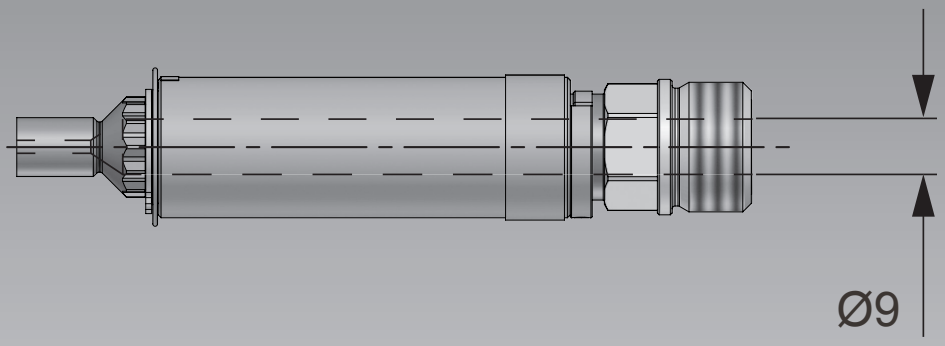
Series 09 E

Threaded Nozzles



C Company
P Products
T Technology
A Application

Synventive®
molding solutions
A business of BARNES GROUP INC

Catalog Document CAT-01-0001-Rev03 EN 02/2016

1. Cutout for the nozzle

L Nozzle length

L1 Length of cutout, back

General tolerances: DIN ISO 2768-mK

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

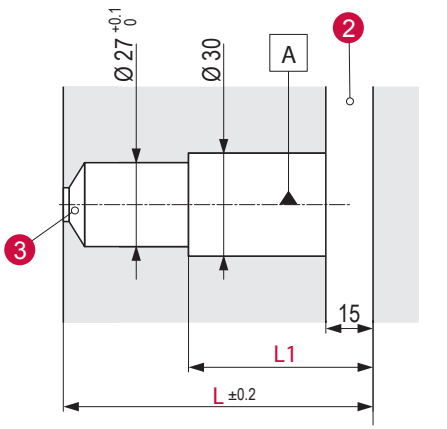
Values of the dimension L and L1 can be found in the data sheet on page 3.

1

Above L=200 stepped bore ø27 / ø30

Up to L=200 only one bore ø27

Illustrations simplified, schematically drawn and not to scale.
All dimensions in mm



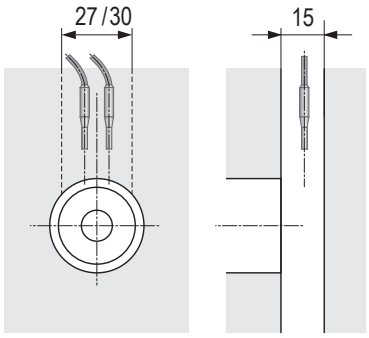
2. Cutout for connections

Only required if **B** <15

→ Electrical power

→ Thermocouple

2



3. Cutout for the nozzle tip

a) Through bore nozzle tip (K,S)

b) Blind bore nozzle tip (W)

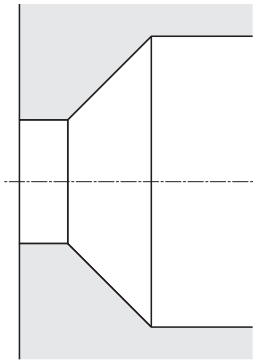
Depending on the selected nozzle type, different cutouts are required for the nozzle tip.

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

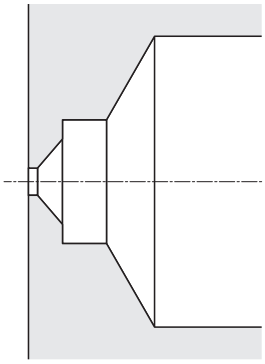
[1] These data apply for valve gate nozzles.

3

a)



b)



Product Type

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

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

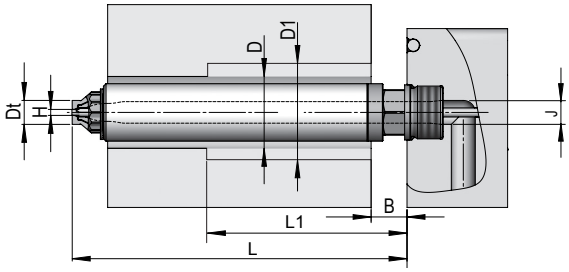
H = ↑		
Example and explanations		
Series	Position in nozzle length chart	Version
09E	180 - WV -	10
Series ↑	↑ Length code	Type
XX Nozzle tip shape		
1.5		
H ↑		

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
HYC2508M Pitch 37 mm



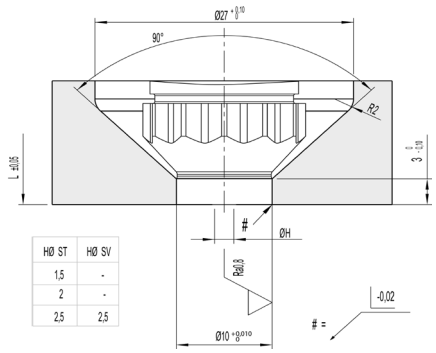
Major Dimensions (mm)

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

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

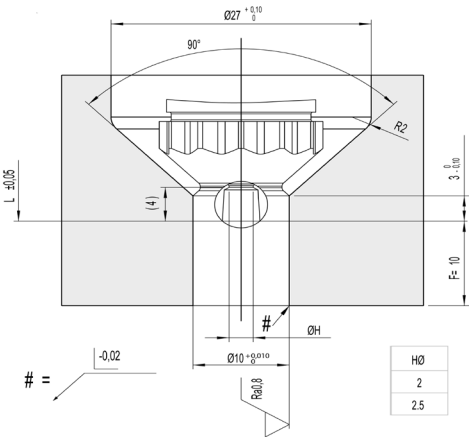
Length code	L (mm)	Heater zone power (Watt) Power1	Length code	L (mm)	L1 (mm)	Heater zones power 4) (Watt) Power1	Power2
One control area (thermo couple)			Two control areas (thermo couple)				
060	60	150W	180	180	-	150W	120W
070	70	150W	200	200	-	150W	140W
080	80	170W	220	220	L - 185	150W	160W
090	90	170W	240	240	L - 185	150W	180W
100	100	190W	260	260	L - 185	150W	200W
110	110	190W	280	280	L - 185	150W	220W
120	120	210W	300	300	L - 185	150W	240W
130	130	210W	320	320	L - 185	150W	260W
140	140	230W	340	340	L - 185	150W	280W
160	160	250W	360	360	L - 185	150W	300W
4) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.			380	380	L - 185	150W	320W
			400	400	L - 185	150W	340W

ST SV



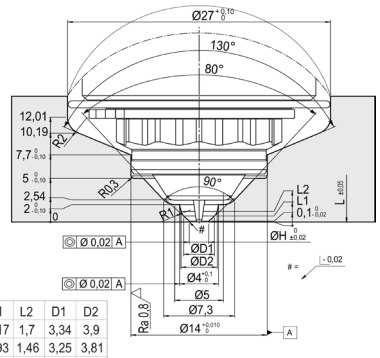
HØ ST	HØ SV
1,5	-
2	-
2,5	2,5

KP KN KT



HØ
2
2.5

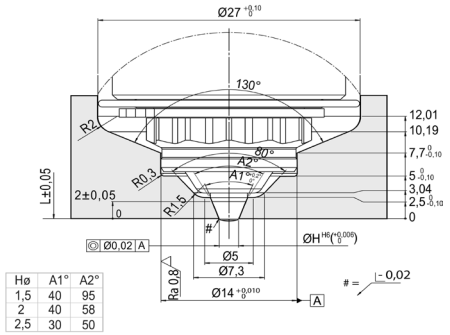
W10T



HØ	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

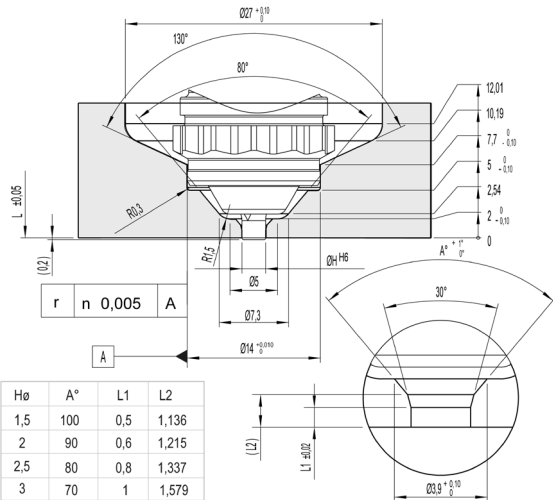
W25V



Hø	A1°	A2°
1,5	40	95
2	40	58
2,5	30	50

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

W10V



Hø	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 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.

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