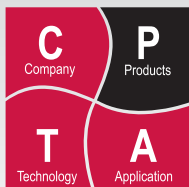
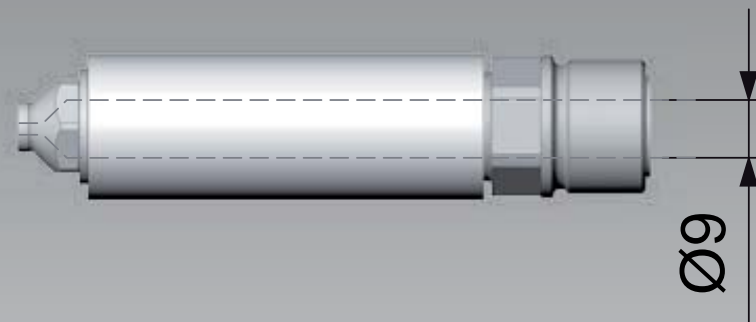


# Series 09 E

## Manifold Nozzles, Threaded



**1. Cut out for the nozzle**

- L** Nozzle length
- L1** Length of cut-out, back

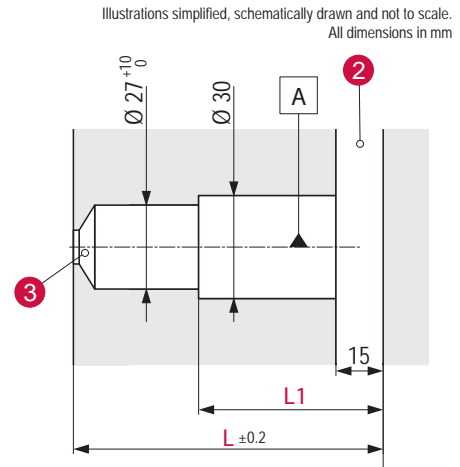
General tolerances: DIN ISO 2768-mK

Surfaces:  $\sqrt{Ra\ 3.2}$  ( $\sqrt{Ra\ 1.6}$   $\sqrt{Ra\ 0.8}$ )

Values of the dimension L and L1 can be found in the data sheet on page 3.

**1**

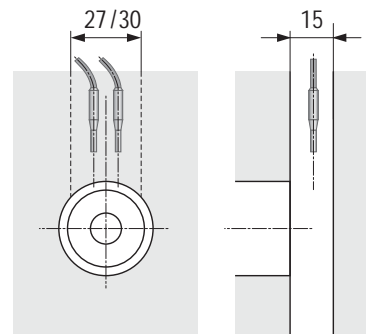
Above L=200 stepped bore  $\varnothing 27 / \varnothing 30$   
Up to L=200 only one bore  $\varnothing 27$



**2. Cut-out for connections**

- Only required if **B** <15
- Electrical power
- Thermocouple

**2**



**3. Cut-out for the nozzle tip**

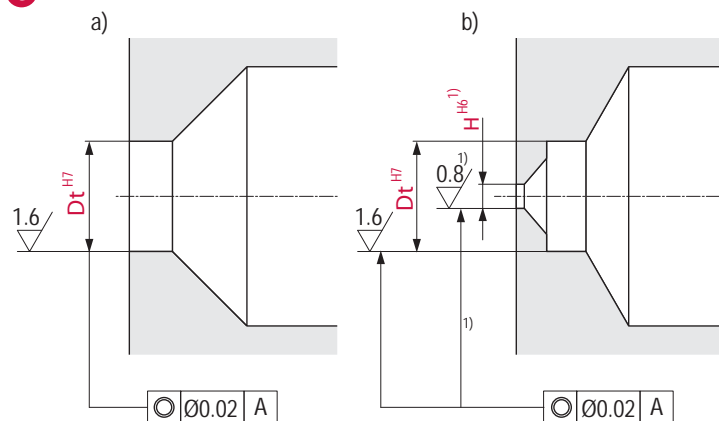
- a) Through bore nozzle tip (K,S)
- b) Blind bore nozzle tip (W)
- Dt Tip  $\varnothing$
- H Gate orifice  $\varnothing$

Depending on the selected nozzle type, different cut outs are required for the nozzle tip.

The dimensions of the cut-out for the nozzle tip used can be found on the tip cut-out sheet on page 4.

<sup>1)</sup> These data apply for valve gate nozzles.

**3**



**Product Type**

Hot runner nozzles in the 09 E01 range;  
 → Nozzle size 09: Flow bore - Ø 9 mm  
 → Nozzle style E: Manifold nozzle, Threaded

Different gate options can be implemented see table at right.

**Application**

For all usual thermoplastics Max. shot weight per nozzle (g):  
 → 250 (open, low viscosity)  
 → 120 (valve gate, low viscosity)

**Heating**

→ externally heated, 230 V AC  
 → changeable heater & thermocouple  
 → 1...2 zones, 150...490 W  
 → Fe/CuNi thermocouple, DIN 43710

You can configure your nozzle here

**1. Complete the nozzle description**

09E -	- 01
Series ↑ ↑ Length code	↑ Type

**2. Selection of variables**

H = ↑	
-------	--

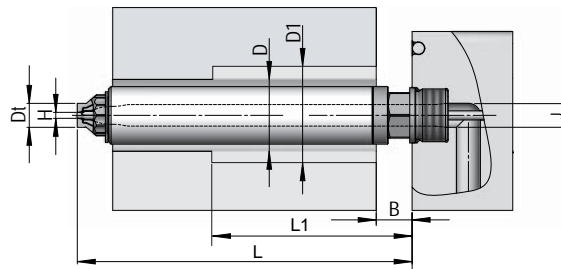
**Example and explanations**

Series	Position in nozzle length chart	Version
09E	180 - WV	10

Series ↑	↑ Length code	↑ Type
XX Nozzle tip shape		
1.5		

H ↑  
 ↑ Variables for precise nozzle specification from the drawings and tables shown here.

- 1) Standard flow bore value = Ø9
- 2) Standard lengths shown, consult Synventive for custom lengths.
- 3) PNC4508B Pitch 61 mm  
 PNC4508M Pitch 57 mm  
 HVC2508M Pitch 37 mm



**Major dimensions (mm)**

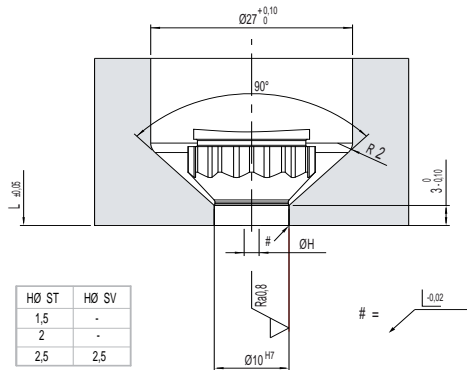
J	Flow bore Ø	Ø 9 <sup>1)</sup>	Dt	Tip Ø	see below
L	Nozzle length	60...400 <sup>2)</sup>	H	Gate Orifice	see below
F	Tip Extension	see below	B	Distance to Manifold	15
D	Cut-out Ø	Ø27		Min. Pitch Dim.	30
D1	Cut-out Ø back	Ø30		Min Pitch Dim VG	37 - 57 - 61 <sup>3)</sup>

Shape of nozzle tip	Available nozzle types for this series			
	Gating of nozzle tip			
	N	T	V (valve gate)	
(open)	(open with torpedo)	cylindrical	conical	
S		<b>S10T</b> H: 1.5, 2.0, 2.5 F: 10, 0 Dt: Ø10	<b>S10V</b> H: 2.5 Dt: Ø10 F: 10, 0	<b>S25V</b> H: 2.5 Dt: Ø10 F: 10, 0
K	<b>K01N</b> H: 2.0, 2.5 Dt: Ø10 F: 10	<b>K01T</b> H: 2.0, 2.5 Dt: Ø10 F: 10		
	<b>K01P</b> H: 2.0, 2.5 Dt: Ø10 F: 10			
W		<b>W10T</b> H: 1.2, 1.6, 2.0, 2.5 Dt: Ø14	<b>W10V</b> H: 1.5, 2.0, 2.5, 3.0 Dt: Ø14	<b>W25V</b> H: 1.5, 2.0, 2.5

Length code	L (mm)	Heater zone power (Watt)		Length code	L (mm)	L1 (mm)	Heater zones power <sup>4)</sup> (Watt)	
		Power1	Power2				Power1	Power2
One control area (thermo couple)				Two control areas (thermo couple)				
060	60	150W		180	180	-	150W	120W
080	80	170W		200	200	L - 185	150W	140W
100	100	190W		220	220	L - 185	150W	160W
120	120	210W		240	240	L - 185	150W	180W
140	140	230W		260	260	L - 185	150W	200W
160	160	250W		280	280	L - 185	150W	220W
				300	300	L - 185	150W	240W
				320	320	L - 185	150W	260W
				340	340	L - 185	150W	280W
				360	360	L - 185	150W	300W
				380	380	L - 185	150W	320W
				400	400	L - 185	150W	340W

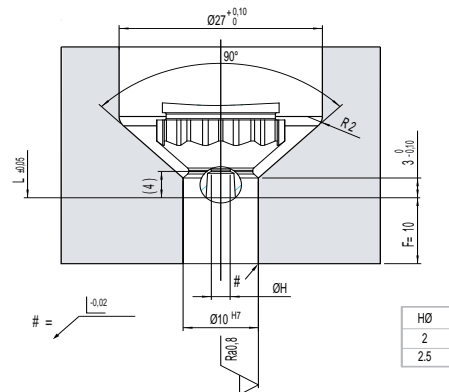
<sup>4)</sup> The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.

**ST SV**



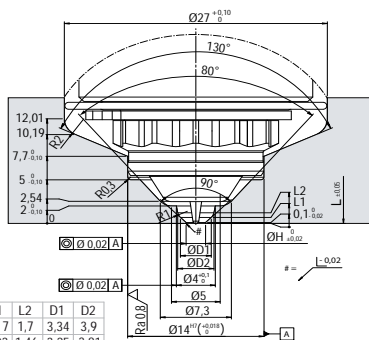
H0	ST	H0	SV
1.5	-	-	-
2	-	-	-
2.5	2.5	-	-

**KP KN KT**



H0
2
2.5

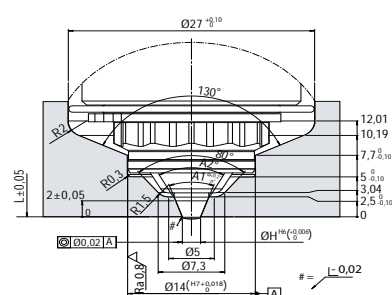
**W10T**



H0	L1	L2	D1	D2
1.2	1.17	1.7	3.34	3.9
1.6	0.93	1.46	3.25	3.81
2	0.68	1.22	3.17	3.72
2.5	0.38	0.91	3.06	3.62

Reference notes: 1, 3

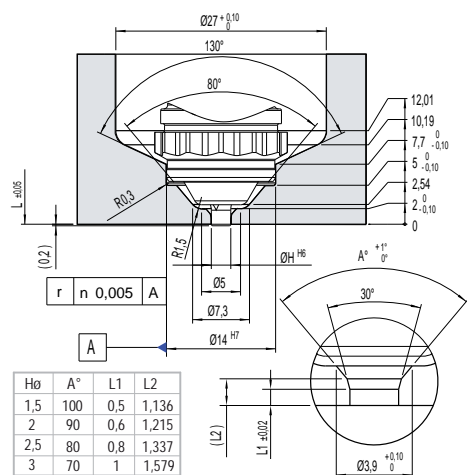
**W25V**



H0	A1°	A2°
1.5	40	95
2	40	58
2.5	30	50

Reference notes: 1, 2, 3, 4, 5, 6

**W10V**



H0	A°	L1	L2
1.5	100	0.5	1,136
2	90	0.6	1,215
2.5	80	0.8	1,337
3	70	1	1,579

Reference notes: 1, 2, 3, 4, 5, 6

**Notes:**

- Cooling required around the nozzle tip, opposite to the nozzle tip
- The front of the nozzle tip must always be against plastic.

**General tolerances according to DIN ISO 2768-mK**

1. At the area of the nozzle gate replaceable, hardened (52 +2/-1 HRC) inserts are recommended by Synventive.
2. Radius / chamfer at the front of the valve pin shall not be removed.
3. Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of  $\sqrt{Ra\ 0.8}$ .
4. To avoid a deformation at the gate the space to move freely has to be checked at hot condition.
5. For angled surface the valve pin may not be adjusted toward cavity.
6. Ensure 0.5 mm sealing surface is maintained.

