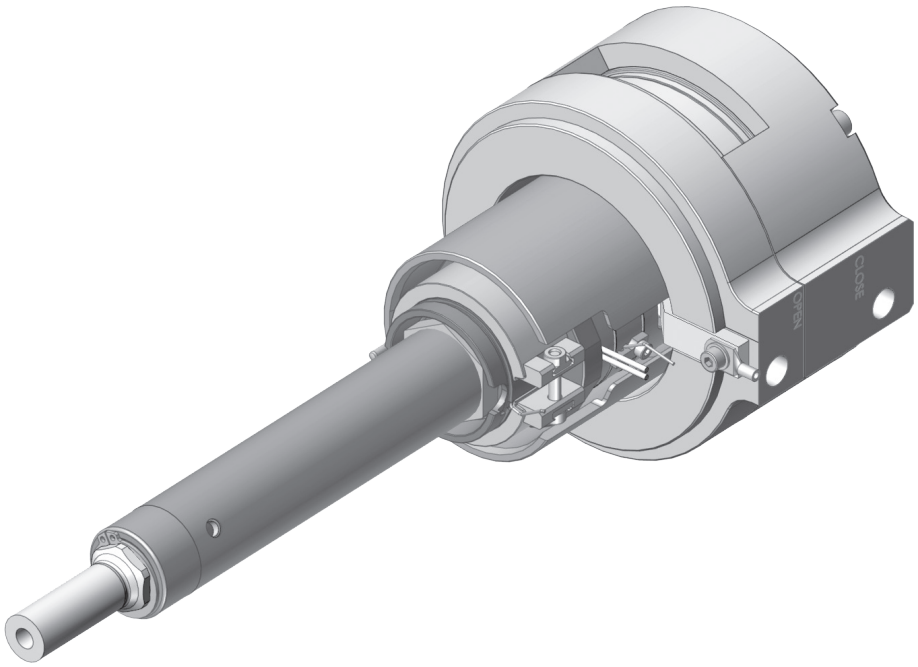
BARNES™
MOLDING SOLUTIONS

HOT RUNNER TECHNOLOGY

12SVP-06 Single Axis Valve Gate Nozzles

Product Catalog



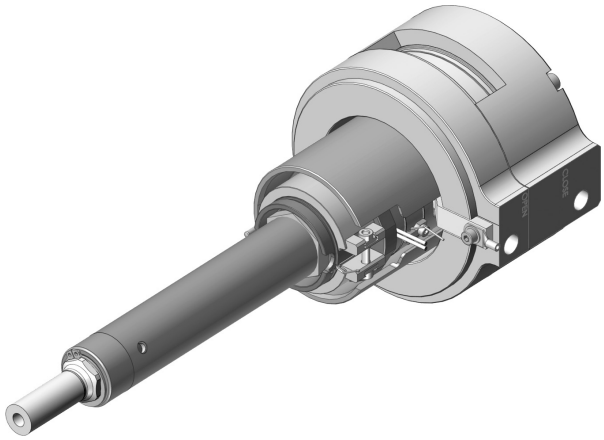
Synventive molding solutions

CAT-01-0089_EN-Rev04 / 2024-04

12SVP-06

System Information / Product Description / Technical Data

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



Valve Pin Operation	
Operation medium	pneumatic
Pressure range	5 - 10 bar (72.5 - 145 psi)
Flowrate	5.4 l/min / 5 bar (72.5 psi)
Reaction time	~1.2 s
Valve pin stroke	13 mm
Adjustment	± 1.5 mm Via adjustment threads from outside.
Closing force	2081 N / 6 bar (87 psi)
Opening force	2081 N / 6 bar (87 psi)
Connection	M12x1.5 (8-L)
Valve pin	
Valve pin diameter	Ø 6 mm
Attachment	Quick coupling, anti-rotation
Cooling	Without being directly cooled the single axis valve gate nozzles 12SVP-06 can be used up to a mold temperature of 80 °C (176 °F).
Heating Power	The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head.
Externally heated, 230 V AC	
Zone 1 (From a nozzle length of 50 mm)	195 - 290 Watt
Zone 1 plus 2 (From a nozzle length of 190 mm)	480 - 800 Watt
Head	630 plus 650 Watt
Thermocouple	
EN 60584 Fe-CuNi 0 = Typ J; NiCr-Ni = Typ K	
The heater & thermocouple are replaceable.	
Application	
For all usual thermoplastics Max. shot weight per nozzle (g): → 300 (low viscosity)	

NOTICE

To ensure long life and continued flawless operation of the actuator, we recommend using filtered compressed air.

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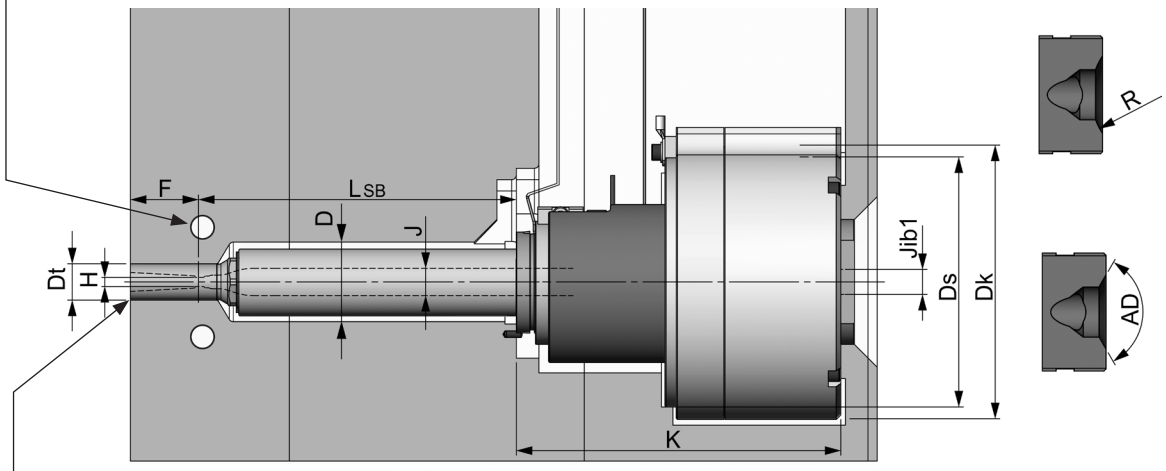
Gate cooling required



Tip face must contact plastic

J	Flow bore	Ø 12 [1]	H	Gate orifice	see page 7
Jib1	Flow bore inlet bushing	Ø 11	K	Head height	143
LSB	Nozzle length	50...390 [2]	Dk	Head diameter	Ø 121
F	Tip extension	see page 7	Ds	Diameter of head centering	Ø 110
D	Cutout	Ø 35	R	Nozzle contact radius	0...40
Dt	Tip Ø	see page 7	AD	Nozzle contact angle	90°...120°

1) Standard flow bore value = Ø 12
consult Synventive for custom dimensions Ø 8, Ø 10, Ø 14
2) Standard lengths shown, consult Synventive for custom lengths.

LSB (mm)	Nozzle Heater zone power (Watt)		Adapter Head Power	Head Bottom Power
	Power1	Power2		
50	195W		630W	650W
70	215W		630W	650W
90	230W		630W	650W
115	250W		630W	650W
140	270W		630W	650W
165	290W		630W	650W
190	215W	265W	630W	650W
215	215W	305W	630W	650W
240	215W	345W	630W	650W
265	215W	385W	630W	650W
290	215W	425W	630W	650W
315	215W	465W	630W	650W
340	215W	505W	630W	650W
365	215W	545W	630W	650W
390	215W	585W	630W	650W

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

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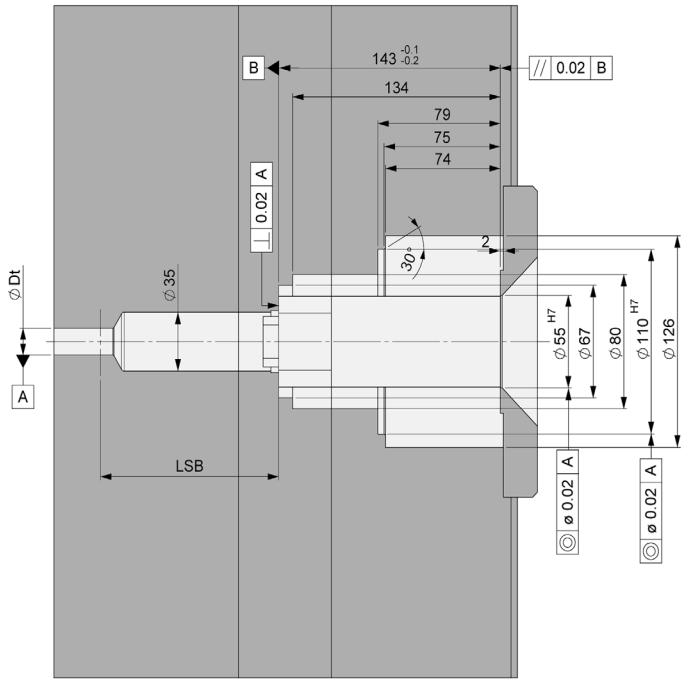
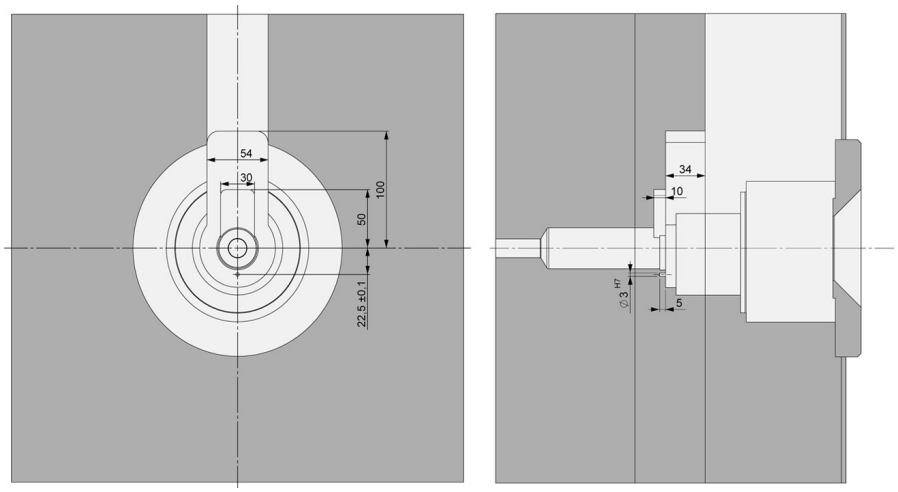
Cutout for the Nozzle



Cutout for Connections (Electrical power and Thermocouple)



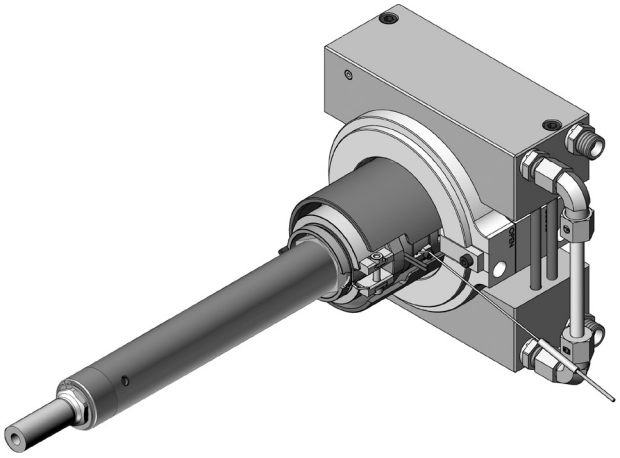
General tolerances: DIN ISO 2768-mK

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 3.

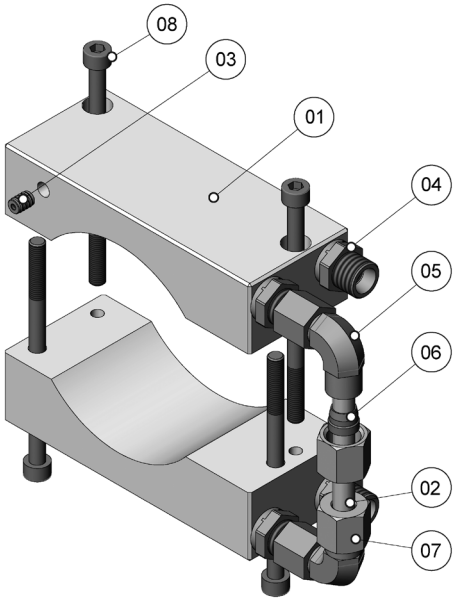
Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.

CU12SVP01 mounted on Single Axis Valve Gate Nozzle 12SVP-06



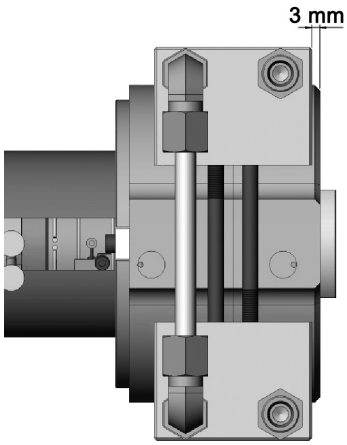
CU12SVP01 Technical Data	
Medium	Cooling water
Flow rate	4 l/min
Pressure	max. 8 bar (116 psi)
Temperature	30...60 °C (86 - 140 °F)
Connections	M14x1.5

Parts List



Pos.	Qty.	Description/ Part Number
01	2	Cooling Sleeve / CU12SVPCS01
02	1	Connecting Tube / CU12SVPCT01
03	2	Sealing Plug / Z942/6
04	4	Straight Coupling / GE08LMEDVITOMDCF
05	2	Elbow Coupling / EW08LVITOMDCF
06	2	Cutting Ring / PSR08LX
07	2	Nut / M08LCFX
08	3	Hexagon Socket Cap Screw / DIN912-M6x110-12.9

Position of the cooling unit on the Single Axis Valve Gate Nozzle



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System Information / Cutout in Mold Plate for Nozzle Cooling Unit CU12SVP01

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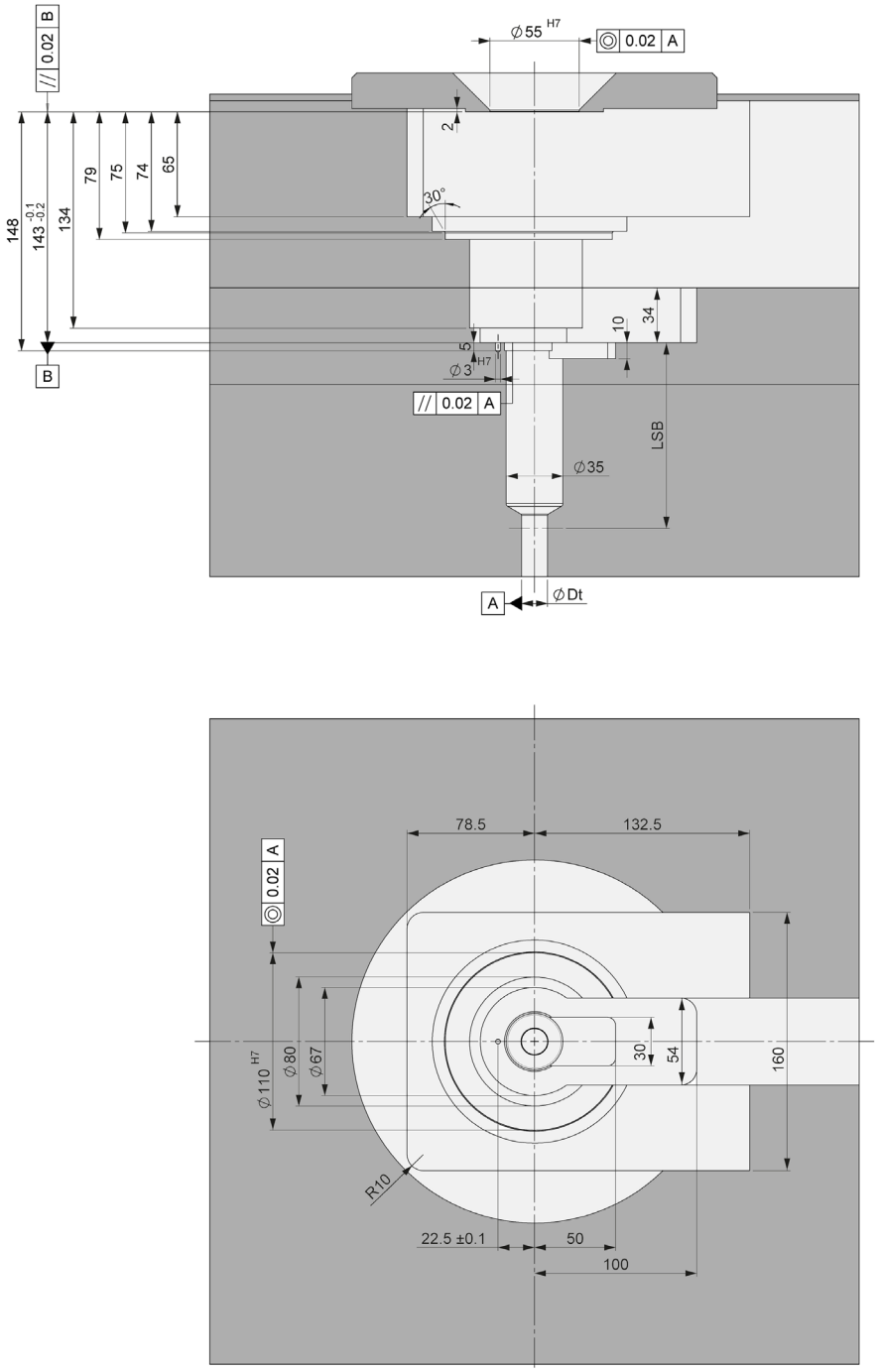


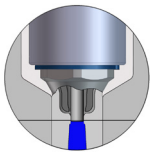
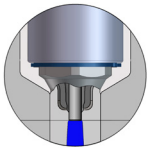
General tolerances: DIN ISO 2768-mK

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

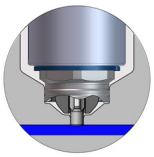
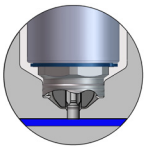
Values of the dimension LSB can be found in the data sheet on page 3.

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

VSP Valve Gate - Straight Pin - Plunged Through

Tip Style		Description	Application range	Dt = Ø16 F = 0, 30, Mod	
				H=4.0	H=5.0
	**VSP**	Universal	for all common plastics	✓	(✓)
	**VSP-SC**	Seal cap	for color change	✓	(✓)

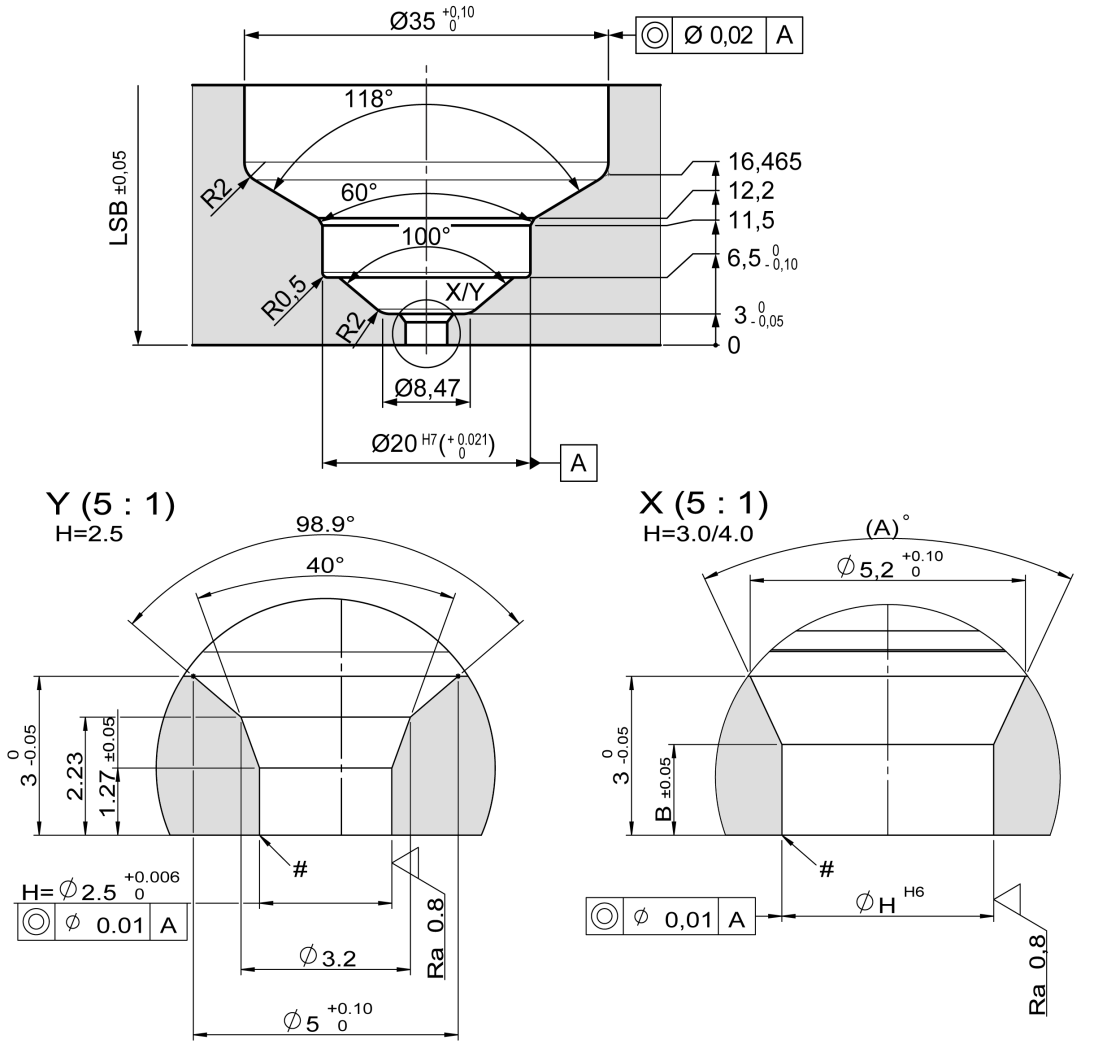
VSW Valve Gate - Straight Pin - Blind

Tip Style		Description	Application range	Dt = Ø20		
				H=2.5	H=3.0	H=4.0
	**VSW**	Universal	for all common plastics	✓	✓	(✓)
	**VSW-SC**	Seal cap	for color change	✓	✓	(✓)

✓ 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.

VSW - Nozzle tip cutout dimensions



#= -0,02

HØ H6	(A)	B
3,0 +0,006 0	(60)	1.27
4,0 +0,008 0	(50)	1.72

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

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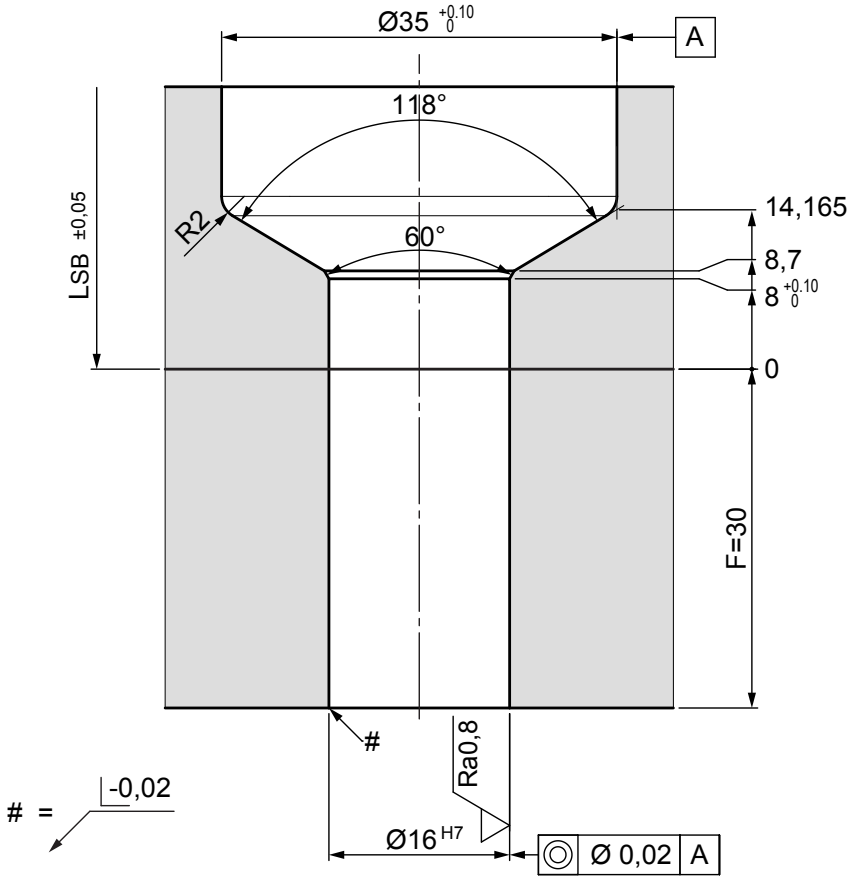
VSP - Nozzle tip cutout dimensions



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