



BARNES™
MOLDING SOLUTIONS

HOT RUNNER TECHNOLOGY

12EZ-02 Threaded Nozzles

Product Catalog

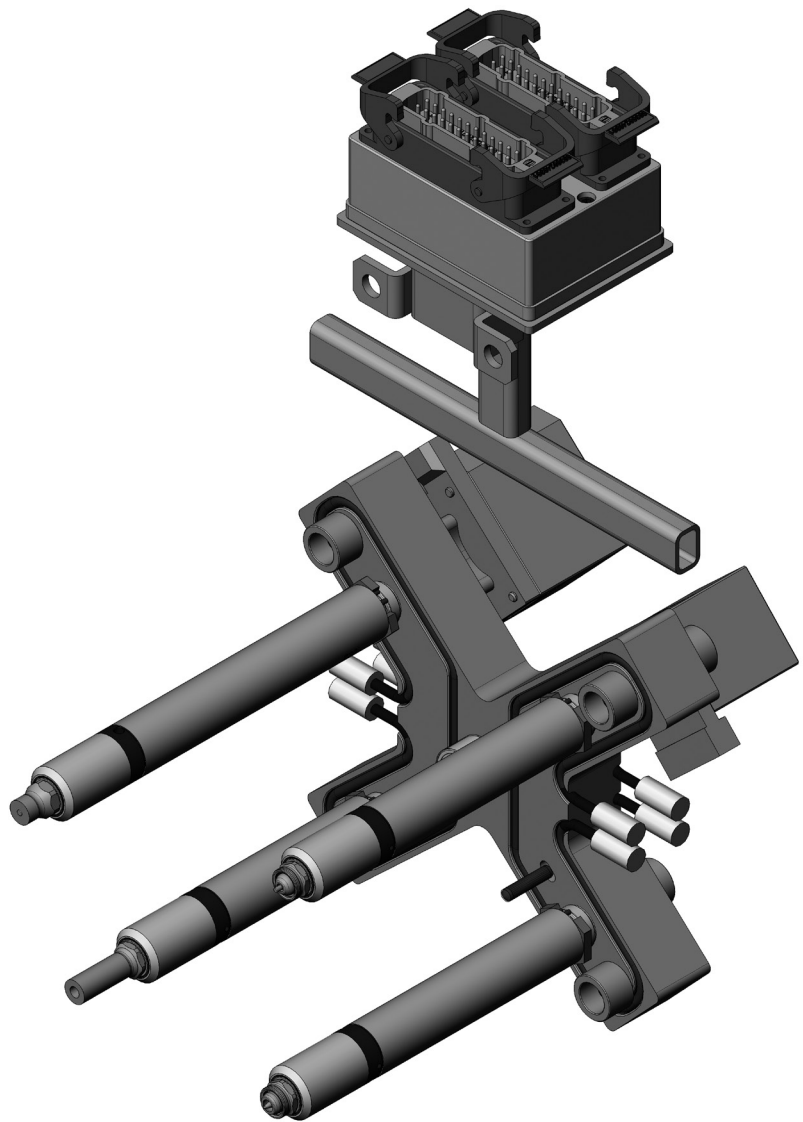




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To the Product Catalog

In this catalog an overview of the actual product, including descriptions, dimensions, and technical data is given. The text beside the graphics gives you additional instructions about the use of the product. The informations to the heaters of the nozzles have an own chapter. If available, options are explained with pictures and text. All for this product available actuators are specified. All compatible nozzle tips and if they are available in different situations are explained in tables. For every nozzle tip a separate chapter with all important informations and technical data is given.

General Description of the Nozzle

Hot runner nozzles are the link to the cavity. They either directly gate into the part or into a sub runner which will lead into the cavity. There are four categories of hot runner nozzle styles available. These are Nozzles of the Hot Runner Series threaded into the manifold.

Applied standards and norms

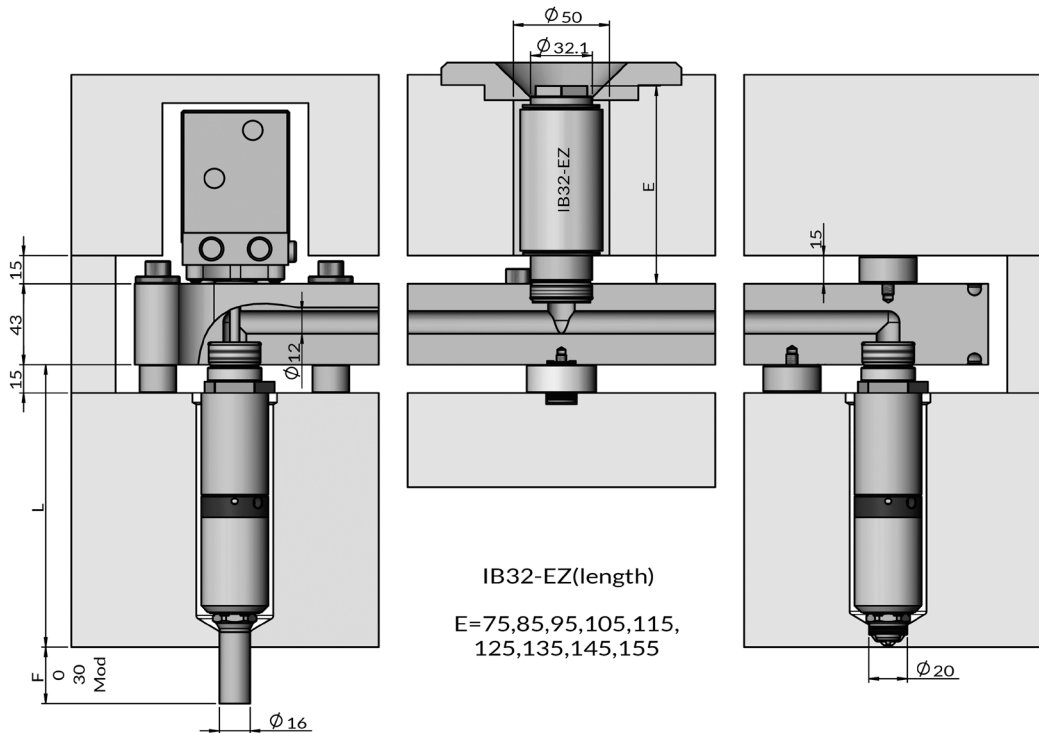
- DIN EN IEC/IEEE 82079-1 Edition 2 Creation of usage information for products
- Standard and norms for Technical drawings



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

Thrust Pad and Bolt down Manifold

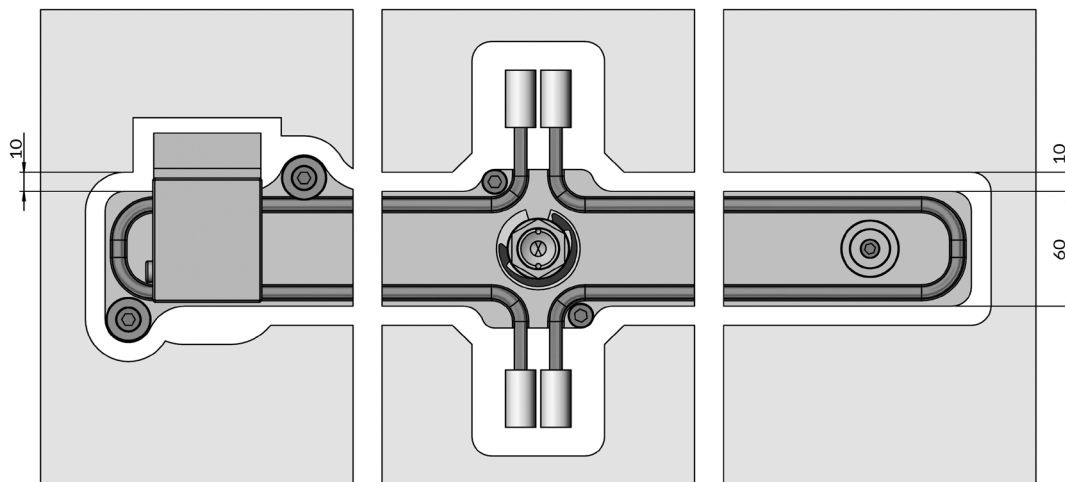
The following picture shows the design, the components and the dimensions.



Bolt down section

Inlet bushing

Thrust pad selection



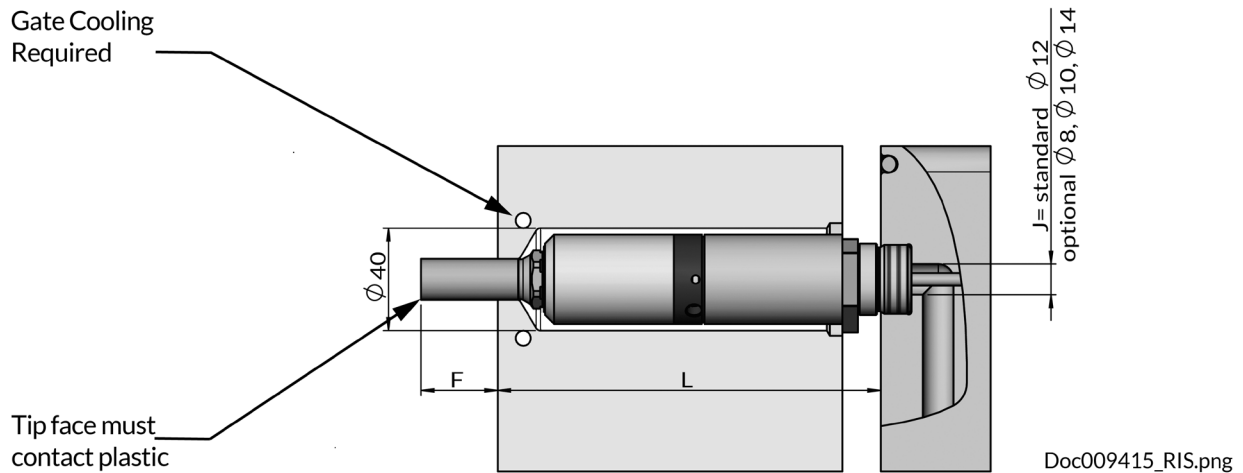
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Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.

Technical Data and Heating Zones

There are slight differences in the length range of different tip types.



L (mm)	Heater zone power ¹⁾ (Watt)	
	Power 1	Power 2
108 ... 127.99 mm	315 W	-
128 ... 142.99 mm	315 W	140 W
143 ... 162.99 mm	315 W	180 W
183 ... 222.99 mm	315 W	250 W
223 ... 262.99 mm	315 W	315 W
263 ... 302.99 mm	315 W	315 W
303 ... 342.99 mm	315 W	400 W
343 ... 382.99 mm	315 W	400 W
383 ... 422.99 mm	315 W	455 W
423 ... 462.99 mm	315 W	515 W
463 ... 500 mm	315 W	570 W

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

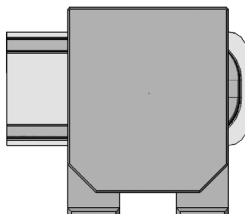
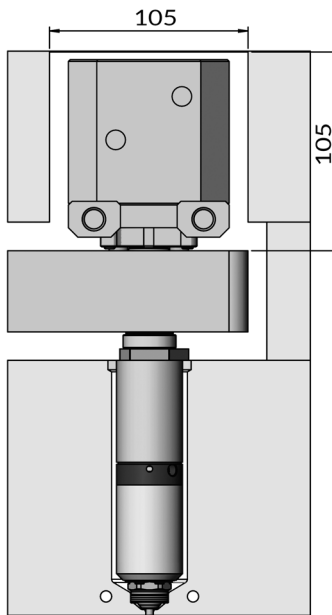


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.

Available Actuators

The following actuators are available for this product.

PNC7518M09
(pneumatic)



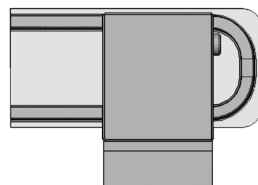
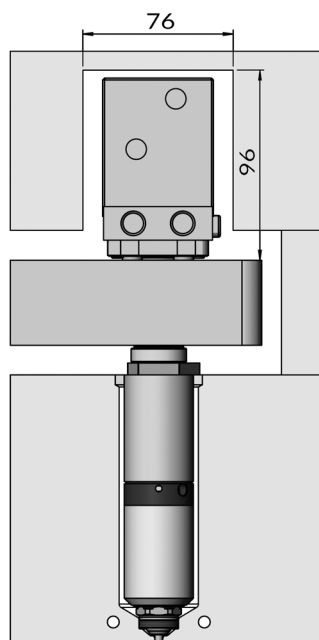
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Pressure range:
6 - 12 bar (87 - 174 psi)
Min/Max Close Forces:
2651 N / 5302 N

Available features:

- SynCool1®

HYC4018M06
(hydraulic)



Pressure range:
40 - 60 bar (600 - 870 psi)
Min/Max Close Forces:
5027 N / 7540 N

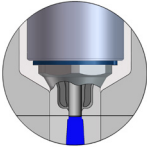
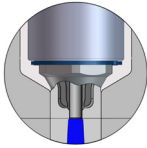
Available features:

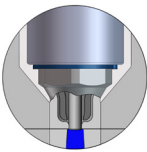
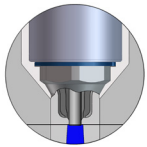
- SynCool1®

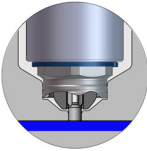
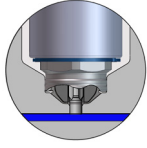


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

Nozzle TIP Styles VSP, VSL and VSW

VSP		Valve Gate - Straight Pin - Plunged Through		
Tip Style with Description	Picture	Dt = Ø16 F = 0, 10, 30, Mod		
		H=4.0	H=5.0	
VSP Standard		✓	(✓)	
VSP-SC Color Seal		✓	(✓)	

VSL		Valve Gate - Tapered Pin - Plunged Through		
Tip Style with Description	Picture	Dt = Ø16 F = 0, 10, 30, Mod		
		H=4.0		
VSL Standard		✓		
VSL-SC Color Seal		✓		

VSW		Valve Gate - Straight Pin - Blind		
Tip Style with Description	Picture	Dt = Ø20		
		H=2.5	H=3.0	H=4.0
VSW Standard		✓	✓	(✓)
VSW-SC Color Seal		✓	✓	(✓)

✓ Preferred

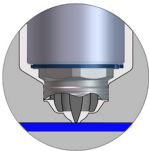
(✓) Available

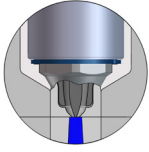
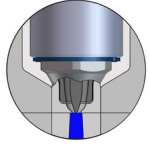
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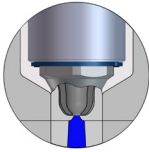
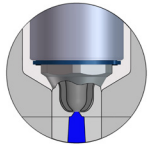


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

Nozzle TIP Styles TTW, TTP and TFP

TTW		Thermal Gate – Torpedo - Blind			
Tip Style with Description	Picture	Dt = Ø20			
		H=2.0	H=2.5	H=3.0	H=3.5
TTW Standard		✓	✓	✓	✓
TTW-SC Color Seal		✓	✓	✓	✓

TTP		Thermal Gate – Torpedo - Plunged Through			
Tip Style with Description	Picture	Dt = Ø16 / F = 0, 30, Mod			
		H=2.0	H=2.5	H=3.0	H=3.5
TTP Standard		✓	✓	✓	✓
TTP-SC Color Seal		✓	✓	✓	✓

TFP		Thermal Gate – Full Flow - Plunged Through			
Tip Style with Description	Picture	Dt = Ø16 / F = 0, 30, Mod			
		H=1.5	H=2.0	H=2.5	H=3.0
TFP Standard		✓	✓	✓	✓
TFP-SC Color Seal		✓	✓	✓	✓



Preferred



Available



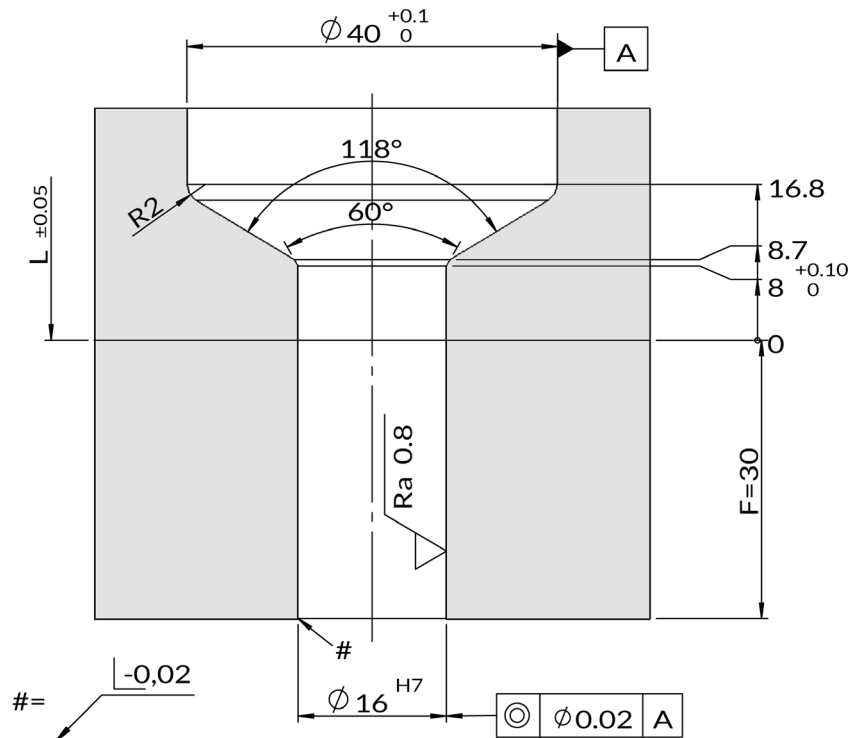
Not Available



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.

VSP, TTP, TFP Nozzle tip cutout dimensions

In this picture you will see the nozzle tip cutout dimensions for this nozzle.



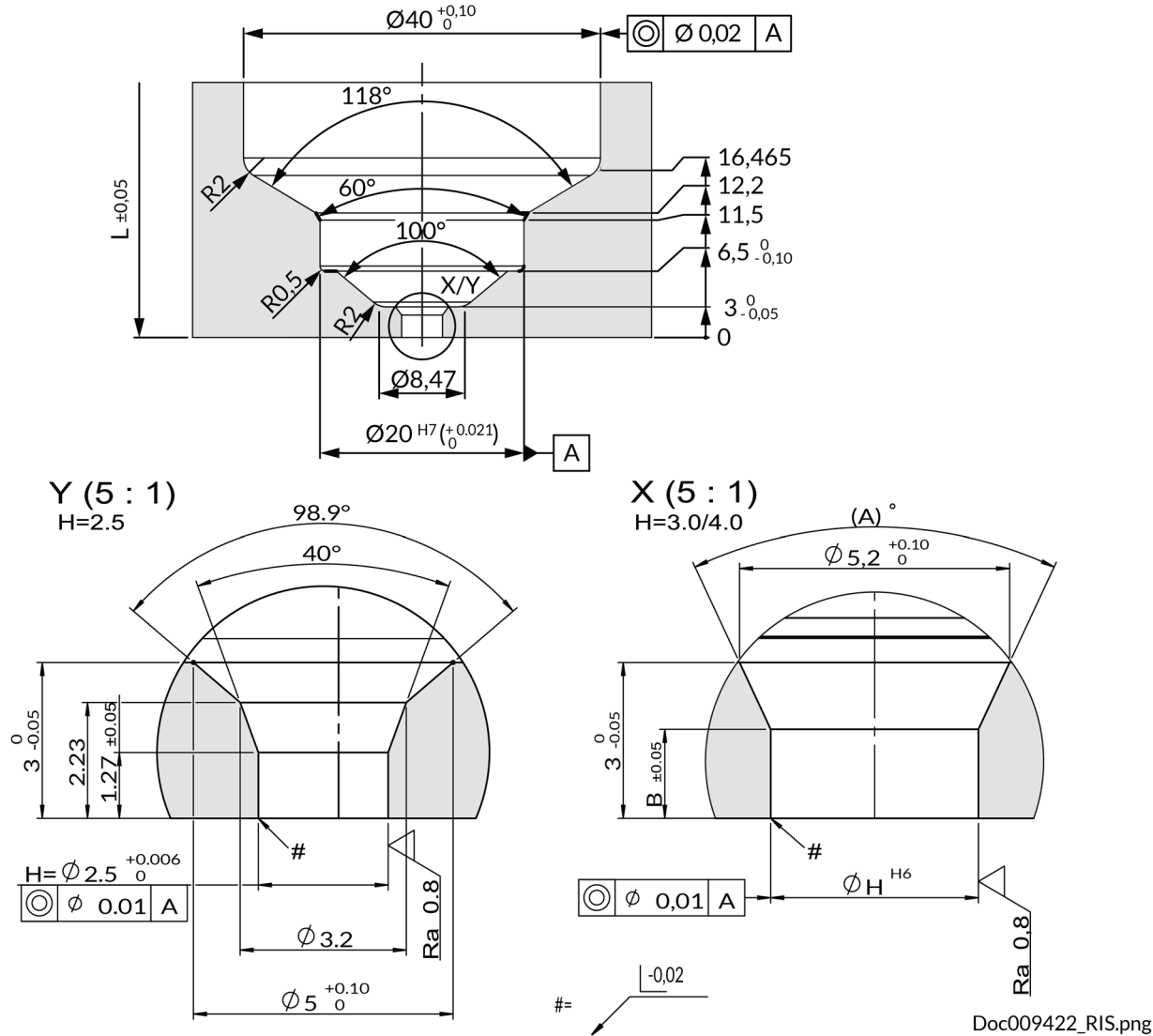
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Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.
Dimensions for reference only. Reference system drawing for complete dimensions prior to machining gate detail in mold.

VSW Nozzle tip cutout dimensions

In this picture you will see the nozzle tip cutout dimensions for this nozzle.



$H\varnothing^{H6}$	(A)	B
$3.0^{+0,006}_0$	(60)	1.27
$4.0^{+0,008}_0$	(50)	1.72

At the area of the nozzle gate replaceable, hardened ($52 \pm 2/-1$ HRC) inserts must be used.

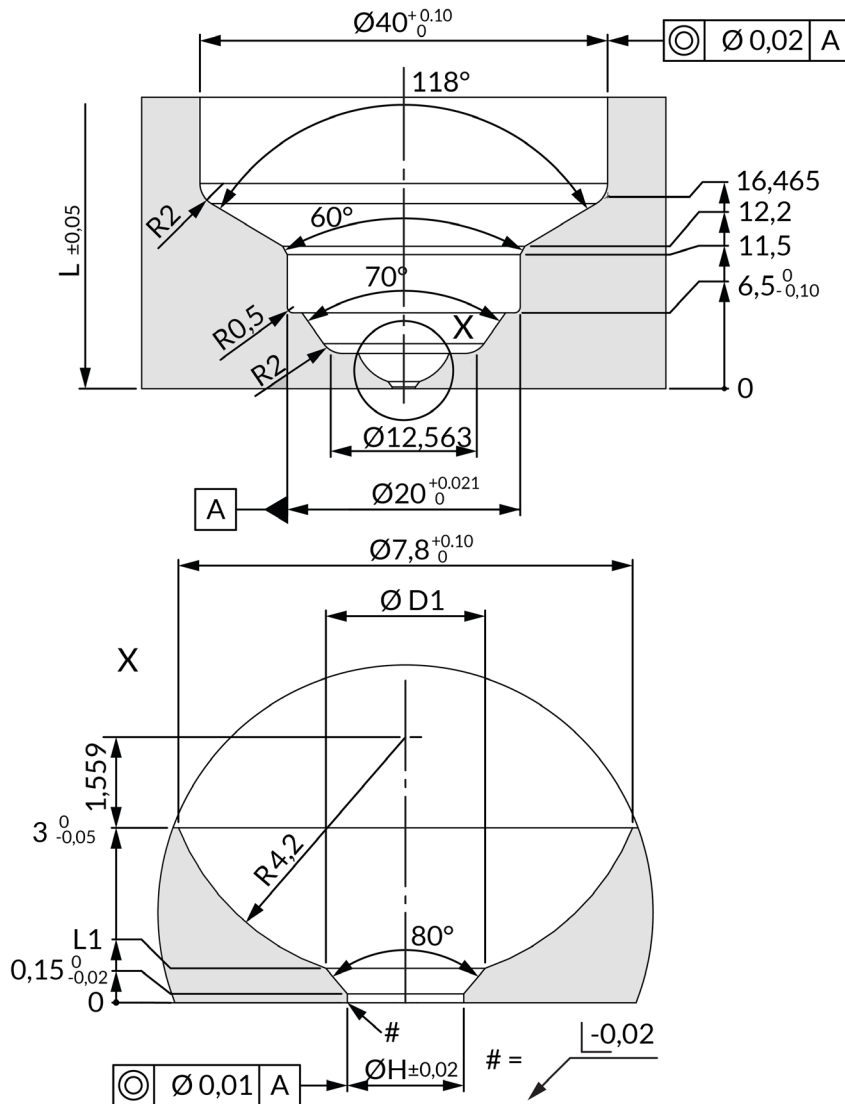
The gate area geometry must be manufactured by grinding and not EDM with a surface quality of $\sqrt{Ra 0,8}$.



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

TTW Nozzle tip cutout dimensions

In this picture you will see the nozzle tip cutout dimensions for this nozzles.



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At the area of the nozzle gate replaceable, hardened ($52 \pm 2/-1$ HRC) inserts must be used.

The gate area geometry must be manufactured by grinding and not EDM with a surface quality of $\sqrt{\text{Ra}0.4}$.



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