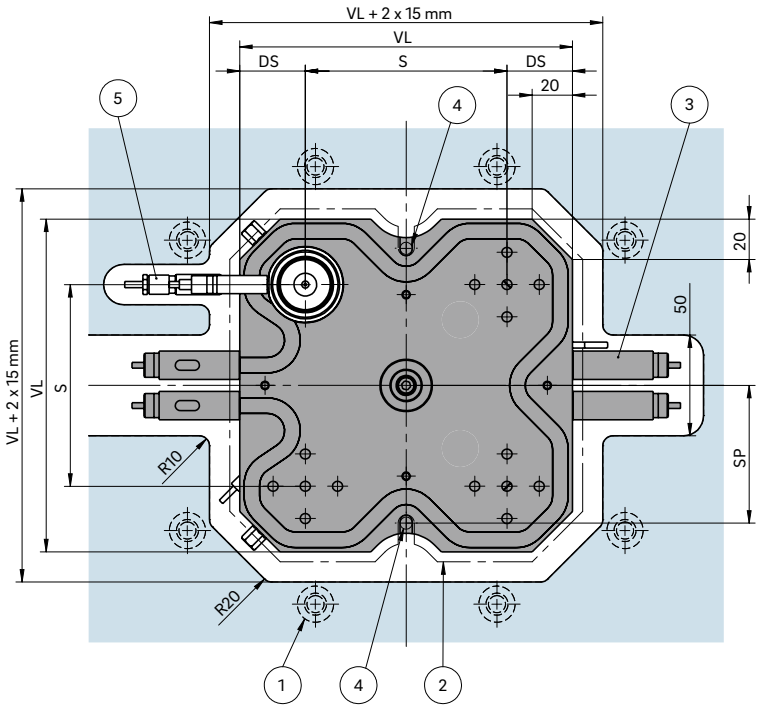
*Volts alternating current

**WEBCODE**
25060



## INSTALLATION

Nozzle tip view

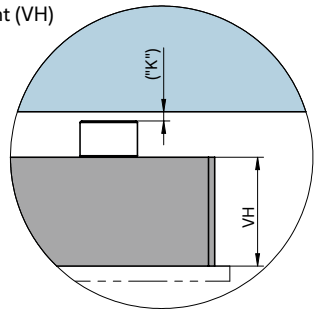



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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 piece (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 |

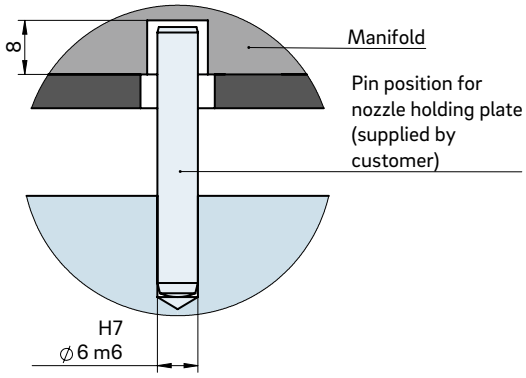
**Design examples/Balancing**

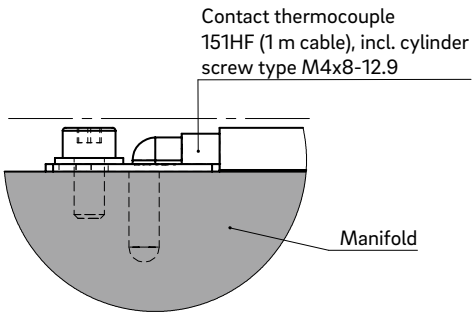
| Type | | KCP = 36 (VH) Melt channel Ød in mm | KDP = 46 (VH) Melt channel Ød in mm | Number of drops |
|---|---|---|---|---|
| K_P4B |  | ≤ 10 | ≥ 12 to 16 | 4 |
| | | DS min. 35 | DS min. 50 | |

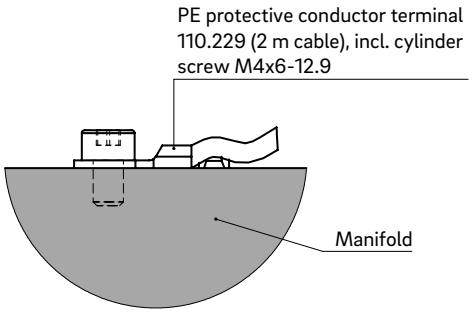
B = balanced

# Cross manifold type KCP4/KDP4

## Manifold length (VL) 180




## TECHNICAL DATA

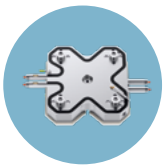
### KCP4/KDP4 180

| | |
|---|---|
| **Manifold height (VH)** | **KCP:** 36 mm<br>**KDP:** 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 |

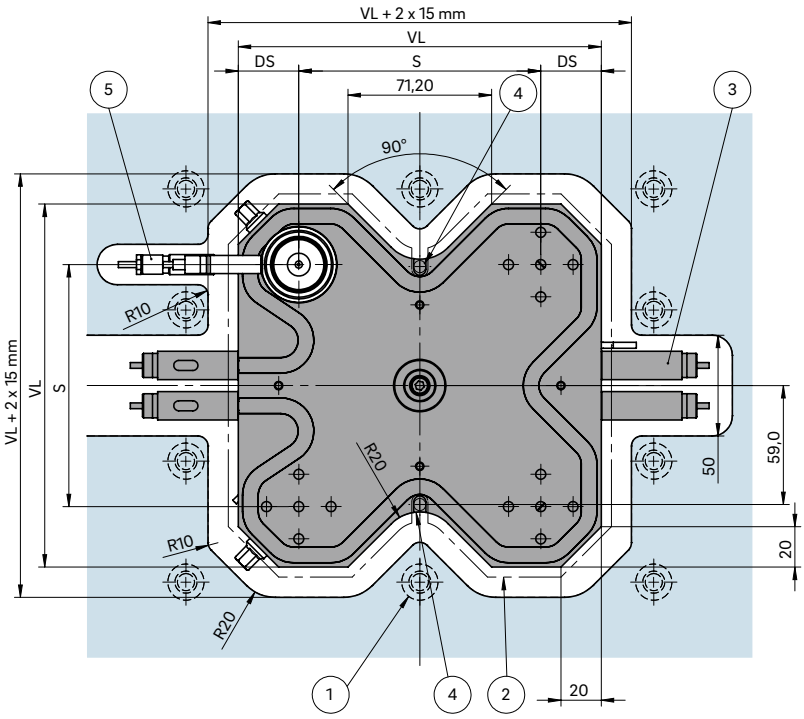
*Volts alternating current

**WEBCODE**
25070



## INSTALLATION

Nozzle tip view

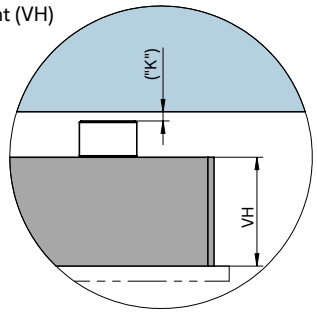



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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 piece (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 |

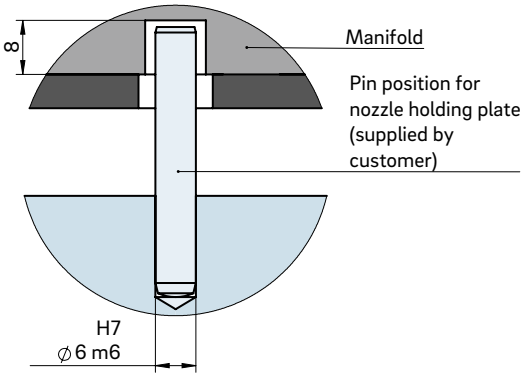
**Design examples/Balancing**

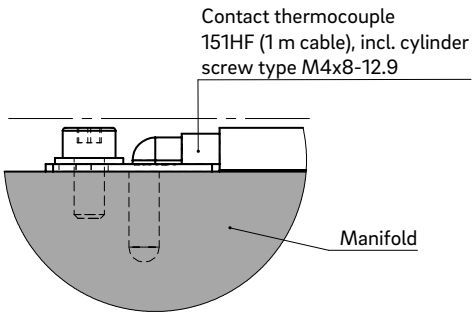
| Type | | KCP = 36 (VH) Melt channel Ød in mm | KDP = 46 (VH) Melt channel Ød in mm | Number of drops |
|---|---|---|---|---|
| K_P4B |  | ≤ 10 | ≥ 12 to 16 | 4 |
| | | DS min. 35 | DS min. 50 | |

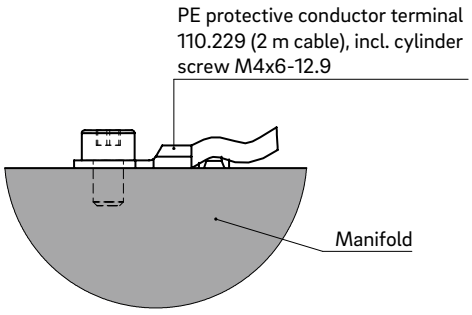
B = balanced

# Cross manifold type KCP4/KDP4

## Manifold length (VL) 210




## TECHNICAL DATA

### KCP4/KDP4 210

| | |
|---|---|
| **Manifold height (VH)** | **KCP:** 36 mm<br>**KDP:** 46 mm |
| **Operating voltage** | 230 $V_{AC}$* |

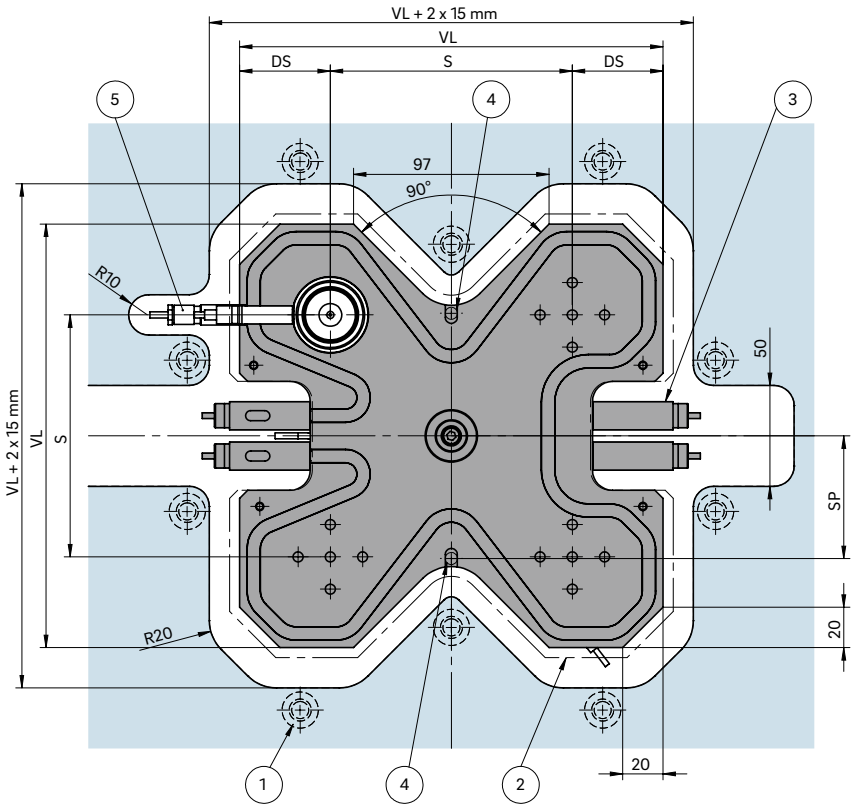
| | |
|---|---|
| **Manifold length (VL)** | 210 |
| **Pin position (SP)** | 60.8 |
| **Control circuits** | 1 |
| **Power (watts) per control circuit** | 2 × 1000 |

*Volts alternating current

**WEBCODE**
25080

## INSTALLATION

Nozzle tip view

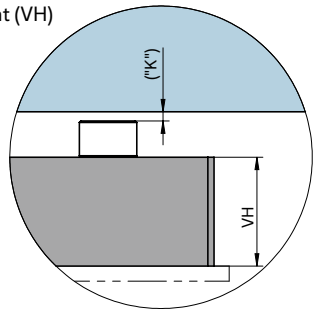



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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 piece (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 |

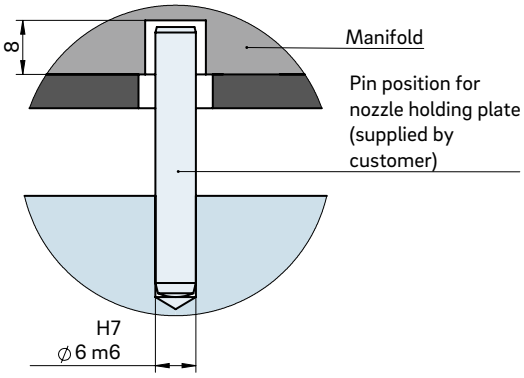
**Design examples/Balancing**

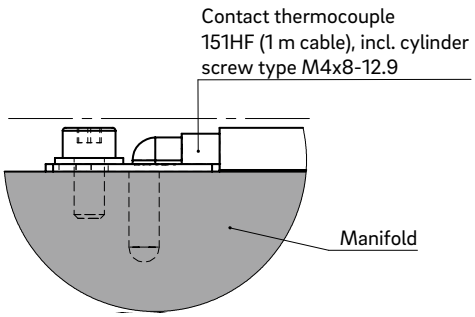
| Type | | KCP = 36 (VH) Melt channel Ød in mm | KDP = 46 (VH) Melt channel Ød in mm | Number of drops |
|---|---|---|---|---|
| K_P4B |  | ≤ 10 | ≥ 12 to 16 | 4 |
| | | DS min. 35 | DS min. 50 | |

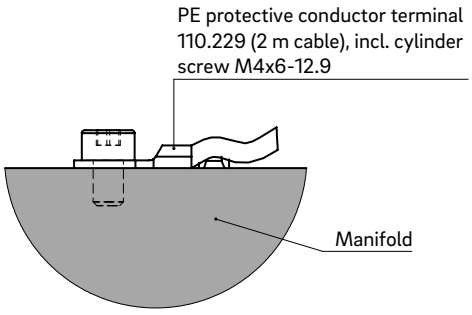
B = balanced

# Cross manifold type KCP4/KDP4

## Manifold length (VL) 240/270/300




## TECHNICAL DATA

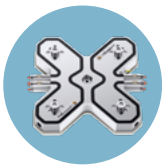
### KCP4/KDP4 240/270/300

| | |
|---|---|
| **Manifold height (VH)** | **KCP:** 36 mm<br>**KDP:** 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 |

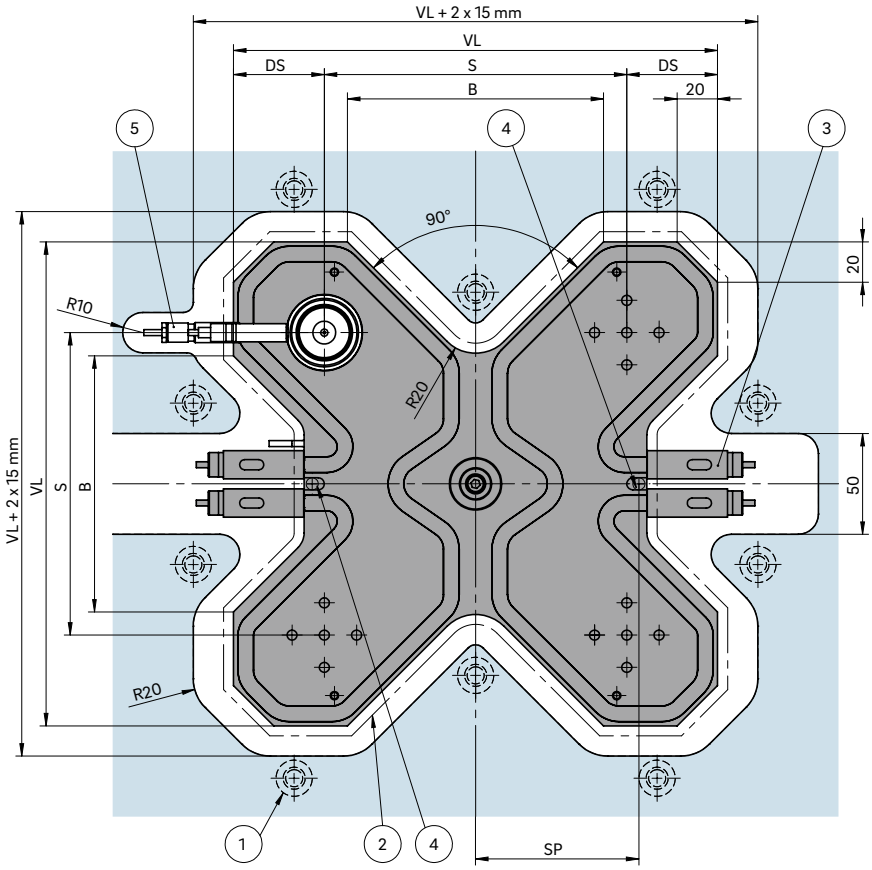
*Volts alternating current

**WEBCODE**
25090



## INSTALLATION

Nozzle tip view

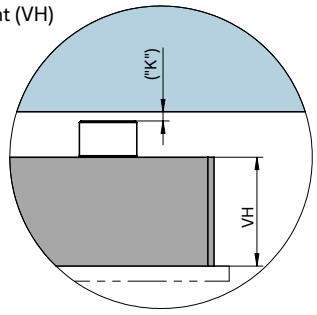



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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**

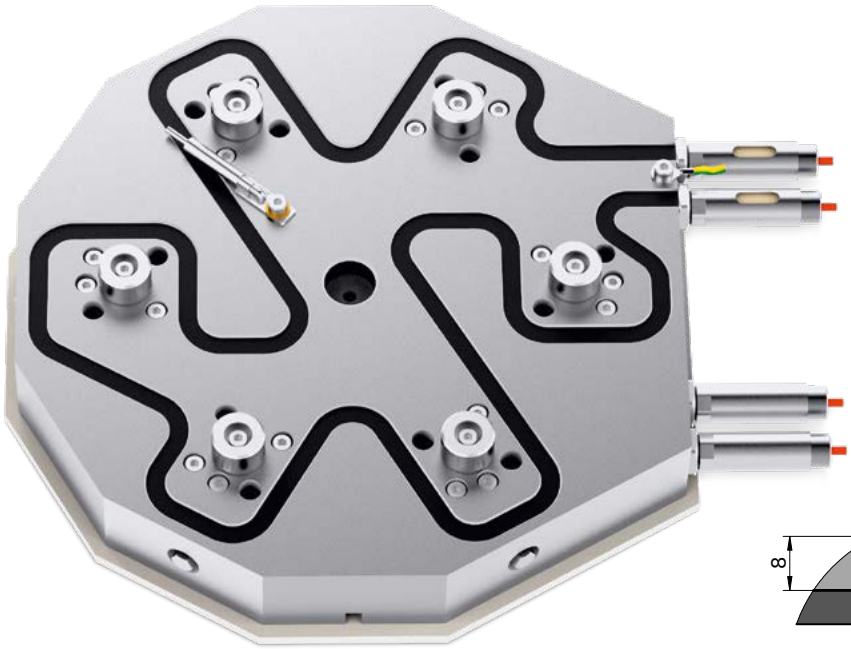
| Type | | KCP = 36 (VH) Melt channel Ød in mm | KDP = 46 (VH) Melt channel Ød in mm | Number of drops |
|---|---|---|---|---|
| K_P4B |  | ≤ 10 | ≥ 12 to 16 | 4 |
| | | DS min. 35 | DS min. 50 | |

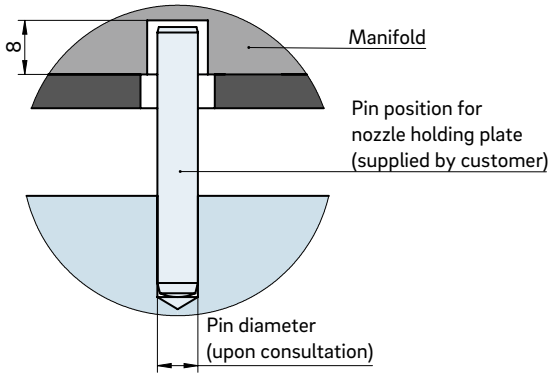
B = balanced

Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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 SCP/SDP/SEP





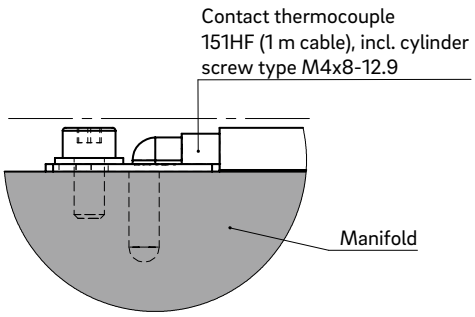

## TECHNICAL DATA

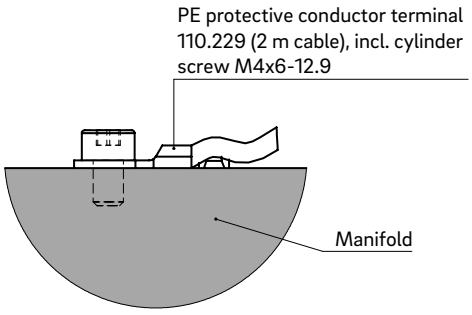
### SCP/SDP/SEP

| | |
|---|---|
| **Manifold height (VH)** | **SCP:** 36 mm<br>**SDP:** 46 mm<br>**SEP:** 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

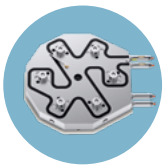



**WEBCODE**
25100

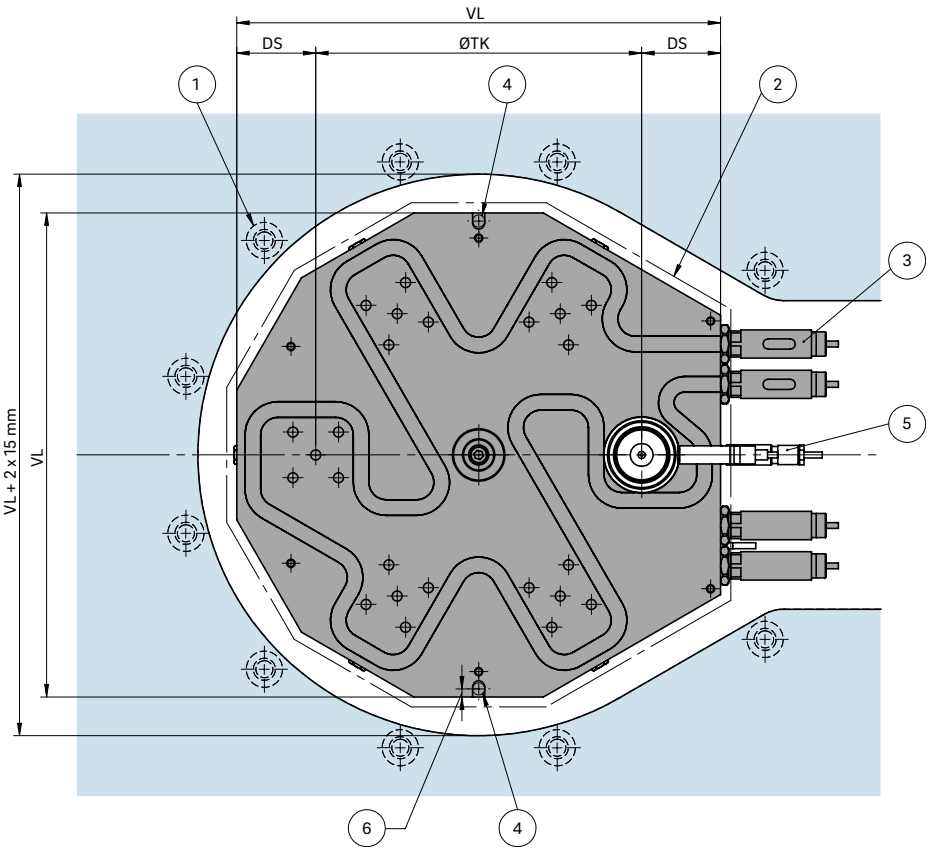




## INSTALLATION

Nozzle tip view

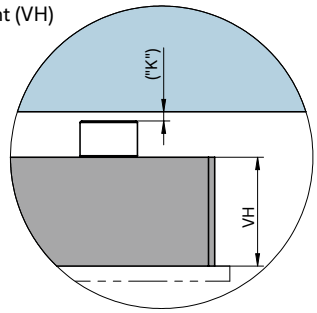



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

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

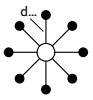
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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!

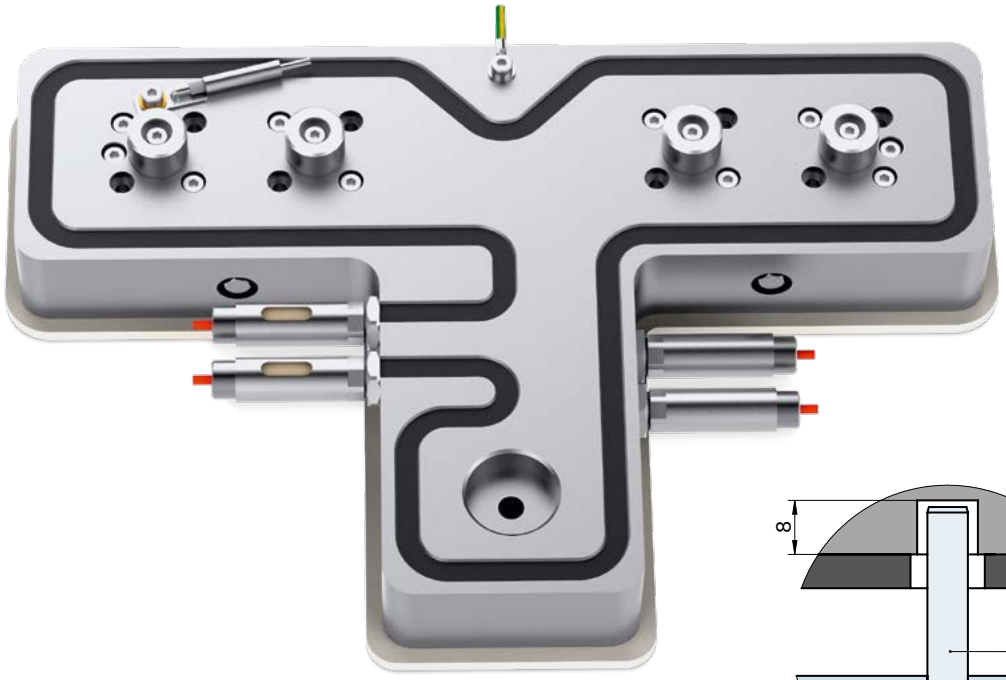
| VH | ΔT (°C) | 100 | 150 | 200 | 250 | 300 | 350 |
|---|---|---|---|---|---|---|---|
| 36 mm | K (mm) | 0.021 | 0.059 | 0.098 | 0.137 | 0.177 | 0.217 |
| 46 mm | K (mm) | 0.033 | 0.078 | 0.124 | 0.170 | 0.218 | 0.264 |
| 56 mm | K (mm) | 0.046 | 0.097 | 0.150 | 0.203 | 0.258 | 0.311 |

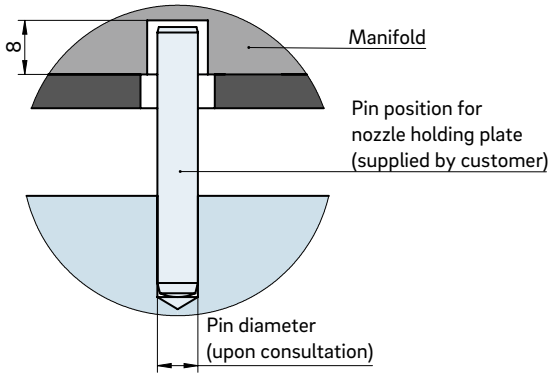
**Design examples/Balancing**

| Type | | SCP = 36 (VH) Melt channel Ød in mm | SDP = 46 (VH) Melt channel Ød in mm | SEP = 56 (VH) Melt channel Ød in mm | Number of drops |
|---|---|---|---|---|---|
| S_P3B |  | ≤ 10 | ≥ 12 to 16 | ≥ 16 | 3 |
| S_P6B |  | | ≤ 8 | ≤ 10 | 6 |
| S_P8B |  | | ≤ 8 | ≤ 10 | 8 |

B = balanced

# T-manifold type TCP/TDP/TEP





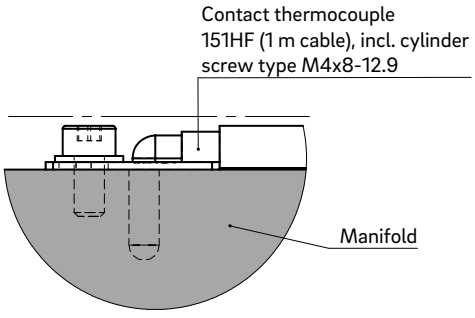

## TECHNICAL DATA

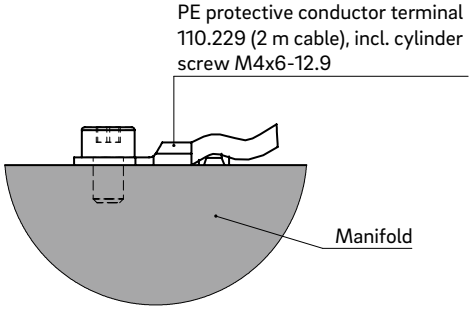
### TCP/TDP/TEP

| | |
|---|---|
| **Manifold height (VH)** | **TCP:** 36 mm<br>**TDP:** 46 mm<br>**TEP:** 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



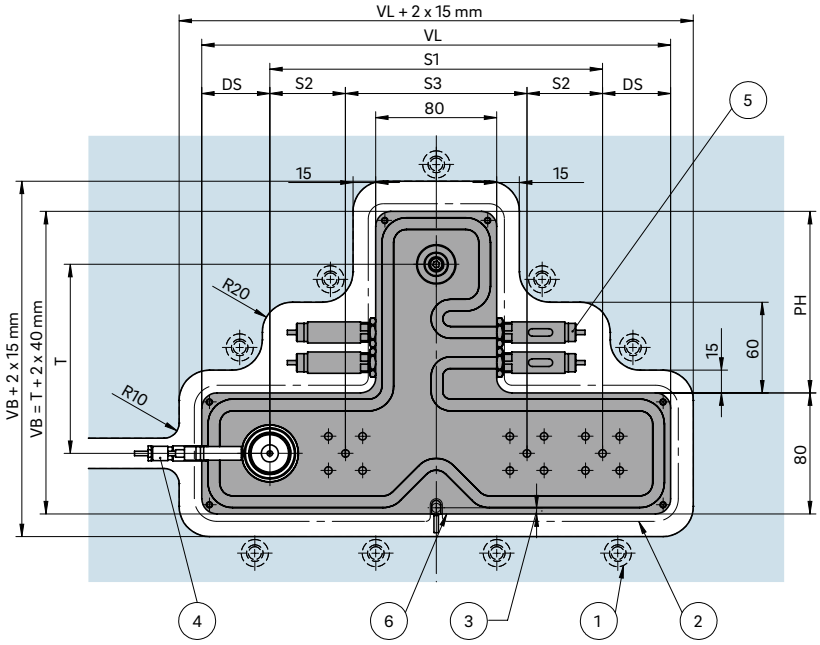

**WEBCODE**
25110



## INSTALLATION

Nozzle tip view

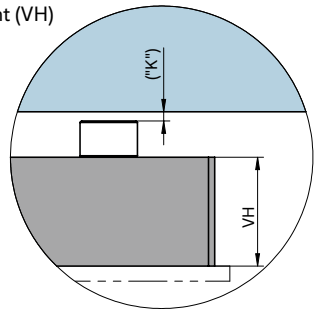



DS Edge distance:
a. min. 35.0 with nozzle size ≤ 6
b. min. 45.0 with nozzle size 8 or 10
c. min. 50.0 with nozzle size ≥ 12

T Distance from the connecting nozzle to the nozzle row

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

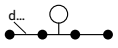
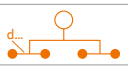
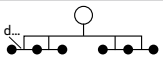
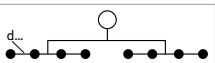
Manifold height (VH)




Dimension "K" required for heat expansion is to be ensured by grinding the pressure piece (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 | | TCP = 36 (VH) Melt channel dia in mm | TDP = 46 (VH) Melt channel dia in mm | TEP = 56 (VH) Melt channel dia in mm | Number of drops |
|---|---|---|---|---|---|
| T_P2B |  | ≤ 10 | ≥ 12 to 16 | > 16 | 2 |
| T_P4– |  | ≤ 10 | ≥ 12 to 16 | > 16 | 4 |
| T_P4B |  | ≤ 10 | ≥ 12 to 16 | > 16 | 4 |
| T_P6T |  | ≤ 10 | ≥ 12 to 16 | > 16 | 6 |
| T_P8T |  | ≤ 10 | ≥ 12 to 16 | > 16 | 8 |

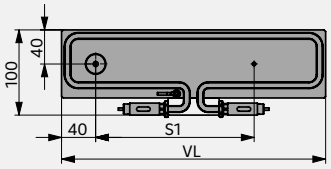
B = balanced T = partially balanced – = not balanced

# Rapid Systems – open hot runner systems

Fully configured hot runner system comprised of manifolds, nozzles and accessories.
Delivery time two working weeks.

## B91

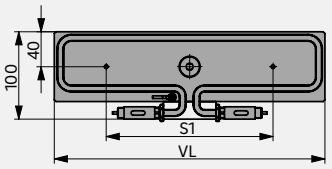
### GCP1-1 SERIES

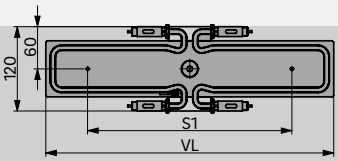



| Manifold length (VL) | Pitch (S1 mm) for nozzle type SHF | Pitch (S1 mm) for nozzle type SHT |
|---|---|---|
| 160 | ≥ 33 - 85 | – |
| 210 | > 85 - 135 | – |
| 260 | > 135 - 185 | – |
| 310 | > 185 - 235 | – |
| 360 | > 235 - 285 | – |

## B93

### GCP2-1 SERIES

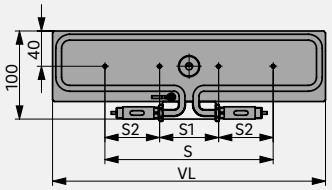


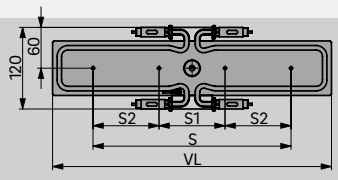




| Manifold length (VL) | Pitch (S1 mm) for nozzle type SHF | Pitch (S1 mm) for nozzle type SHT |
|---|---|---|
| 160 | ≥ 67 - 90 | – |
| 210 | > 90 - 140 | ≥ 88 - 120 |
| 260 | > 140 - 190 | > 120 - 170 |
| 310 | > 190 - 240 | > 170 - 220 |
| 360 | > 240 - 290 | > 220 - 270 |
| 410 | > 290 - 340 | > 270 - 315 |
| 460 | > 340 - 390 | > 315 - 365 |

## B94

### GCP4B SERIES

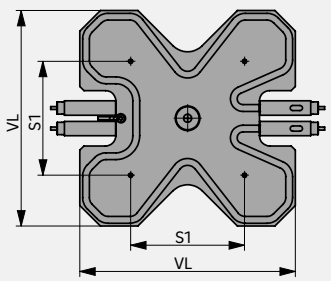



| Manifold length (VL) | Pitch S=total (min. to max.) mm for nozzle type SHF | Pitch S=total (min. to max.) mm for nozzle type SHT |
|---|---|---|
| 260 | ≥ 155 - 190 | – |
| 310 | > 190 - 240 | – |
| 360 | > 240 - 290 | – |
| 410 | > 290 - 340 | – |
| 460 | > 340 - 390 | – |

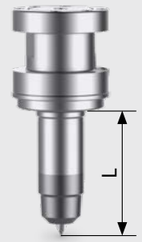
## B95

### KCP4 SERIES




| Manifold length (VL) | Pitch (S1 mm) for nozzle type SHF | Pitch (S1 mm) for nozzle type SHT |
|---|---|---|
| 135 | ≥ 47 - 65 (SHF) | – |
| 165 | > 65 - 95 | – |
| 180 | > 95 - 110 | – |
| 210 | > 110 - 140 | – |
| 240 | > 140 - 170 | – |

## SHF NOZZLE TYPE




| Pitch (S1 mm) for nozzle type SMT | Pitch (S1 mm) for nozzle type SMT3 |
|---|---|
| ≥ 29 - 85 | ≥ 44 - 75 |
| > 85 - 135 | > 75 - 125 |
| > 135 - 185 | > 125 - 175 |
| > 185 - 235 | > 175 - 225 |
| > 235 - 285 | > 225 - 275 |

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

Smallest pitch S1 ≥ 33
- Configuration option: S-009 [2]

| Pitch (S1 mm) for nozzle type SMT | Pitch (S1 mm) for nozzle type SMT3 | Available as a Ready2Connect system for SMT and SMT3 nozzle types [1] |
|---|---|---|
| ≥ 57 - 90 | – | X |
| > 90 - 140 | ≥ 88 - 120 | X |
| > 140 - 190 | > 120 - 170 | X |
| > 190 - 240 | > 170 - 220 | X |
| > 240 - 290 | > 220 - 270 | X |
| > 290 - 340 | > 270 - 315 | |
| > 340 - 390 | > 315 - 365 | |

B83

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

Smallest pitch S1 ≥ 67
- Configuration option: S-009 [2]

| Pitch S=total (min. to max.) mm for nozzle type SMT | Pitch S=total (min. to max.) mm for nozzle type SMT3 | Available as a Ready2Connect system for SMT and SMT3 nozzle types [1] |
|---|---|---|
| ≥ 115 - 190 | – | X |
| > 190 - 240 | – | X |
| > 240 - 290 | – | X |
| > 290 - 340 | – | |
| > 340 - 390 | – | |

B84

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

Smallest pitch S1 ≥ 67
Smallest pitch S2 ≥ 39
- Configuration option: S-009 [2]

| Pitch (S1 mm) for nozzle type SMT | Pitch (S1 mm) for nozzle type SMT3 |
|---|---|
| ≥ 44 - 65 (SMT) | – |
| > 65 - 95 | – |
| > 95 - 110 | – |
| > 110 - 140 | – |
| > 140 - 170 | – |

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

Smallest pitch S1 ≥ 47
- Configuration option: S-009 [2]

## SHT NOZZLE TYPE


| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 7.5 / 60, 80, 100 |

Smallest pitch S1 ≥ 90
- Connection piece type AK10 or AKV10/40
- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

Smallest pitch S1 ≥ 67
- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

Smallest pitch S1 ≥ 67
Smallest pitch S2 ≥ 39
- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 7.5 / 60, 80, 100 |

Smallest pitch S1 ≥ 44
- Configuration option: S-009 [2]

## SMT NOZZLE TYPE


| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 3.8 / 50, 60, 80, 100 |
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 80 |

Smallest pitch S1
Melt channel Ø 3.8 = S1 ≥ 29
Melt channel Ø 4.8 = S1 ≥ 29
Melt channel Ø 6 = S1 ≥ 29
- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 3.8 / 50, 60, 80, 100 |
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 80 |

Smallest pitch S1
Melt channel Ø 3.8 = S1 ≥ 57
Melt channel Ø 4.8 = S1 ≥ 57
Melt channel Ø 6 = S1 ≥ 57
- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 3.8 / 50, 60, 80, 100 |
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 80 |

Smallest pitch S1
Melt channel Ø 3.8 = S1 ≥ 57
Melt channel Ø 4.8 = S1 ≥ 57
Melt channel Ø 6 = S1 ≥ 57
Smallest pitch S2
Melt channel Ø 3.8 = S2 ≥ 29
Melt channel Ø 4.8 = S2 ≥ 29
Melt channel Ø 6 = S2 ≥ 29
- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 3.8 / 50, 60, 80, 100 |
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 80 |

Smallest pitch S1
Melt channel Ø 3.8 = S1 ≥ 44
Melt channel Ø 4.8 = S1 ≥ 44
Melt channel Ø 6 = S1 ≥ 45
- Configuration option: S-009 [2]

## SMT3 NOZZLE TYPE


| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 7.5 / 50, 60, 80, 100 |

- Configuration option: S-009 [2]

| Melt channel Ø (mm) / nozzle length (L mm) |
|---|
| 7.5 / 50, 60, 80, 100 |

- Configuration option: S-009 [2]

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You can create CAD data and price information via the CADHOC portal. When configuring your Rasant system, you will be asked for the necessary information about the application and the mould.

## RAPID-SYSTEM

Consisting of:

| | |
|---|---|
| 1 | Connection piece type AK or AKV/40 incl. titanium ring |
| 1/2/4 | Pressure pads |
| 1 | Manifold, insulating plate optional |
| 1 | Contact thermocouple 151 HF |
| 1/2/4 | Nozzle type SHF, SHT, SMT, SMT3 |
| 1/2/4 | Power connector CHF (SHF), CMT (SHT), Fixed power connection (SMT, SMT3) |
| 1/2/4 | Thermocouple plug CMLK (SHF, SHT), Fixed thermocouple connection (SMT, SMT3) |
| 1 | Spacer |

Cylindrical pin to prevent rotation is not included in the scope of delivery.

## ORDER

You choose:

| | | |
|---|---|---|
| 1. Manifold Rapid series GCP2-1 | | B 93 \| \| \| \| \| \| |
| 2. Manifold length 210 mm | (21) | B 93 \| 21 \| \| \| \| |
| 3. Melt channel Ø 6 mm | (06) | B 93 \| 21 \| 06 \| \| \| |
| 4. Nozzle length 60 mm | (06) | B 93 \| 21 \| 06 \| 06 \| \| |
| 5. Nozzle type SHF | (HF) | B 93 \| 21 \| 06 \| 06 \| HF \| |
| 6. Model | (-1) | B 93 \| 21 \| 06 \| 06 \| HF \| -1 |

The article no. for the selected Rasant system with nozzle type 6SHF60 is: **B93210606HF-1.**
You can add a pitch distance, straight line, radius or angle (straight line, radius/angle freely selectable depending on the injection unit).
**Delivery time two working weeks.**

**B83/B84:** Ready2Connect with cable channel and fixed power and thermocouple Connection for nozzle type SHF and SMT3.

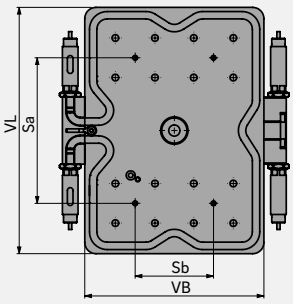
[1] The prerequisite for the cable channel is a nozzle with fixed connections and can be screwed to the manifold.
[2] Configuration option S-009: 40° tip for PP applications.

# Rapid Systems – open hot runner systems

Fully configured hot runner system comprised of manifolds, nozzles and accessories.
Delivery time two working weeks.

B96

## HCP4B SERIES




| Manifold width (VB) | Manifold length (VL) | Pitch (Sb mm) for nozzle type SHF | Pitch (Sa mm) for nozzle type SHF |
|---|---|---|---|
| 120 | 160 | ≥ 45 - 50 | ≥ 70 - 90 |
| 120 | 180 | ≥ 45 - 50 | > 90 - 110 |
| 120 | 200 | ≥ 45 - 50 | > 110 - 130 |
| 120 | 220 | ≥ 45 - 50 | > 130 - 150 |
| 140 | 160 | > 50 - 70 | ≥ 70 - 90 |
| 140 | 180 | > 50 - 70 | > 90 - 110 |
| 140 | 200 | > 50 - 70 | > 110 - 130 |
| 140 | 220 | > 50 - 70 | > 130 - 150 |
| 160 | 160 | > 70 - 90 | ≥ 70 - 90 |
| 160 | 180 | > 70 - 90 | > 90 - 110 |
| 160 | 200 | > 70 - 90 | > 110 - 130 |
| 160 | 220 | > 70 - 90 | > 130 - 150 |
| 180 | 180 | > 90 - 110 | > 90 - 110 |
| 180 | 200 | > 90 - 110 | > 110 - 130 |
| 180 | 220 | > 90 - 110 | > 130 - 150 |
| 180 | 240 | > 90 - 110 | > 150 - 170 |
| 200 | 200 | > 110 - 130 | > 110 - 130 |
| 200 | 220 | > 110 - 130 | > 130 - 150 |
| 200 | 240 | > 110 - 130 | > 150 - 170 |
| 200 | 260 | > 110 - 130 | > 170 - 190 |
| 200 | 280 | > 110 - 130 | > 190 - 210 |
| 220 | 220 | > 130 - 150 | > 130 - 150 |
| 220 | 240 | > 130 - 150 | > 150 - 170 |
| 220 | 260 | > 130 - 150 | > 170 - 190 |
| 220 | 280 | > 130 - 150 | > 190 - 210 |
| 220 | 300 | > 130 - 150 | > 210 - 230 |

| Pitch (Sb mm) for nozzle type SMT | Pitch (Sa mm) for nozzle type SMT | Pitch (Sb mm) for nozzle type SMT3 | Pitch (Sa mm) for nozzle type SMT3 |
|---|---|---|---|
| ≥ 45 - 50 | ≥ 70 - 90 | – | – |
| ≥ 45 - 50 | > 90 - 110 | – | – |
| ≥ 45 - 50 | > 110 - 130 | – | – |
| ≥ 45 - 50 | > 130 - 150 | – | – |
| > 50 - 70 | ≥ 70 - 90 | – | – |
| > 50 - 70 | > 90 - 110 | – | – |
| > 50 - 70 | > 110 - 130 | – | – |
| > 50 - 70 | > 130 - 150 | – | – |
| > 70 - 90 | ≥ 70 - 90 | ≥ 60 - 70 | = 70 |
| > 70 - 90 | > 90 - 110 | ≥ 60 - 70 | > 70 - 90 |
| > 70 - 90 | > 110 - 130 | ≥ 60 - 70 | > 90 - 110 |
| > 70 - 90 | > 130 - 150 | ≥ 60 - 70 | > 110 - 130 |
| > 90 - 110 | > 90 - 110 | > 70 - 90 | > 70 - 90 |
| > 90 - 110 | > 110 - 130 | > 70 - 90 | > 90 - 110 |
| > 90 - 110 | > 130 - 150 | > 70 - 90 | > 110 - 130 |
| > 90 - 110 | > 150 - 170 | > 70 - 90 | > 130 - 150 |
| > 110 - 130 | > 110 - 130 | > 90 - 110 | > 90 - 110 |
| > 110 - 130 | > 130 - 150 | > 90 - 110 | > 110 - 130 |
| > 110 - 130 | > 150 - 170 | > 90 - 110 | > 130 - 150 |
| > 110 - 130 | > 170 - 190 | > 90 - 110 | > 150 - 170 |
| > 110 - 130 | > 190 - 210 | > 90 - 110 | > 170 - 190 |
| > 130 - 150 | > 130 - 150 | > 110 - 130 | > 110 - 130 |
| > 130 - 150 | > 150 - 170 | > 110 - 130 | > 130 - 150 |
| > 130 - 150 | > 170 - 190 | > 110 - 130 | > 150 - 170 |
| > 130 - 150 | > 190 - 210 | > 110 - 130 | > 170 - 190 |
| > 130 - 150 | > 210 - 230 | > 110 - 130 | > 190 - 210 |

## NOZZLE TYPE SHF


| Melt channel Ø (mm)/ nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 60, 80 |

- Configuration option: S-009 [2]

## NOZZLE TYPE SMT


| Melt channel Ø (mm)/ nozzle length (L mm) |
|---|
| 4.8 / 50, 60, 80, 100 |
| 6 / 50, 80 |

- Configuration option: S-009 [2]

## NOZZLE TYPE SMT3


| Melt channel Ø (mm)/ nozzle length (L mm) |
|---|
| 7.5 / 50, 60, 80, 100 |

- Configuration option: S-009 [2]

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## RAPID-SYSTEM

Consisting of:

1 Connection piece type AKV/40 incl. titanium ring
4 Pressure pads
1 Manifold, insulating plate optional
1 Contact thermocouple 151 HF
4 Nozzle type SHF, SMT, SMT3
4 Power connector CHF (SHF), Fixed power connection (SMT, SMT3)
4 Thermocouple plug CMLK (SHF), Fixed thermocouple connection (SMT, SMT3)
1 Spacer

Cylindrical pin to prevent rotation is not included in the scope of delivery.

## ORDER

You choose:

| | | |
|---|---|---|
| 1. Manifold Rapid series HCP4B | | B 96 \| __ \| __ \| __ \| __ \| __ \| __ |
| 2. Manifold width 140 mm | (14) | B 96 \| 14 \| __ \| __ \| __ \| __ \| __ |
| 3. Manifold length 220 mm | (22) | B 96 \| 14 \| 22 \| __ \| __ \| __ \| __ |
| 4. Melt channel Ø 6 mm | (06) | B 96 \| 14 \| 22 \| 06 \| __ \| __ \| __ |
| 5. Nozzle length 60 mm | (06) | B 96 \| 14 \| 22 \| 06 \| 06 \| __ \| __ |
| 6. Nozzle type SHF | (HF) | B 96 \| 14 \| 22 \| 06 \| 06 \| HF \| __ |
| 7. Model | (-1) | B 96 \| 14 \| 22 \| 06 \| 06 \| HF \| -1 |

The article no. for the selected Rasant system with nozzle type 6SHF60 is:
**B93210606HF-1.**
You can add a pitch distance, straight line, radius or angle (straight line, radius/angle freely selectable depending on the injection unit).
**Delivery time two working weeks.**

[2] Configuration option S-009: 40° tip for PP applications.