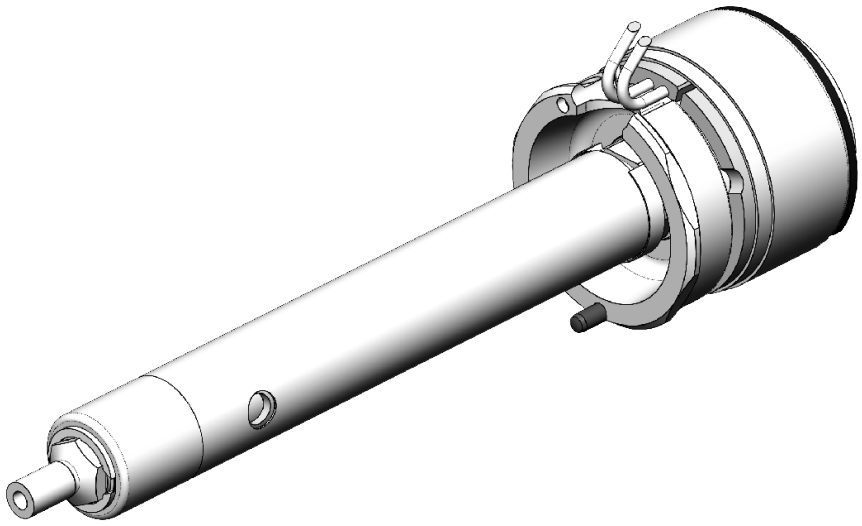
BARNES™
MOLDING SOLUTIONS

HOT RUNNER TECHNOLOGY

06S-03
Sprue Bushings
Product Catalog



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Synventive molding solutions

CAT-01-0105_EN-Rev02 / 2024-04

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

Product Type

Hot runner nozzles in the 06 S range

- → Nozzle size 06: Flow bore - Ø 6 mm
- → Nozzle style S: Sprue Bushing

Different gate options can be implemented.

Major Dimensions (mm)

J	Flow bore	Ø 6 [1]
Jib1	Flow bore inlet bushing	Ø 4, Ø 5, Ø 6
LSB	Nozzle length	50...190 [2]
F	Tip extension	see page 4, 5
D	Cutout	Ø 20
Dt	Tip Ø	see page 4
H	Gate Orifice	see page 4
K	Head height	40
Dk	Head diameter	Ø 40
Ds	Ø of Head centering	Ø 40
R	Nozzle contact radius	0...40
AD	Nozzle contact angle	90°...120°

Application

For all usual thermoplastics Max. shot weight per nozzle (g):

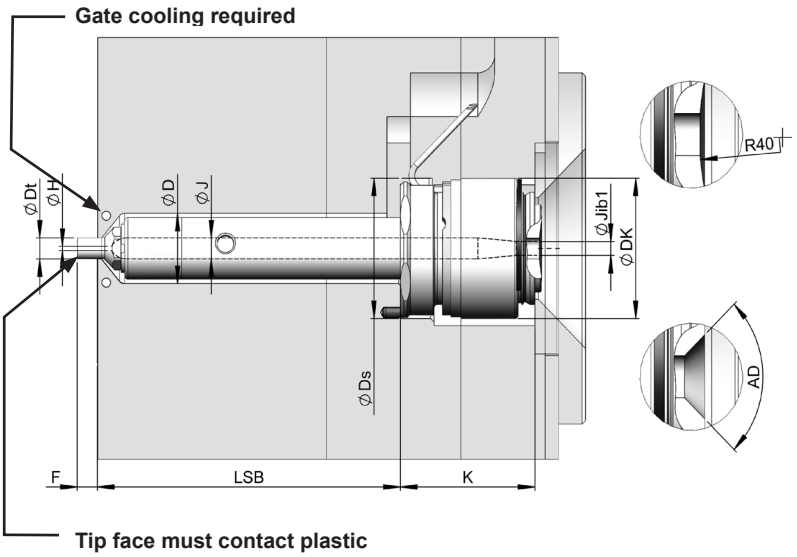
- → 120 (open, low viscosity)

Heating

- → Externally heated, 230 V AC
- → Replaceable heater & thermocouple
- → Nozzle heater zones, 125...259 W
- → Head heater, 450 W
  Thermocouples, EN 60584
  Fe-CuNi 0 = Typ J;
  NiCr-Ni = Typ K

[1] Standard flow bore value = Ø 6 consult Synventive for custom dimensions Ø 4, Ø 5

[2] Standard lengths shown, consult Synventive for custom lengths.



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L_{SB} (mm)	Heater zone power (Watt)	
	Nozzle	Head
50	125 W	450 W
60	125 W	450 W
70	139 W	450 W
80	139 W	450 W
90	159 W	450 W
100	159 W	450 W
110	179 W	450 W
120	179 W	450 W
130	199 W	450 W
150	219 W	450 W
170	239 W	450 W
190	259 W	450 W

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

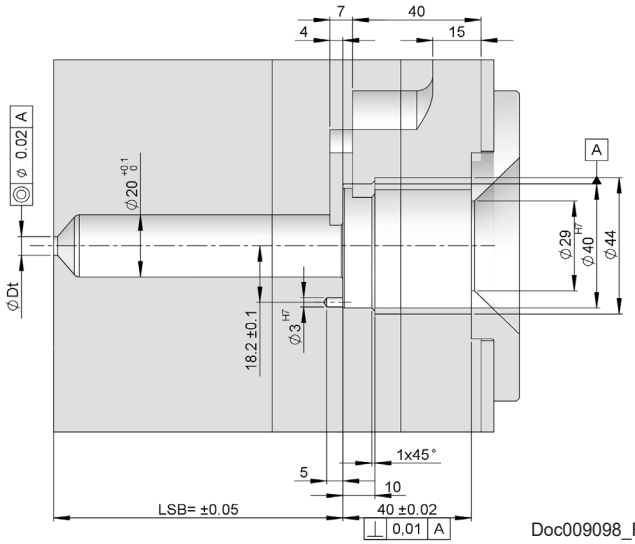
1. Cutout for the nozzle

LSB Nozzle length

General tolerances: DIN ISO 2768-mK

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

1



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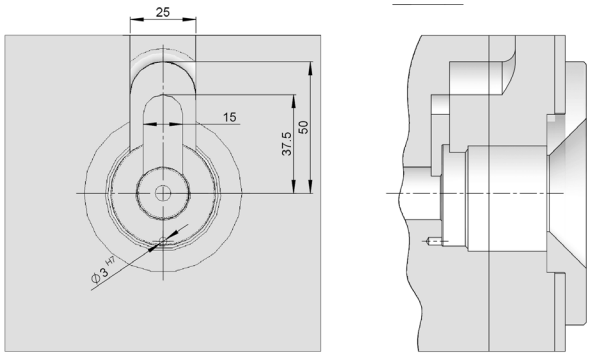
2. Cutout for connections

→ Electrical power
→ Thermocouple

2



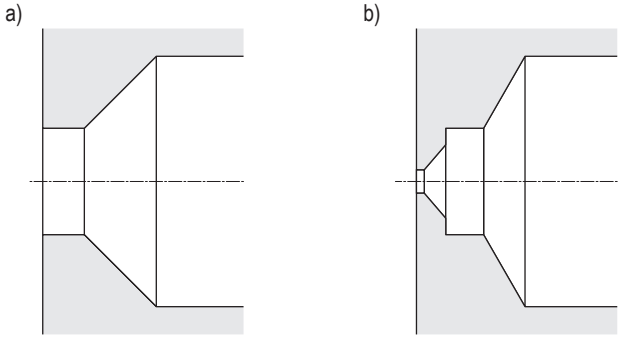
Doc009098_RIS_02.png

3. Cutout for the nozzle tip

a) Through bore nozzle tip (Plunged through)
b) Blind bore nozzle tip (Blind)

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

3



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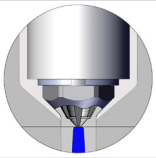
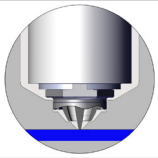
Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

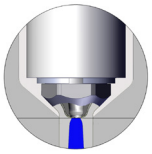
TTP Thermal Gate – Torpedo - Plunged Through

Tip Style		Description	Dt = Ø6 F = 0, 6, Mod		
			H = 0.8	H = 1.2	H = 1.6
	**TTP**	Standard Doc008996_RIS.png	✓	✓	✓

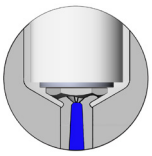
TTW Thermal Gate – Torpedo - Blind

Tip Style		Description	Dt = Ø9		
			H = 0.8	H = 1.2	H = 1.6
	**TTW**	Standard Doc009076_RIS.png	✓	✓	✓

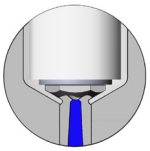
TNK Thermal Gate – Full Flow - Plunged Through

Tip Style		Description	Dt = Ø6 F = 0, 6, Mod		
			H = 0.8	H = 1.2	H = 1.6
	**TNK**	Standard Doc009077_RIS.png	✓	✓	✓

TTK Thermal Gate – Torpedo - K

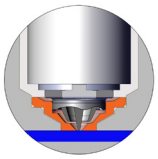
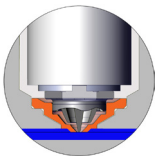
Tip Style		Description	Dt = Ø6 F = 6, Mod
			H=1.2 / Mod 1.2 - 2.0
	**TTK**	Standard (cold runner applications, semi crystalline materials) Doc009078_RIS.png	✓

TPK Thermal Gate – Full Flow - K

Tip Style		Description	Dt = Ø6 F = 6, Mod
			H=1.2 / Mod 1.2 - 2.0
	**TPK**	Standard (cold runner applications) Doc009079_RIS.png	✓

✓ Preferred (✓) Available ✗ Not Available

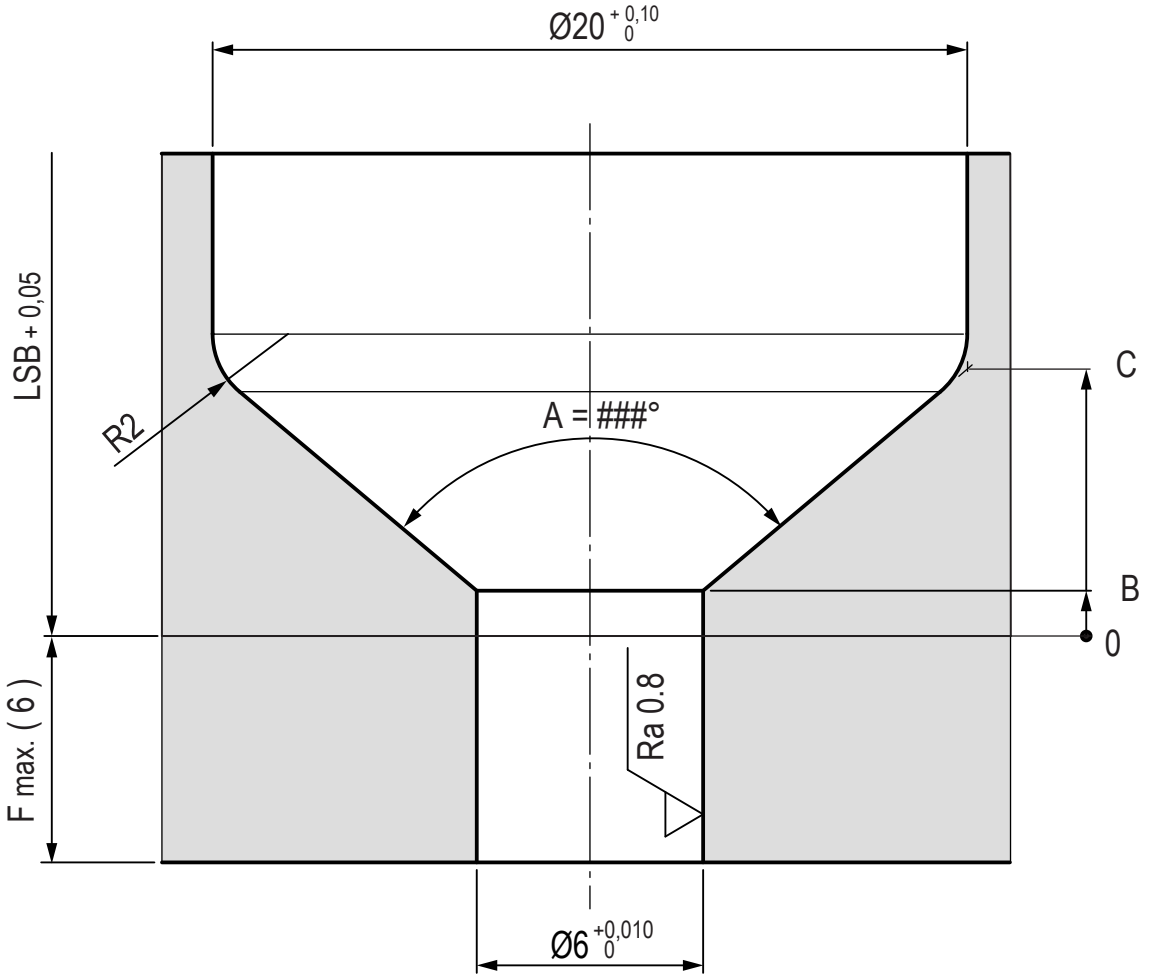
Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

Part		Description	F = 0, 6, Mod		
			H=0.8	H=1.2	H=1.6
	**WI-TTW**	Wear Insert (without Dimple) Doc009080_RIS.png	✓	✓	✓
			F = 0		
		Wear Insert (with Dimple) Doc009081_RIS.png	✓	✓	✓

✓ Preferred (✓) Available ✘ Not Available

Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
Dimensions for reference only. Reference system drawing for complete dimensions prior to machining gate detail in mold.

TTP, TNK, TTK, TPK- Nozzle tip cutout dimensions



	A	B	C
TTP	100°	1,2	7,1
TNK TTK TPK	120°	3,2	7,24

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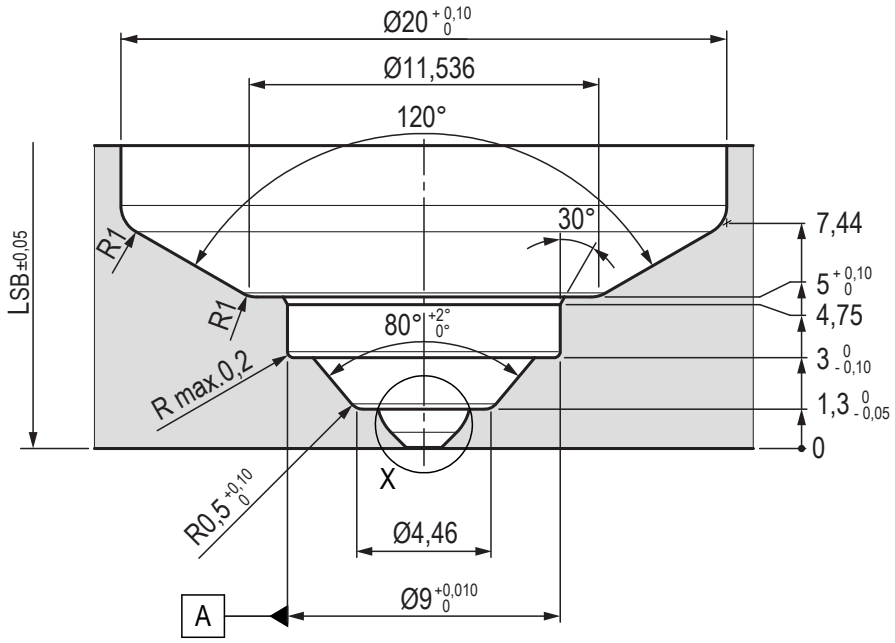
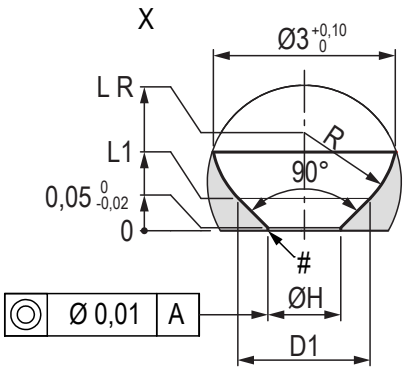
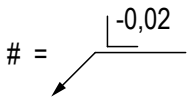
Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
Dimensions for reference only. Reference system drawing for complete dimensions prior to machining gate detail in mold.

TTW - Nozzle tip cutout dimensions







ØH	R	L1	D1	LR
0.8	1.65	0.81	2.33	1.98
1.2	1.53	0.53	2.17	1.62
1.6	1.5	0.31	2.12	1.37

1. At the area of the nozzle gate replaceable, hardened (52 +2/-1HRC) inserts are recommended by Synventive.
2. Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of Ra0,8

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Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
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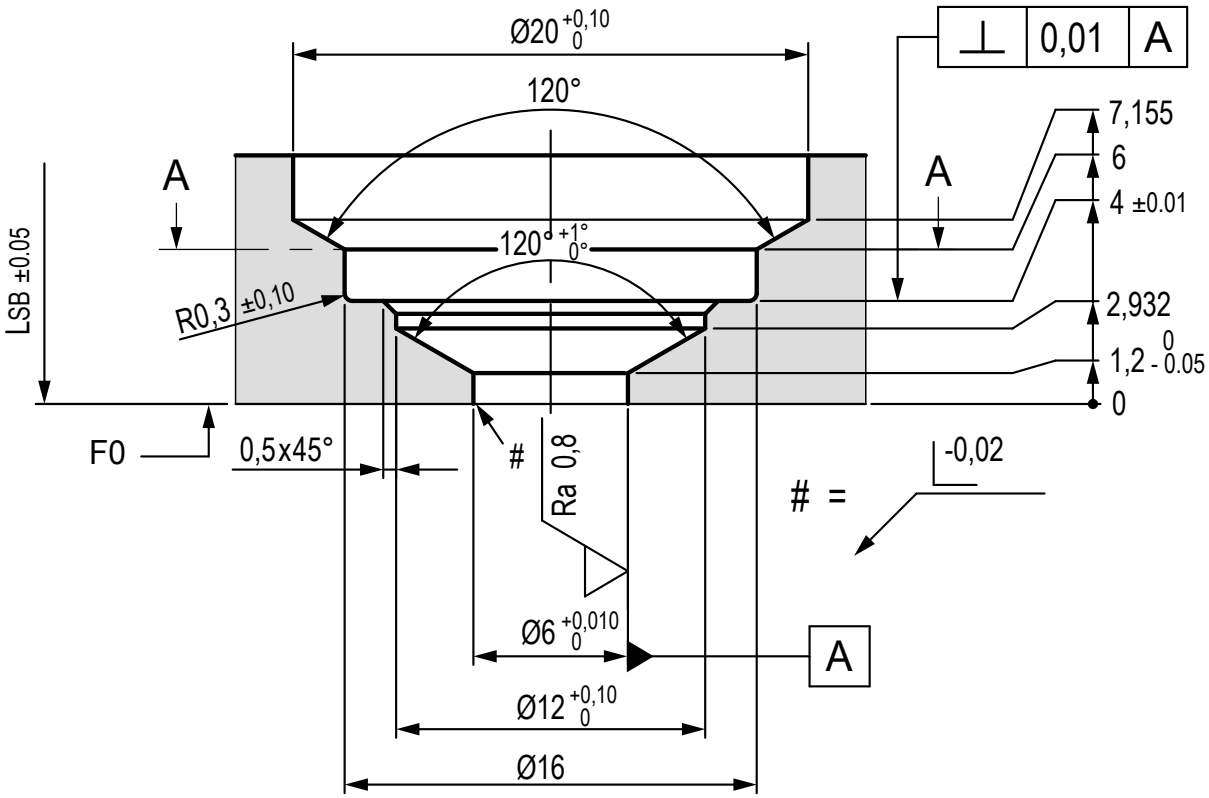
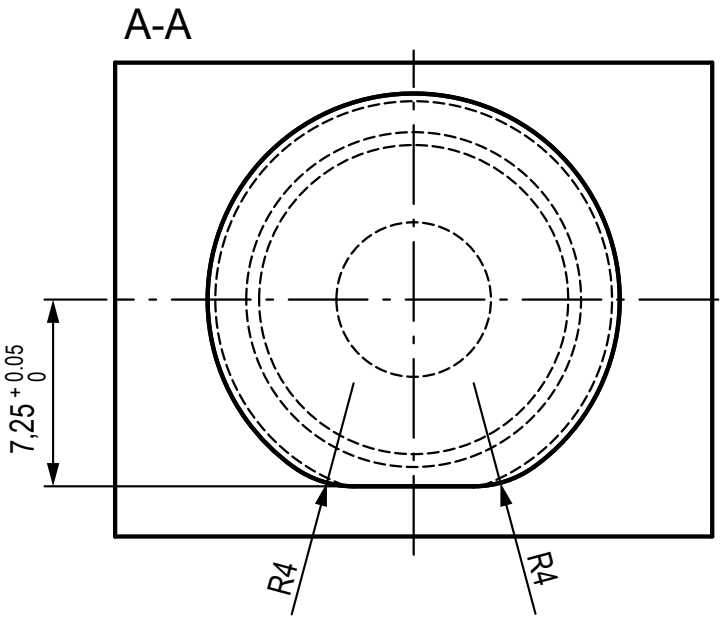
WI-TTW - Wear insert cutout dimensions





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