

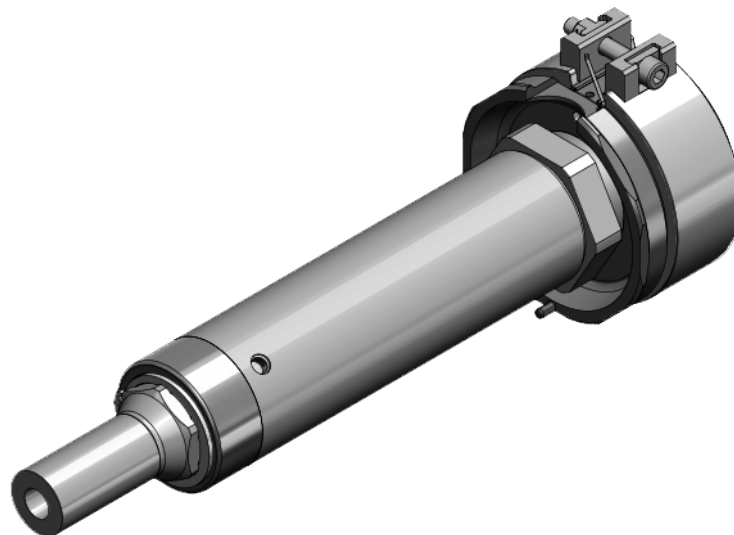


BARNES™
MOLDING SOLUTIONS

HOT RUNNER TECHNOLOGY

16S-06 Sprue Bushings

Product Catalog





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

Product Type

Hot runner nozzles in the 16 S range;

→ Nozzle size 16: Flow bore - Ø 16 mm

→ Nozzle style S: Sprue bushing

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

Major Dimensions (mm)

J	Flow bore	Ø 16 ¹⁾
Jib1	Flow bore inlet bushing	Ø 12
LSB	Nozzle length	80-650
F	Tip Extension	see page 4
D	Cutout	Ø 45
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 centering	8
Ds	Diameter of head centering	Ø 72
R	Nozzle contact radius	0...40
AD	Nozzle contact angle	90°...120°

Application

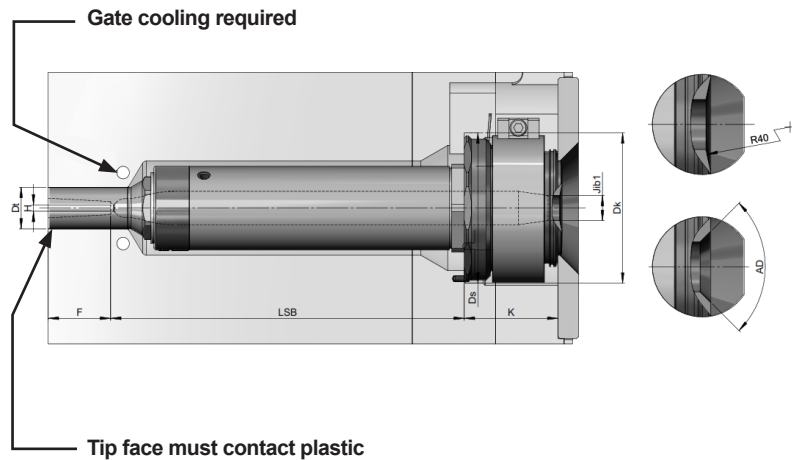
For all usual thermoplastics max. shot weight per nozzle (g):

→ 2500 (open, low viscosity)

Heating

- externally heated, 230 V AC
- replaceable heater
- Nozzle heater zones, 285...1445 W
- Head heater, 800 W
- Thermocouples, EN 60584
- Fe-CuNi 0 = Typ J;
- NiCr-Ni = Typ K

¹⁾ Standard flow bore value = Ø 16, consult Synventive for custom dimensions Ø 14.



LSB (mm)	Heater zone power ²⁾ (Watt)		
	Power 1	Power 2	Power Head
80 - <100	285 W		800 W
100 - <125	305 W		800 W
125 - <150	380 W		800 W
150 - <175	395 W		800 W
175 - <200	410 W		800 W
200 - <225	430 W		800 W
225 - <250	450 W		800 W
250 - <275	285 W	450 W	800 W
275 - <300	285 W	500 W	800 W
300 - <325	285 W	545 W	800 W
325 - <350	285 W	595 W	800 W
350 - <375	285 W	640 W	800 W
375 - <400	285 W	685 W	800 W
400 - <425	285 W	735 W	800 W
425 - <450	285 W	780 W	800 W
450 - <475	285 W	830 W	800 W
475 - <500	285 W	875 W	800 W
500 - <525	285 W	925 W	800 W
525 - <550	285 W	970 W	800 W
550 - <575	285 W	1020 W	800 W
575 - <600	285 W	1065 W	800 W
600 - <625	285 W	1115 W	800 W
625 - <650	285 W	1160 W	800 W

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



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

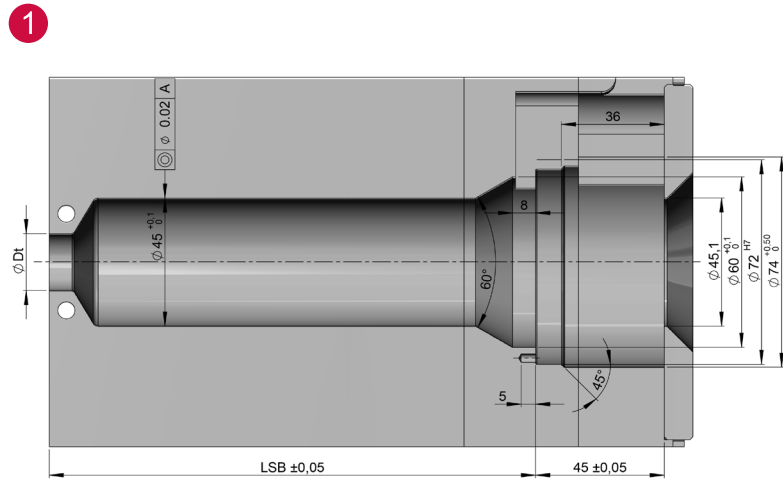
1. Cutout for the nozzle

LSB Nozzle length

General tolerances: DIN ISO 2768-mK

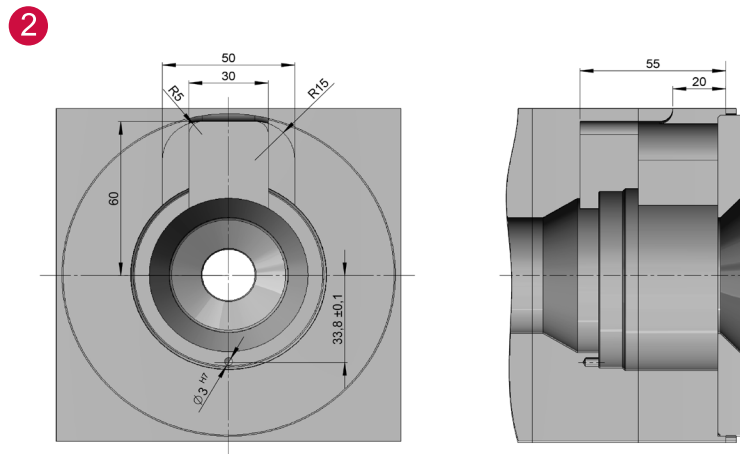
Surfaces: $\sqrt{Ra\ 3.2}$ ($\sqrt{Ra\ 1.6}$ $\sqrt{Ra\ 0.8}$)

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



2. Cutout for connections

- Electrical power
- Thermocouple



3. Cutout for the nozzle tip

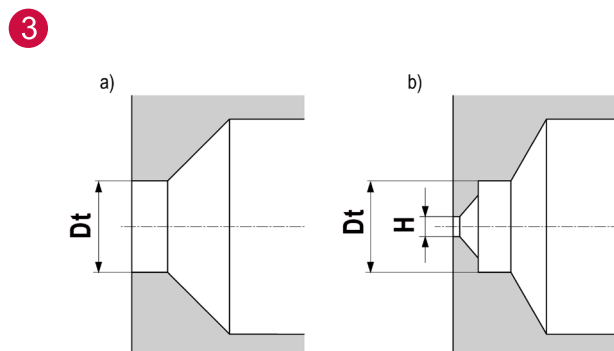
a) Plunged Through nozzle tip (TFP, TTP)

b) Blind bore nozzle tip (TTW)

Dt Tip Ø

H Gate orifice Ø

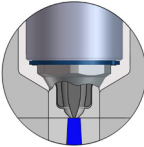
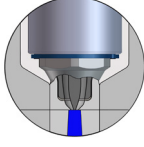
Depending on the selected nozzle type, different cutouts are required for the nozzle tip.



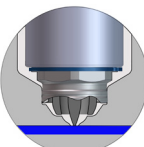
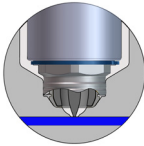


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

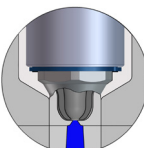
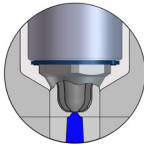
TTP Thermal Gate – Torpedo - Plunged Through

Tip Style		Description	Application range	Dt = 20 F = 0, 30, Mod			
				H=2.5	H=3.0	H=3.5	H=4.0
	TTP	Universal	for all common plastics	✓	✓	✓	✓
	TTP-SC	Seal cap	for color change	✓	✓	✓	✓

TTW Thermal Gate – Torpedo - Blind

Tip Style		Description	Application range	Dt = 22			
				H=2.5	H=3.0	H=3.5	H=4.0
	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 = 20 F = 0, 30, Mod			
				H=2.0	H=2.5	H=3.0	H=3.5
	TFP	Universal	for all common plastics	✓	✓	✓	✓
	TFP-SC	Seal cap	for color change	✓	✓	✓	✓

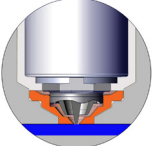
✓ Preferred

(✓) 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=2.5	H=3.0	H=3.5	H=4.0
	WI-TTW	Wear Insert	✓	✓	✓	✓



Preferred



Available

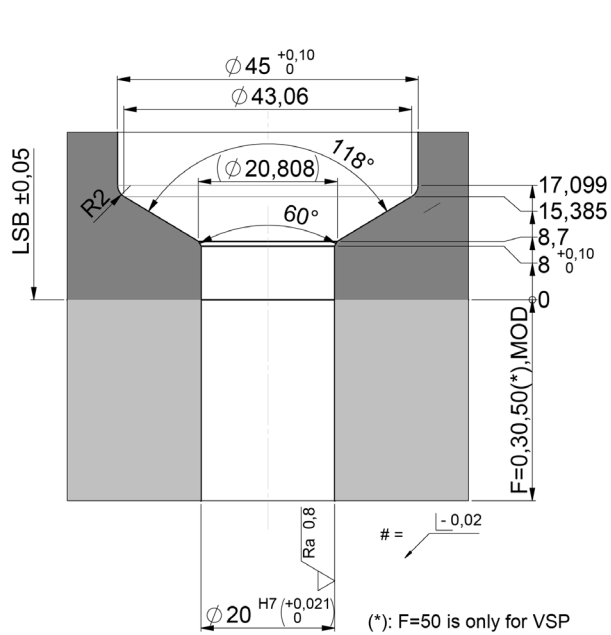


Not Available

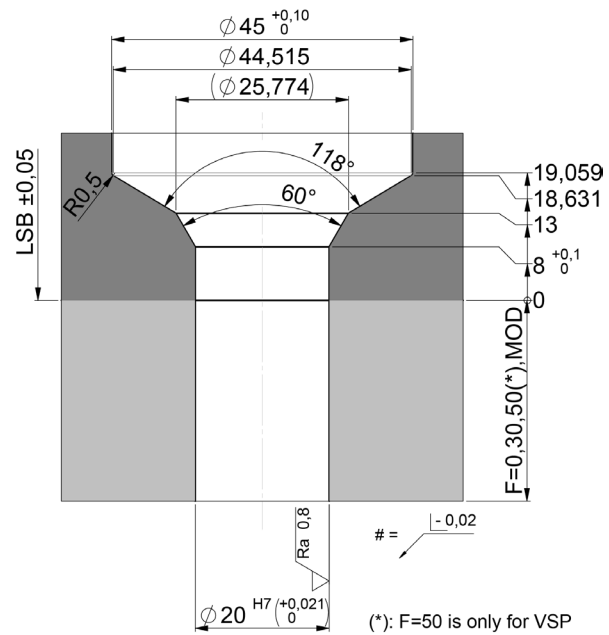


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
Dimensions for reference only. Reference system drawing for complete dimensions prior to machining gate detail in mold.

TTP, TFP- Nozzle tip cutout dimensions



Standard Cutout

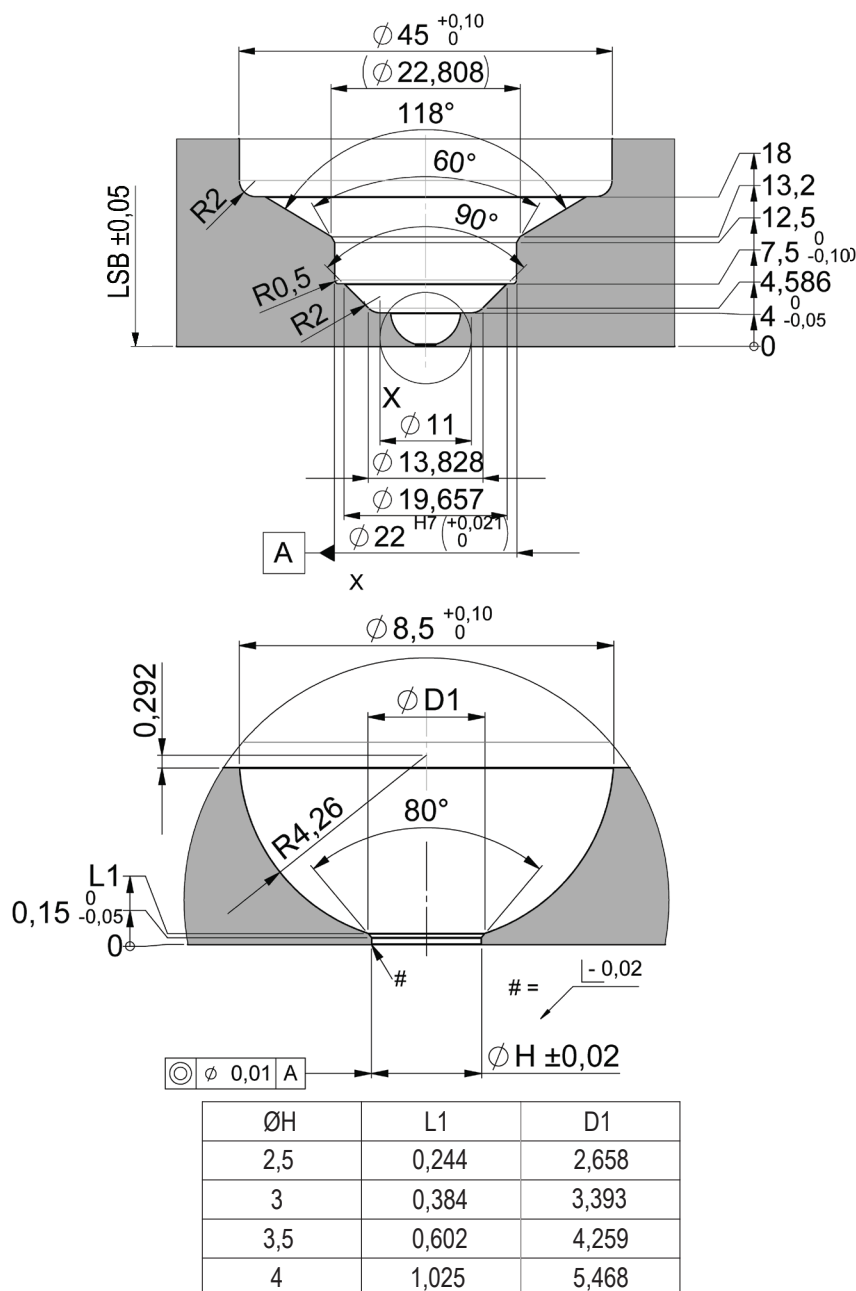


Reduced Cutout



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

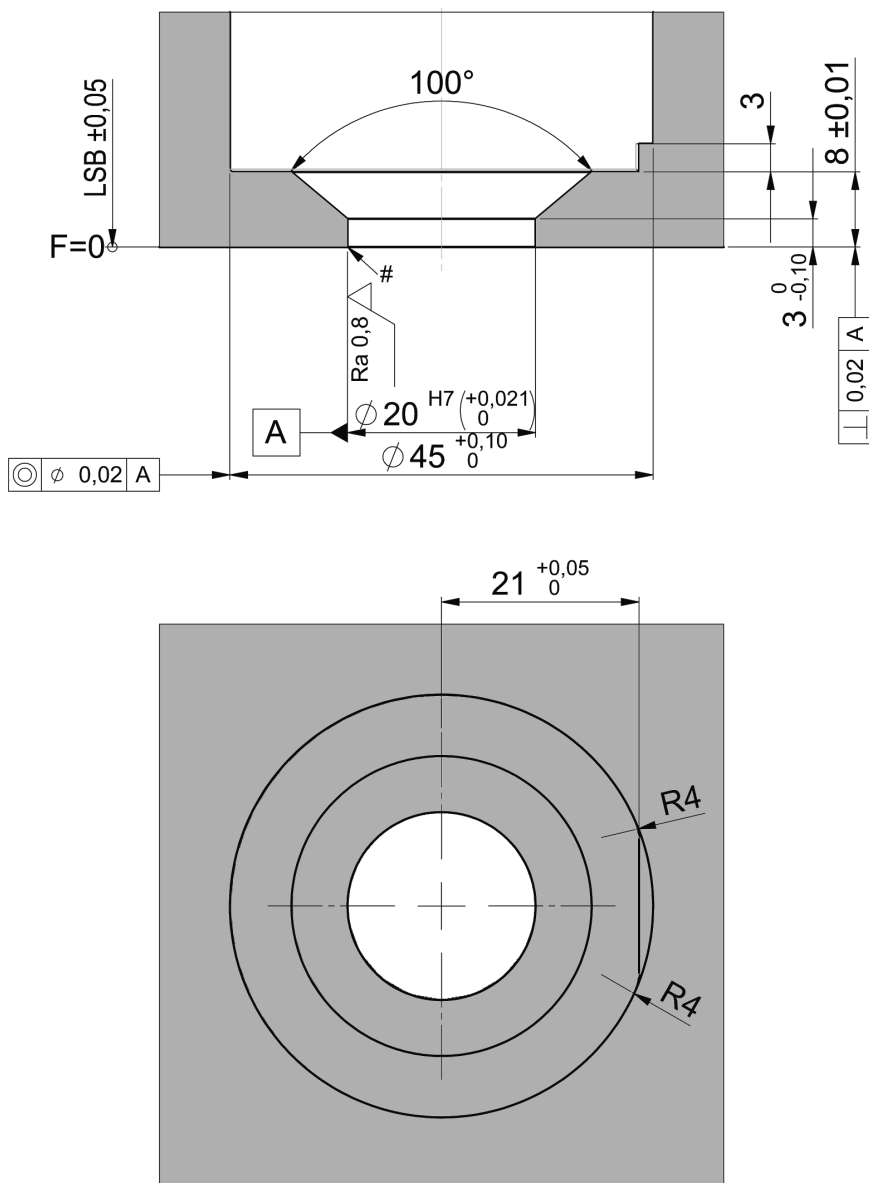


1. At the area of the nozzle gate replaceable, hardened (52 +2/-1HRC) inserts are recommended by Synventive.
2. Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of $\sqrt{Ra0,8}$



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.

WI-TTW - Wear insert cutout dimensions





BARNES™
MOLDING SOLUTIONS



Barnes Molding Solutions is the expert cluster for molds, hot runners, and controls for industrial plastic injection molding. Our brands Foboha, Männer, Synventive, Thermoplay, Priamus and Gammaflux are leaders in their field. We have a comprehensive and in-depth understanding of the automotive, medical, packaging and electronics industries. We support our customers with sophisticated high-performance technologies through to customized turnkey solutions.



barnesmoldingsolutions.com

Synventive®
molding solutions

THERMOPLAY®
HotRunnerSystems

männer®
SOLUTIONS FOR PLASTICS

FOBOHA®

PRIAMUS®

Gammaflux®