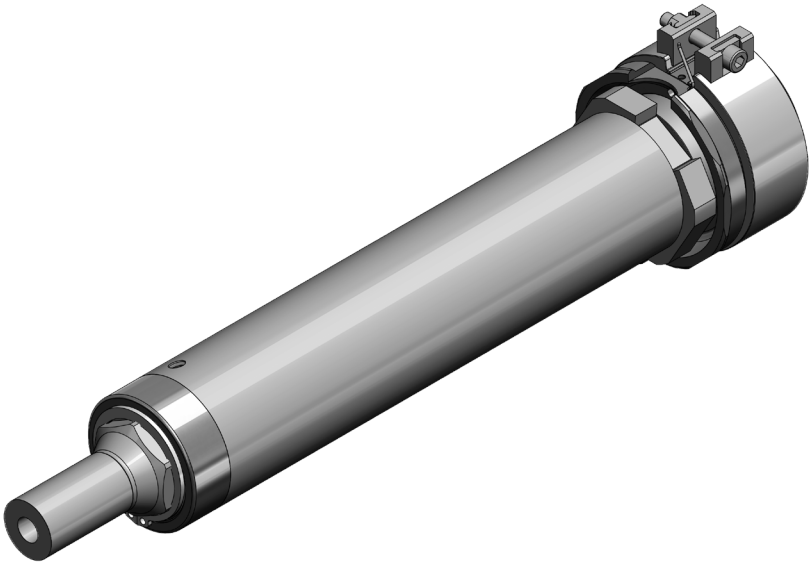
BARNES™
MOLDING SOLUTIONS

HOT RUNNER TECHNOLOGY

22S-06
Sprue Bushings
Product Catalog



Synventive molding solutions

CAT-01-0094_EN-Rev02 / 2024-04

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

Product Type

Hot runner nozzles in the 22 S range;

→ Nozzle size 22: Flow bore - Ø 22 mm

→ Nozzle style S: Sprue bushing

Different gate options can be implemented, see table on page 4.

Major Dimensions (mm)

J	Flow bore	Ø 22 [1]
Jib1	Flow bore inlet bushing	Ø 18
Lsb	Nozzle length	100...640
F	Tip Extension	see page 4
D	Cutout	Ø 55
Dt	Tip Ø	see page 4
H	Gate Orifice	see page 4
K	Head height	45
Dk	Head diameter	Ø 72
Ls	Depth of head centring	8
Ds	Diameter of head centering	Ø 72
R	Nozzle contact radius	0...40
AD	Nozzle contact angle	90°...120°

Application

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

→ 5000 (open, low viscosity)

Heating

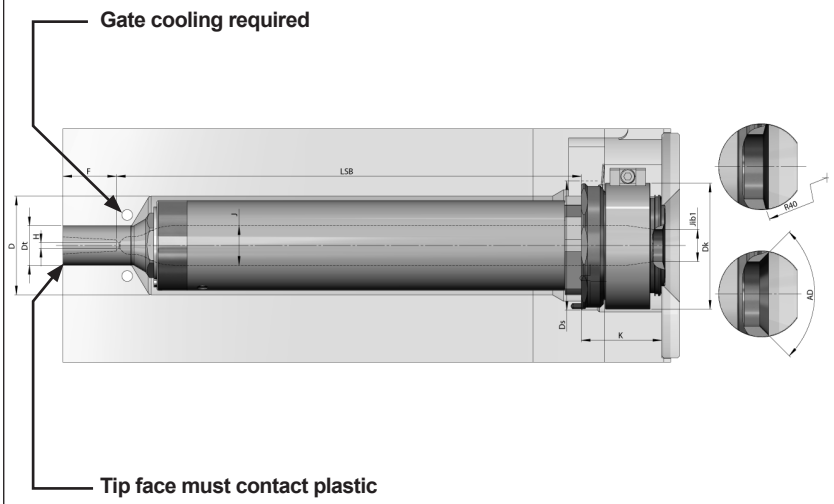
→ externally heated, 230 V AC

→ replaceable heater

→ Nozzle heater zones, 430...1680 W

→ Head heater, 800 W
Thermocouples, EN 60584
Fe-CuNi 0 = Typ J; NiCr-Ni = Typ K

[1] Standard flow bore value = Ø 22, consult Synventive for custom dimensions Ø 18, Ø 20.



LSB (mm)	Heater zone power [2] (Watt)		
	Power 1	Power 2	Power Head
090 ... < 115	430W	-	800W
115 ... < 140	460W	-	800W
140 ... < 165	490W	-	800W
165 ... < 190	520W	-	800W
190 ... < 215	550W	-	800W
215 ... < 240	580W	-	800W
240 ... < 265	430W	450W	800W
265 ... < 290	430W	500W	800W
290 ... < 315	430W	550W	800W
315 ... < 340	430W	600W	800W
340 ... < 365	430W	650W	800W
365 ... < 390	430W	700W	800W
390 ... < 415	430W	750W	800W
415 ... < 440	430W	800W	800W
440 ... < 465	430W	850W	800W
465 ... < 490	430W	900W	800W
490 ... < 515	430W	950W	800W
515 ... < 540	430W	1000W	800W
540 ... < 565	430W	1050W	800W
565 ... < 590	430W	1100W	800W
590 ... < 615	430W	1150W	800W
615 ... < 640	430W	1200W	800W
640 ... < 665	430W	1250W	800W

[2] The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head

22S-06

System Information / Cutout in Mold Plate for Nozzle and Connections

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

1. Cutout for the nozzle

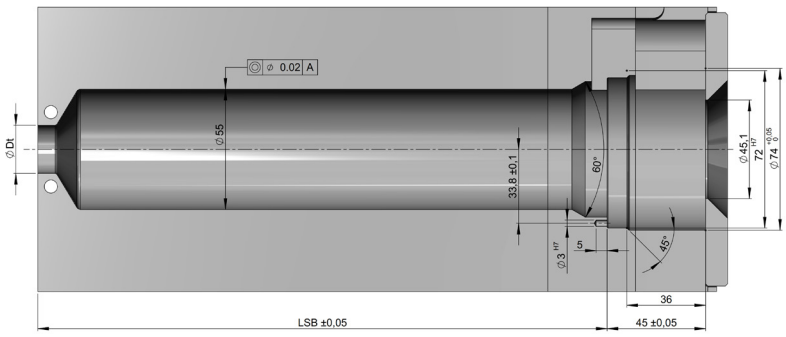
LSB Nozzle length

General tolerances: DIN ISO 2768-mK

Surfaces: Ra 3.2 (Ra 1.6 Ra 0.8)

Values of the dimension LSB can be found in the data sheet on page 2.

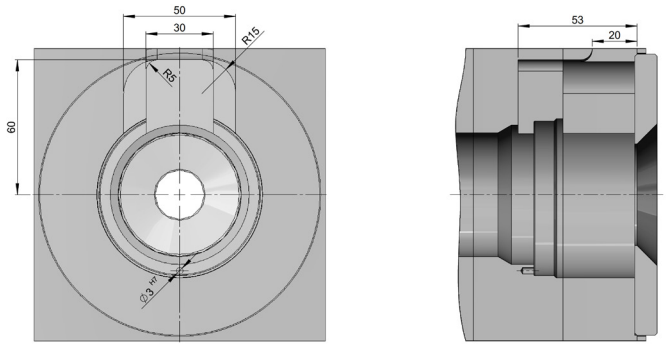
1



2. Cutout for connections

→ Electrical power
→ Thermocouple

2

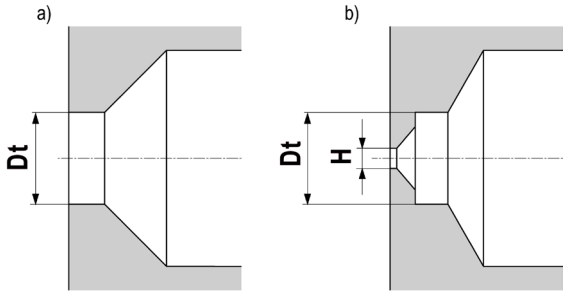


3. Cutout for the nozzle tip

a) Plunged Through nozzle tip (TFP, TTP)
b) Blind bore nozzle tip (TTW)
Dt Tip Ø
H Gate orifice Ø

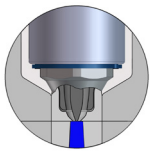
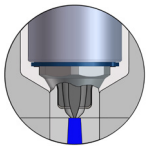
Depending on the selected nozzle type, different cutouts are required for the nozzle tip.

3

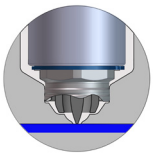


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

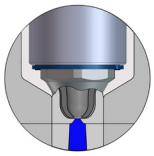
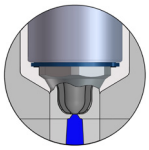
TTP Thermal Gate – Torpedo - Plunged Through

Tip Style		Description	Application range	Dt = 22 F = 0, 30, Mod			
				H=3.0	H=3.5	H=4.0	H=4.5
	**TTP**	Universal	for all common plastics	✓	✓	✓	✓
	**TTP-SC**	Seal cap	for color change	✓	✓	✓	✓

TTW Thermal Gate – Torpedo - Blind

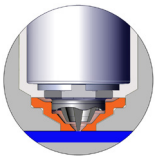
Tip Style		Description	Application range	Dt = 28			
				H=3.0	H=3.5	H=4.0	H=4.5
	**TTW**	Universal	for all common plastics	✓	✓	✓	✓
	**TTW-SC**	Seal cap	for color change	✓	✓	✓	✓

TFP Thermal Gate – Full Flow - Plunged Through

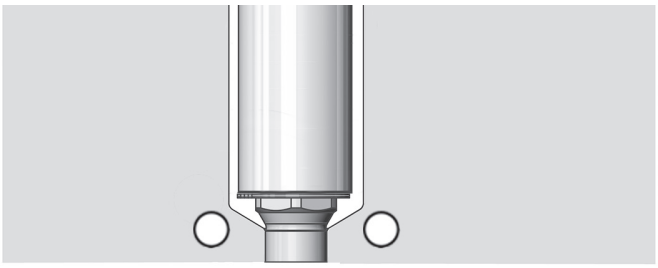
Tip Style		Description	Application range	Dt = 22 F = 0, 30, Mod			
				H=2.5	H=3.0	H=3.5	H=4.0
	**TFP**	Universal	for all common plastics	✓	✓	✓	✓
	**TFP-SC**	Seal cap	for color change	✓	✓	✓	✓

✓ Preferred (✓) Available ✗ Not Available

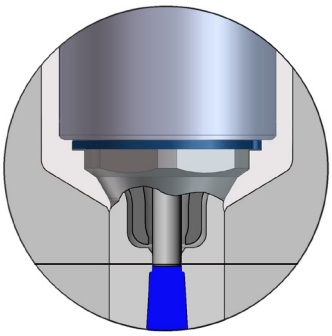
Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

Part		Description	F = 0, 30, Mod			
			H=3.0	H=3.5	H=4.0	H=4.5
	**WI-TTW**	Wear Insert (without Dimple)	✓	✓	✓	✓

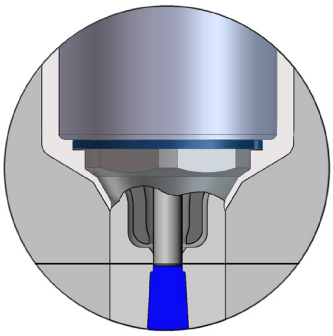
Reduced Cutout



Mold strengths



Standard cutout

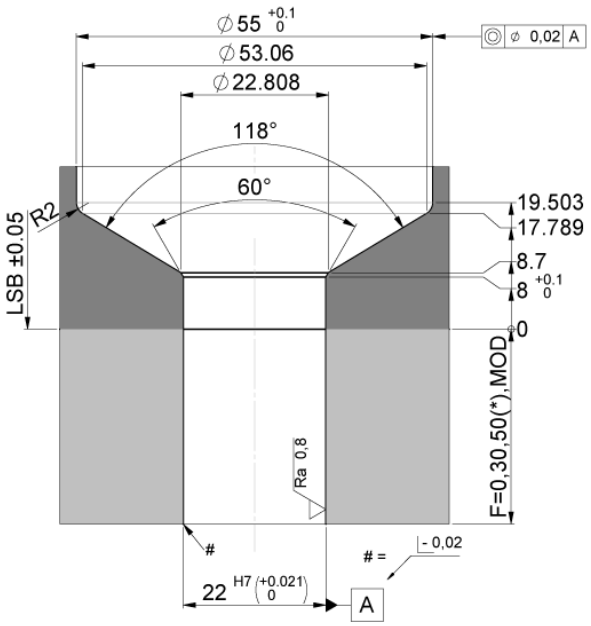


Reduced cutout

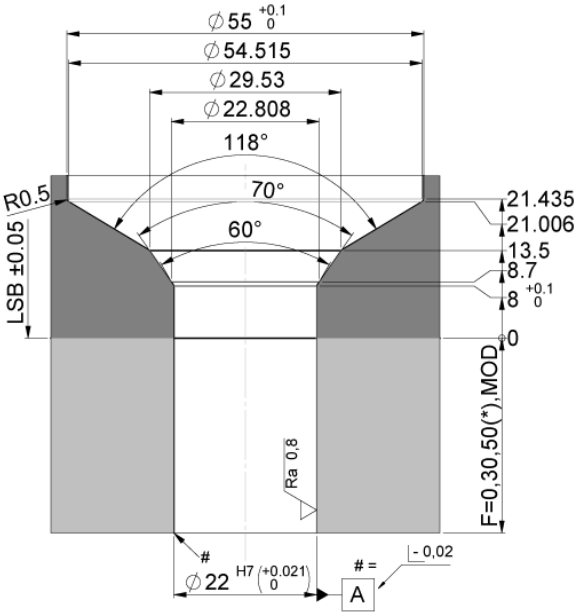
✓ Preferred (✓) Available ✘ Not Available

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, TFP- Nozzle tip cutout dimensions



(*): F=50 is only for VSP



(*): F=50 is only for VSP

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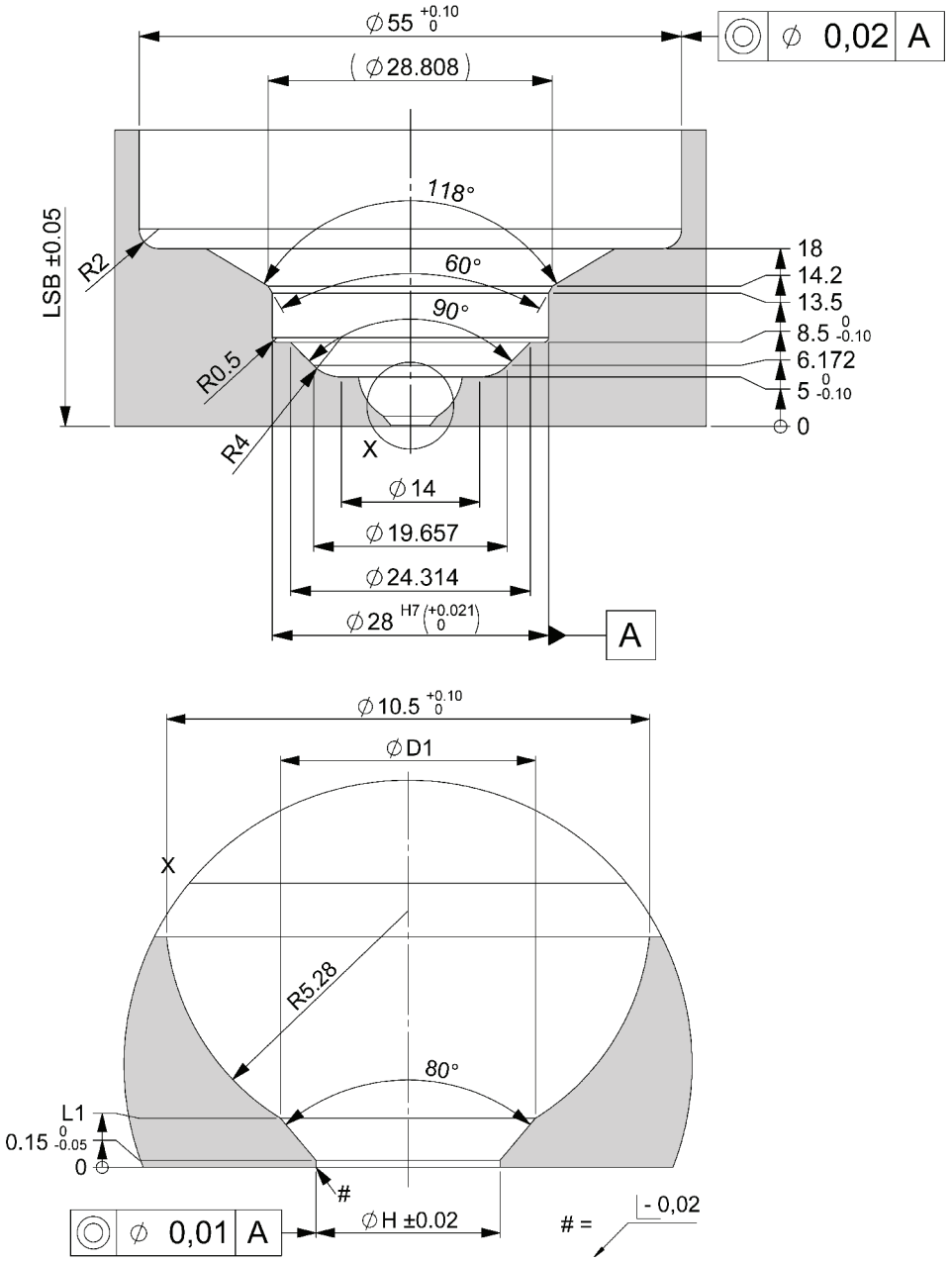
TTW - Nozzle tip cutout dimensions



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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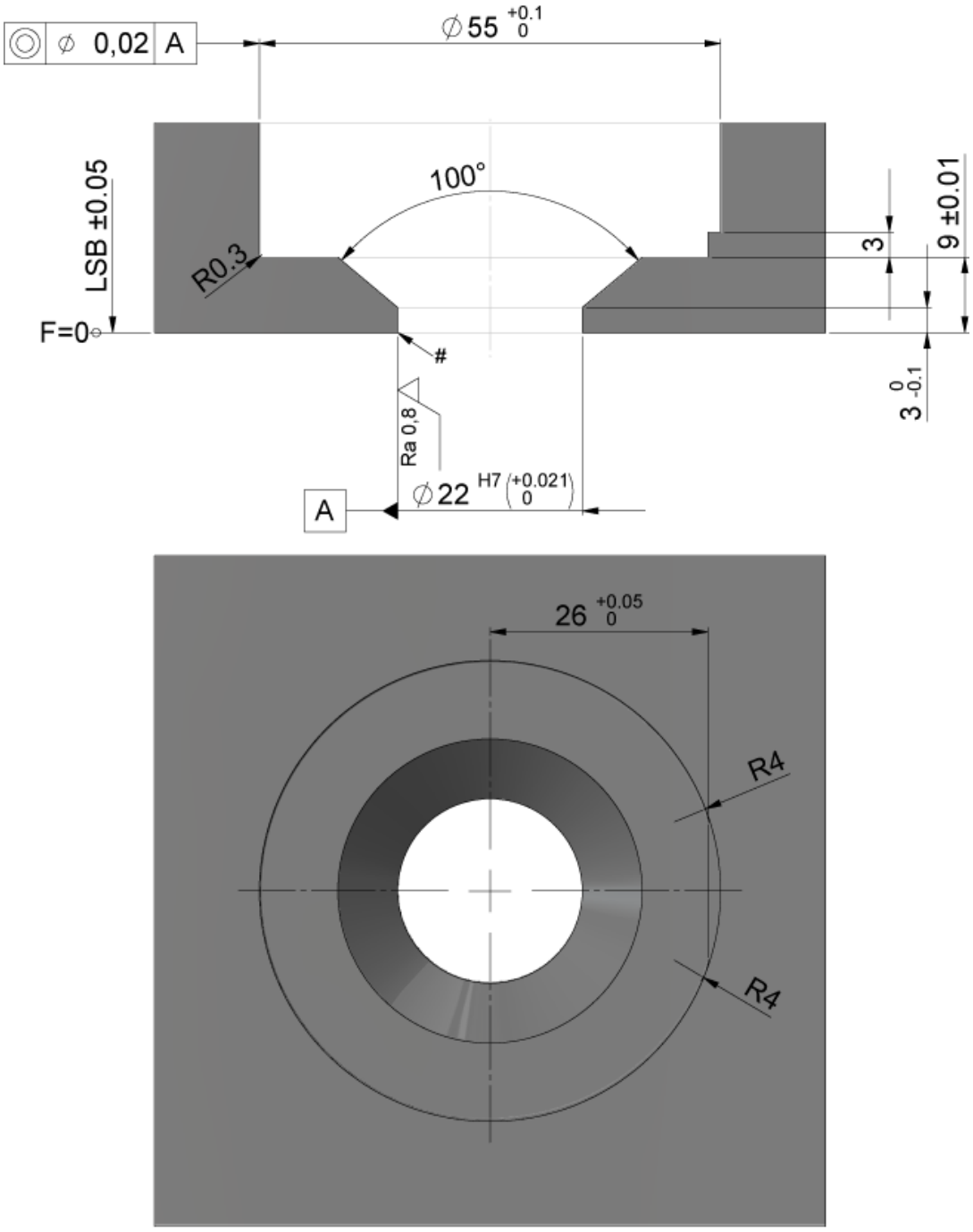
WI-TTW - Wear insert cutout dimensions



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