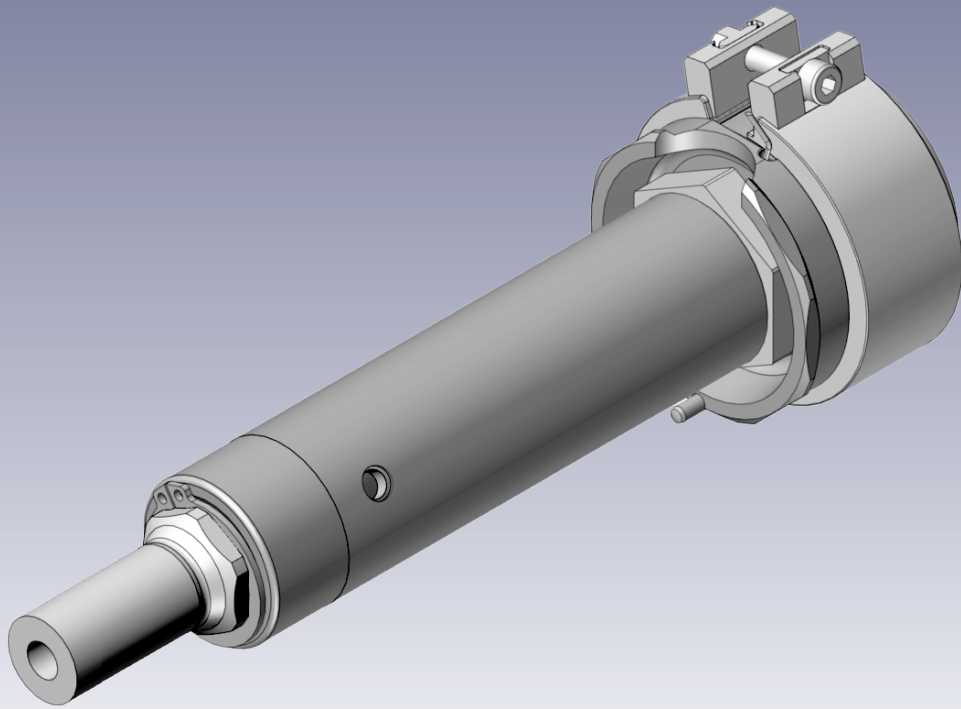


12S-06 Product Catalog

S p r u e B u s h i n g s



Stabilize your Process _____



12S-06 Sprue Bushing, open

Product Description

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

Product Type

Hot runner nozzles in the 12 S range;
 → Nozzle size 12: Flow bore - Ø 12 mm
 → Nozzle style S: Sprue bushing

Different gate options can be implemented.

Major Dimensions (mm)

J	Flow bore	Ø 12 ¹⁾
Jib1	Flow bore inlet bushing	Standard Ø 10
Lsb	Nozzle length	50...640 ²⁾ see page 4 and 5
F	Tip extension	see page 4 and 5
D	Cutout	Ø 35
Dt	Tip Ø	see page 4 and 5
H	Gate orifice	see page 4 and 5
K	Head height	40
Dk	Head diameter	Ø 55
Ds	Diameter of head centering	Ø 52
R	Nozzle contact radius	0...40
AD	Nozzle contact angle	90°...120°

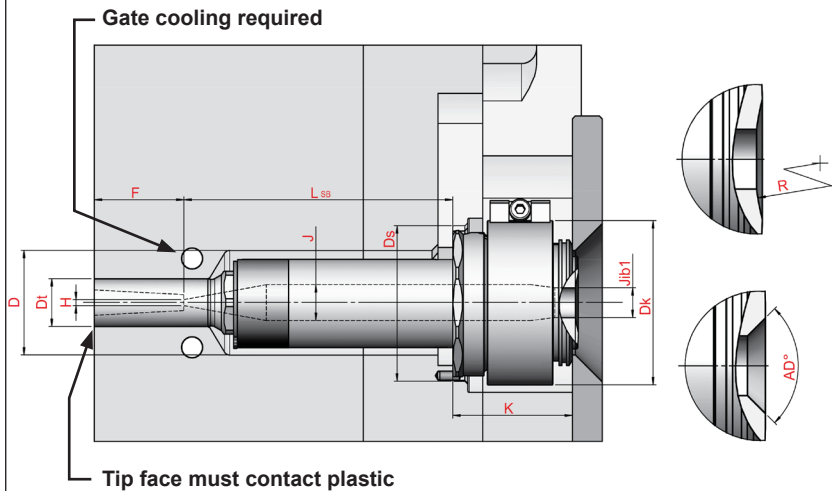
Application

For all usual thermoplastics Max. shot weight per nozzle (g):
 → 1500 (open, low viscosity)

Heating

→ externally heated, 230 V AC
 → replaceable heater & thermocouple
 → Nozzle heater zones, 195...1200 W
 → Head heater, 630 W
 Thermocouples, EN 60584
 Fe-CuNi 0 = Typ J; NiCr-Ni = Typ K

¹⁾ Standard flow bore value = Ø 12
 consult Synventive for custom dimensions Ø 8, Ø 10
²⁾ Standard lengths shown, consult Synventive for custom lengths.



LSB (mm)	Heater zone power ¹⁾ (Watt)		Head Power (Watt)
	Power 1	Power 2	
50	195W		630W
70	215W		630W
90	230W		630W
115	250W		630W
140	270W		630W
165	290W		630W
190	215W	265W	630W
215	215W	305W	630W
240	215W	345W	630W
265	215W	385W	630W
290	215W	425W	630W
315	215W	465W	630W
340	215W	505W	630W
365	215W	545W	630W
390	215W	585W	630W
415	215W	625W	630W
440	215W	665W	630W
465	215W	705W	630W
490	215W	745W	630W
515	215W	785W	630W
540	215W	825W	630W
565	215W	865W	630W
590	215W	905W	630W
615	215W	945W	630W
640	215W	985W	630W

¹⁾ The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head



Cutout in Mold Plate for Nozzle and Connections

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

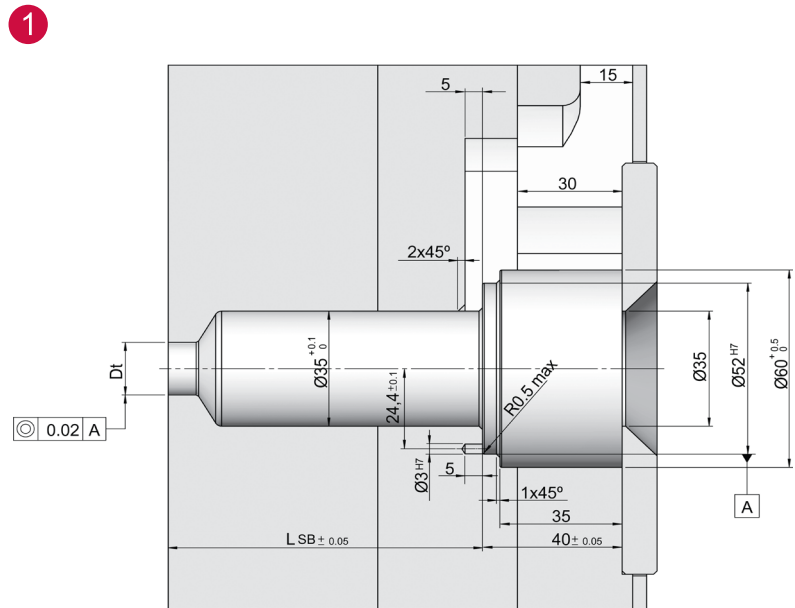
1. Cutout for the nozzle

L_{SB} Nozzle length

General tolerances: DIN ISO 2768-mK

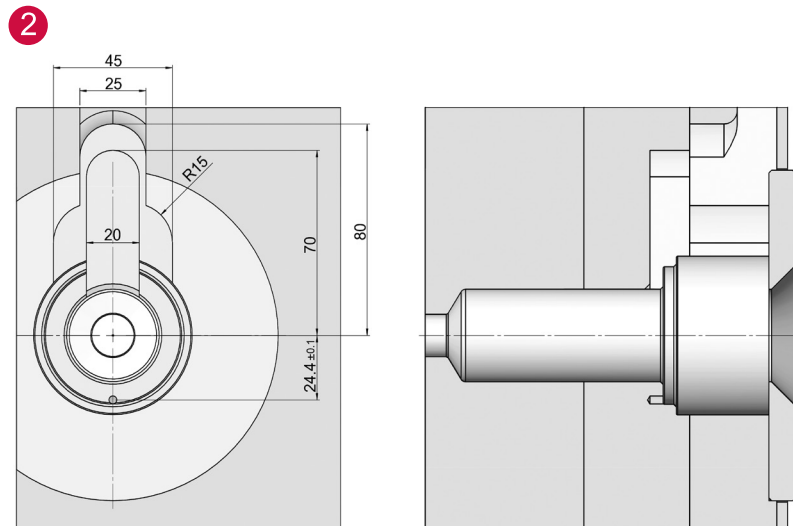
Surfaces: $\sqrt{Ra\ 3.2}$ ($\sqrt{Ra\ 1.6}$ $\sqrt{Ra\ 0.8}$)

Values of the dimension L_{SB} can be found in the data sheet on page 2.



2. Cutout for connections

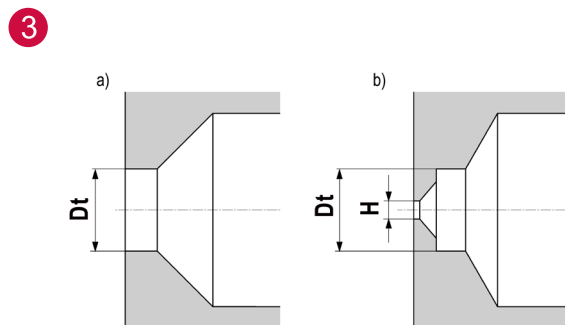
- Electrical power
- Thermocouple



3. Cutout for the nozzle tip

- a) Plunged through nozzle tip (TFP, TTP)
 - b) Blind bore nozzle tip (TTW)
- D_t** Tip Ø
H Gate orifice Ø

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

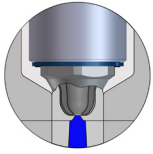
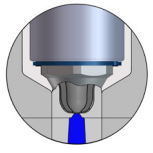




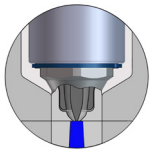
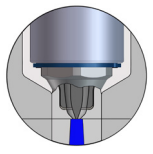
Nozzle Tip Styles

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

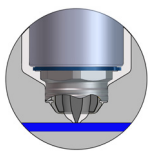
TFP Thermal Gate – Full Flow - Plunged Through

Tip Style		Description	Dt = Ø16 F = 0, 30, Mod			
			H=1.5	H=2.0	H=2.5	H=3.0
	TFP	Standard	✓	✓	✓	✓
	TFP-SC	Color Seal	✓	✓	✓	✓

TTP Thermal Gate – Torpedo - Plunged Through

Tip Style		Description	Dt = Ø16 F = 0, 30, Mod			
			H=2.0	H=2.5	H=3.0	H=3.5
	TTP	Standard	✓	✓	✓	✓
	TTP-SC	Color Seal	✓	✓	✓	✓

TTW Thermal Gate – Torpedo - Blind

Tip Style		Description	Dt = Ø20			
			H=2.0	H=2.5	H=3.0	H=3.5
	TTW	Standard	✓	✓	✓	✓
	TTW-SC	Color Seal	✓	✓	✓	✓

✓ Preferred (✓) Available ✗ Not Available



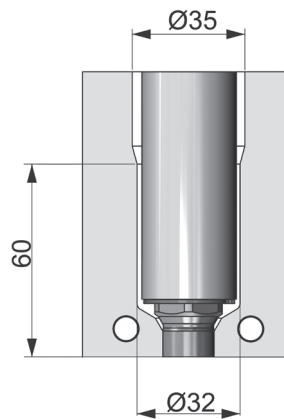
Wear Inserts

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

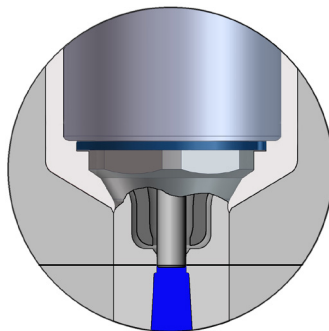
Wear Insert

Part	Description	F = 0, 30, Mod			
		H=2.0	H=2.5	H=3.0	H=3.5
	WI-TTW Wear Insert	✓	✓	✓	✓

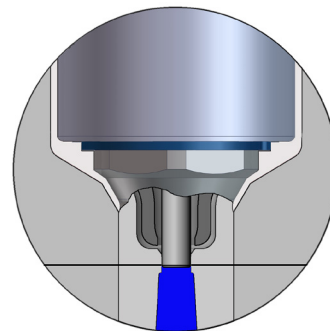
Reduced Cutout



Mold strength



Standard cutout



Reduced cutout

✓ Preferred

(✓) Available

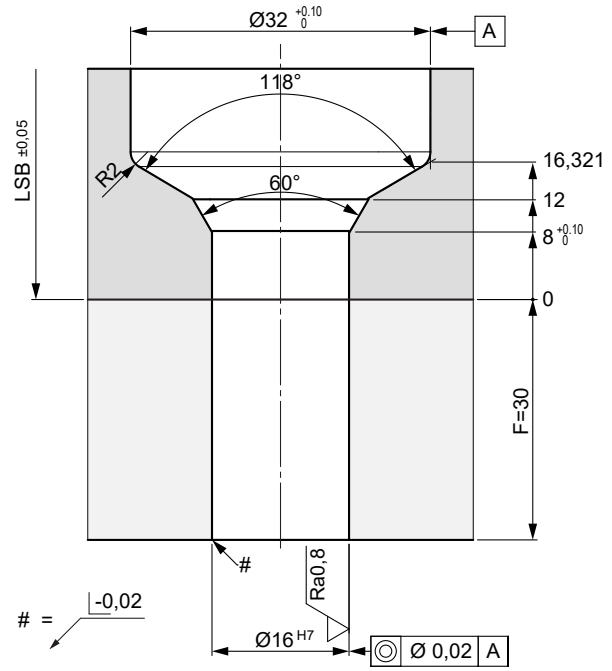
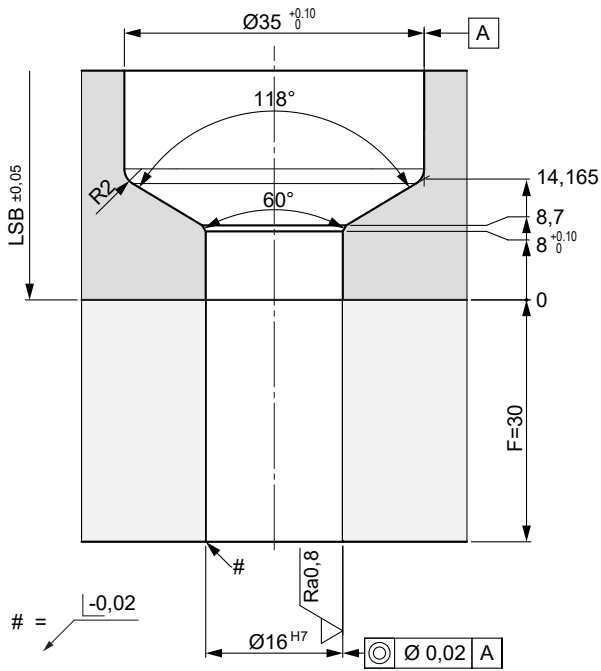
✗ Not Available



Nozzle Tip Cutout Dimensions

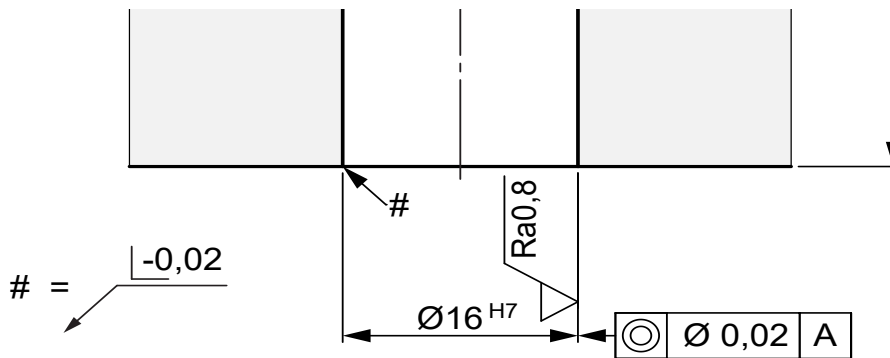
Illustrations simplified, schematically drawn and not to scale. All dimensions in mm. Dimensions for reference only. Reference system drawing for complete dimensions prior to machining gate detail in mold.

TTP, TFP- Nozzle tip cutout dimensions



Standard Cutout

Reduced Cutout

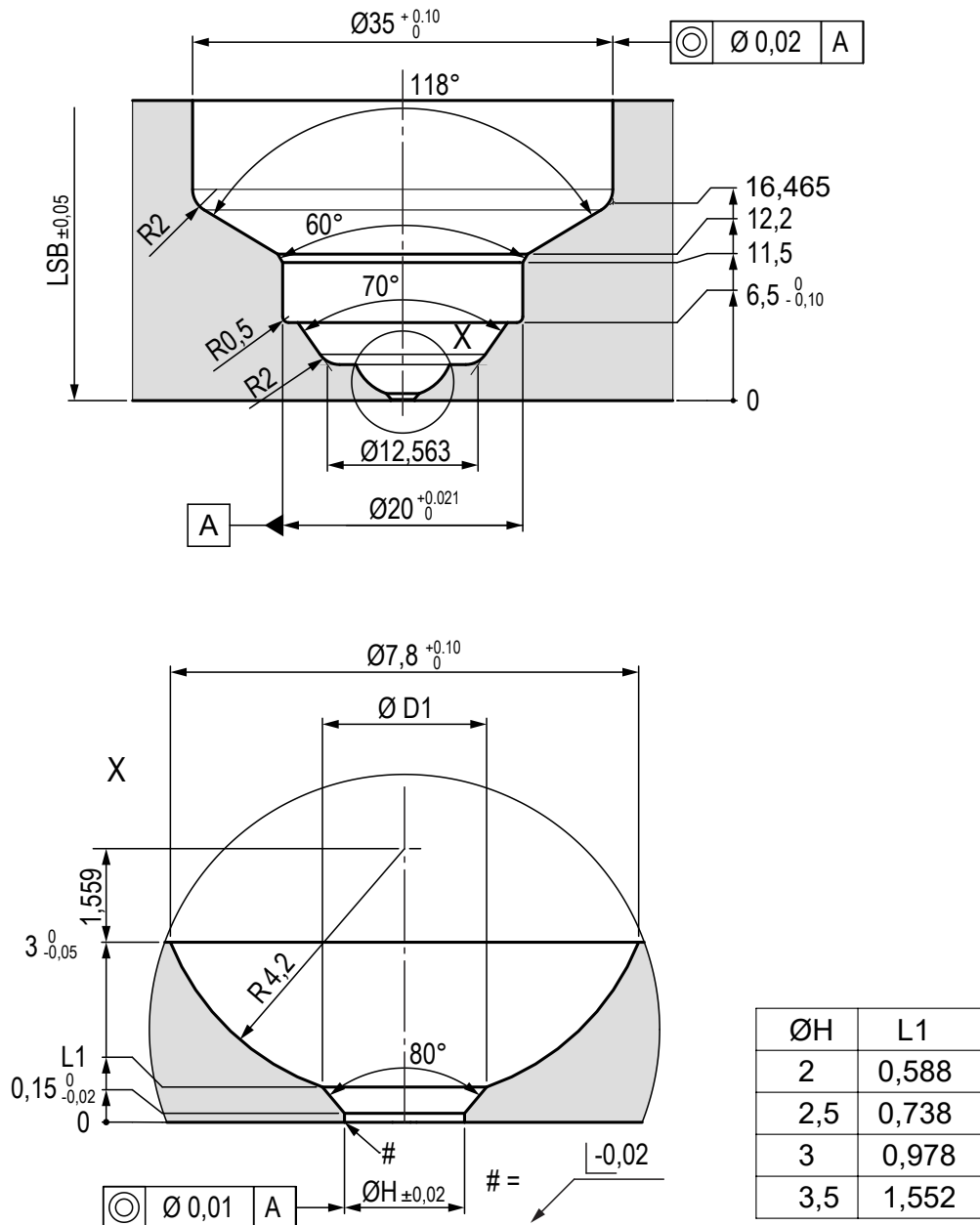




Nozzle Tip Cutout Dimensions

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



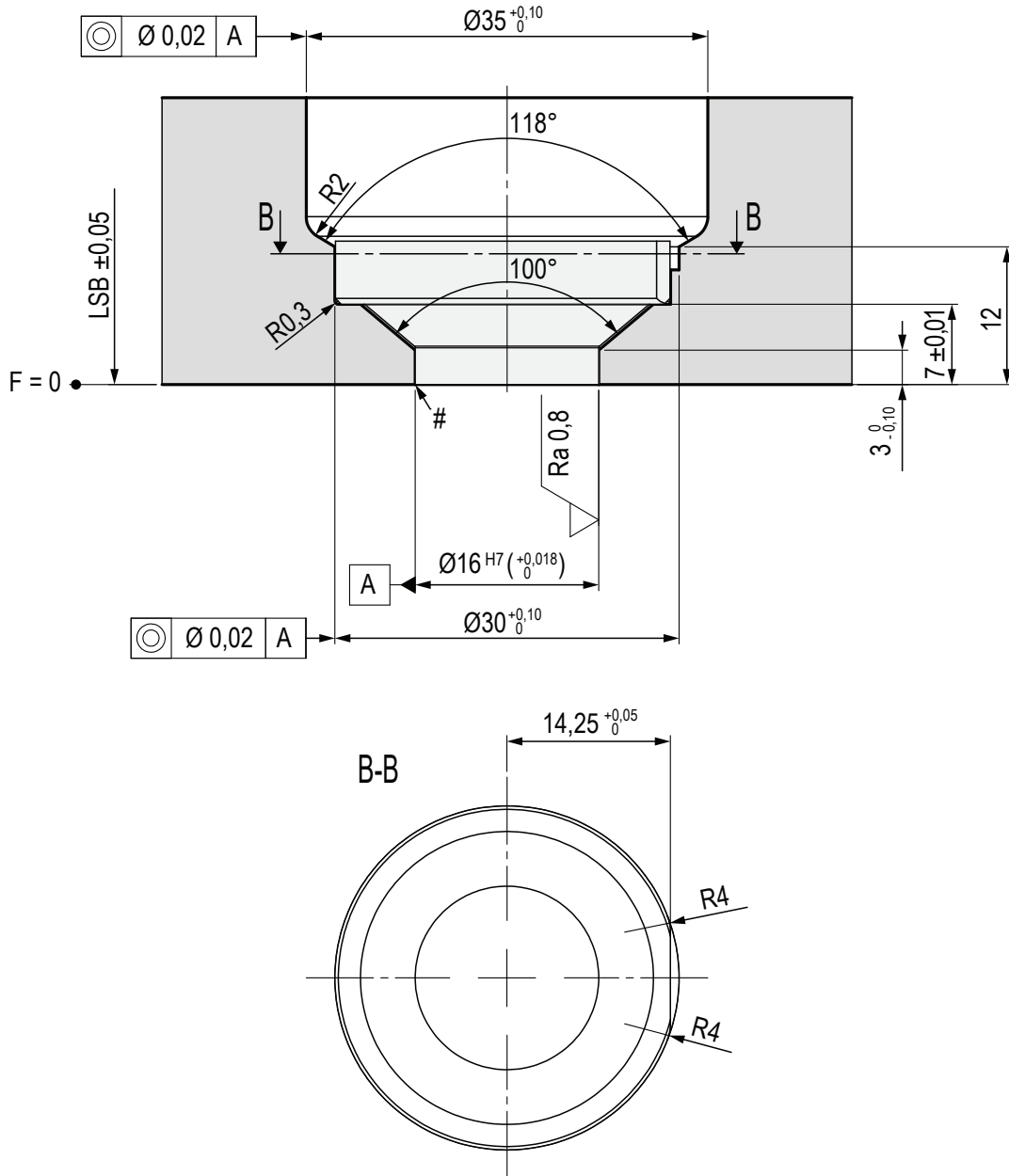
1. At the area of the nozzle gate replaceable, hardened (52 +2/-1HRC) inserts are recommended by Synventive.
2. Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of $\sqrt{Ra} 0,8$



Wear Insert Cutout Dimensions

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



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