

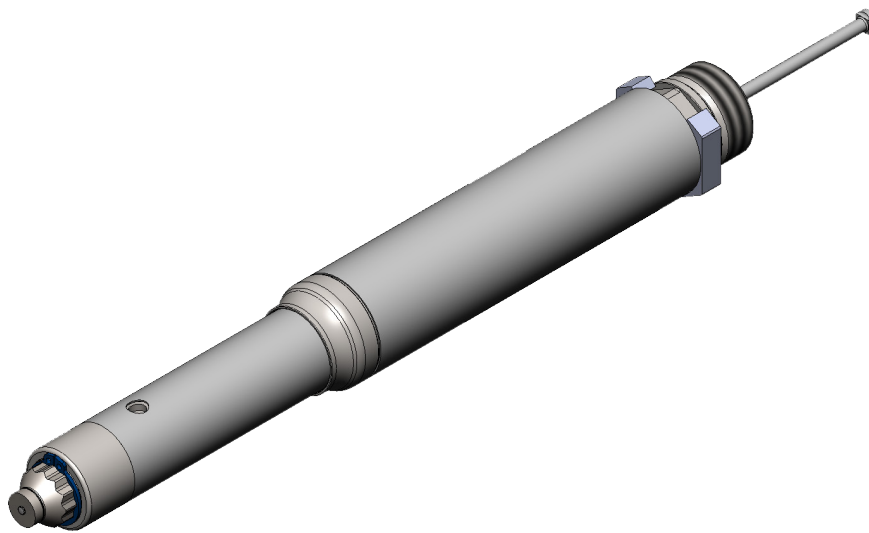


**BARNES™**  
MOLDING SOLUTIONS

HOT RUNNER TECHNOLOGY

# 09EX12-03 Threaded Nozzles

Product Catalog

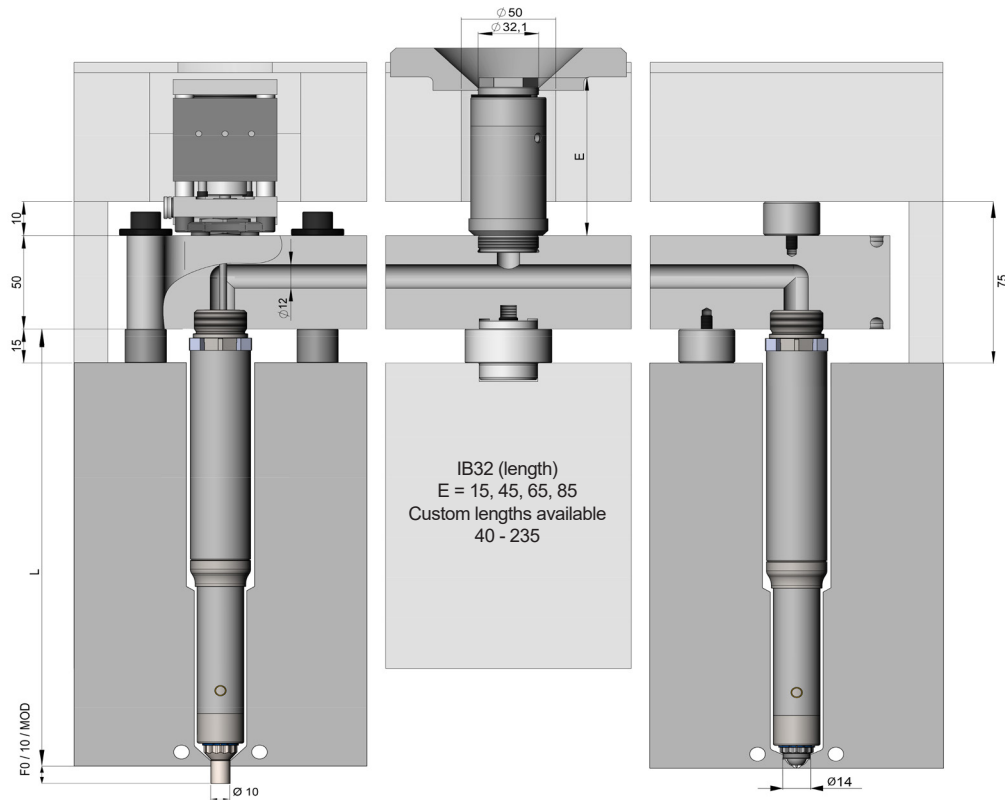


Doc009227\_RIS.png





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

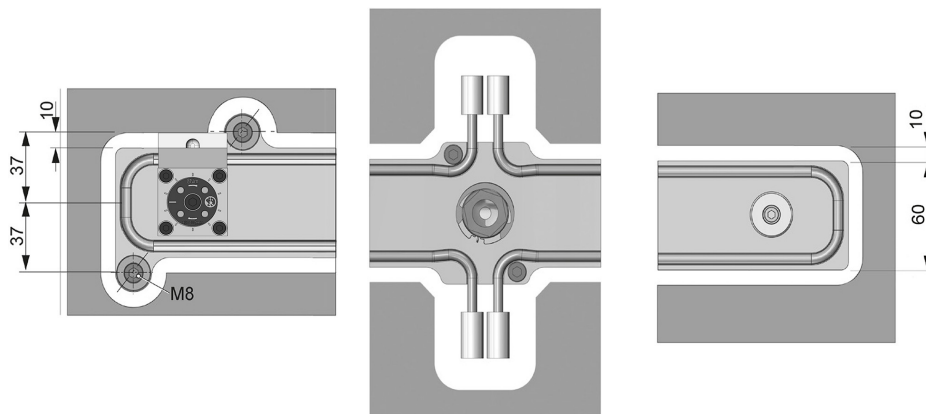


Doc009228\_RIS.png

Bolt down selection

Inlet bushing

Thrust pad selection

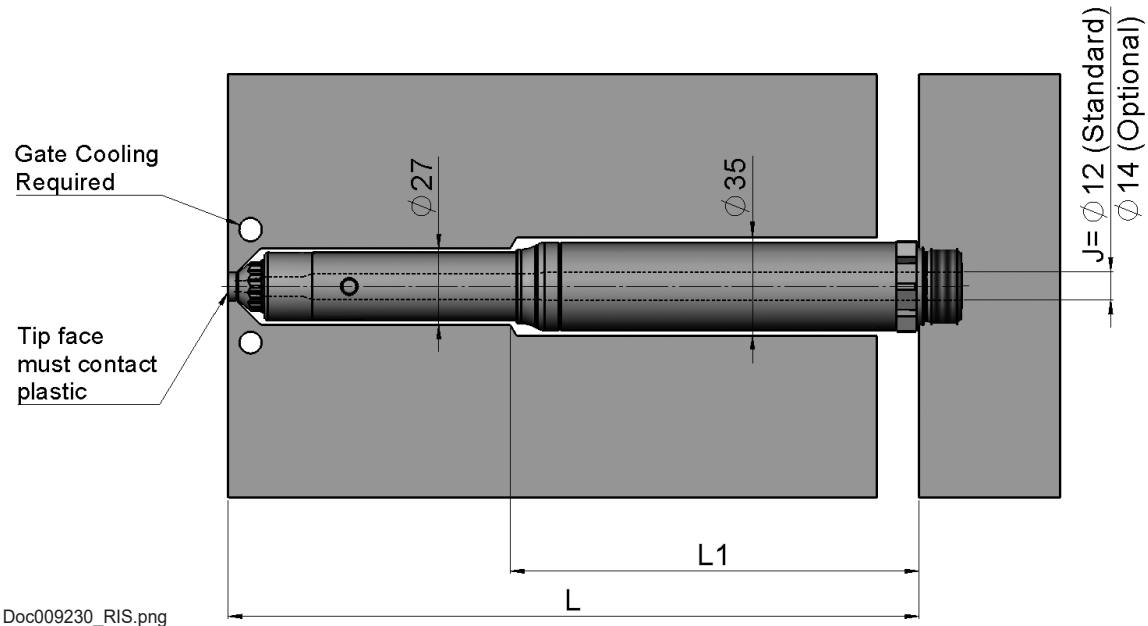


Doc009233\_RIS.png





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



L (mm)	L1	Heater zone power <sup>1)</sup> (Watt)		
		Power 1	Power 2	Power (Total)
245-269.99	L-100	230 W	265 W	495 W
270-294.99	L-100	230 W	305 W	535 W
295-319.99	L-100	230 W	345 W	575 W
320-344.99	L-100	230 W	385 W	615 W
345-369.99	L-100	230 W	425 W	655 W
370-394.99	L-100	230 W	465 W	695 W
395-419.99	L-100	230 W	505 W	735 W
420-430	L-100	230 W	545 W	775 W

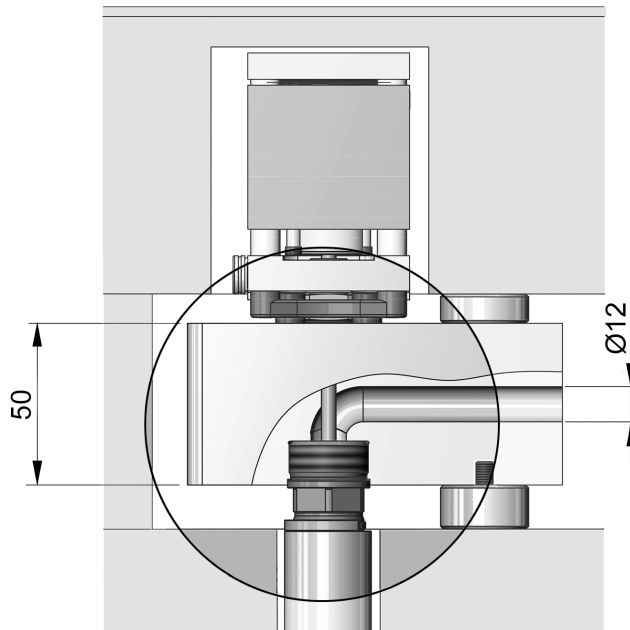
1) The numbering of the heating zones starts at the nozzle tip and ends at the nozzle head





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

## Smooth Flow



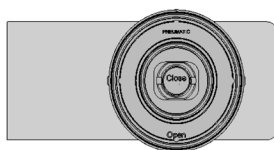
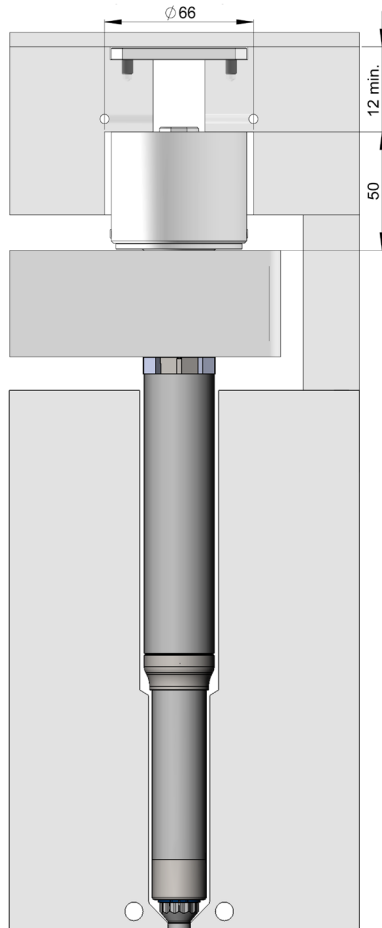
Doc009231\_RIS.png





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

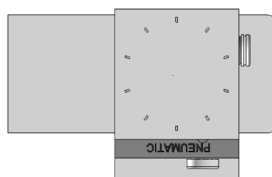
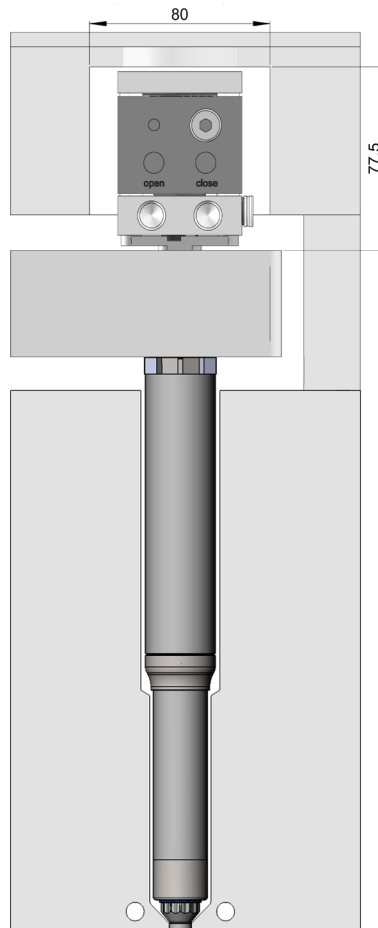
**PNC4508B**  
(pneumatic)



Doc009232\_RIS.png

Pressure range:  
6 - 12 bar (87 - 174 psi)  
Min/Max Close Forces:  
954 N / 1908 N

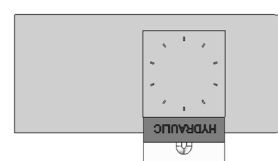
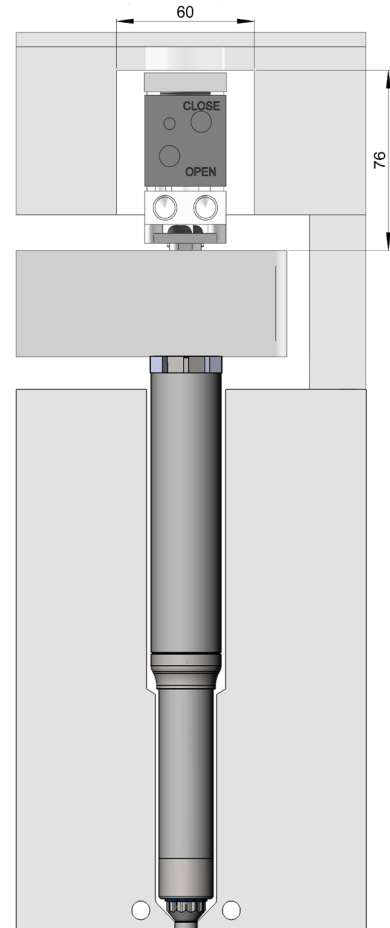
**PB4008**  
(pneumatic)



Pressure range:  
6 - 12 bar (87 - 174 psi)  
Min/Max Close Forces:  
754 N / 1508 N

Available features:  
♦ Position Sensor  
♦ SynCool®

**HB2508**  
(hydraulic)



Pressure range:  
40 - 60 bar (600 - 870 psi)  
Min/Max Close Forces:  
1963 N / 2945 N

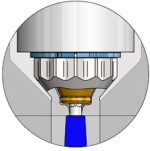
Available features:  
♦ Position Sensor  
♦ SynCool®



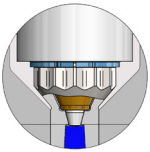


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.  
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

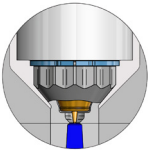
**VSP** Valve Gate - Straight Pin - Plunged Through

Tip Style	Description	Dt = Ø10 F10, 0, Mod		
		H=2.5		
 Doc009110_RIS.png	<b>VSP</b>  Standard	✓		

**VTP** Valve Gate - Tapered Pin - Plunged Through

Tip Style	Description	Dt = Ø10 F10, 0, Mod		
		H=2.5		
 Doc009111_RIS.png	<b>VTP</b>  Standard	✓		

**TTP** Thermal Gate – Torpedo - Plunged Through

Tip Style	Description	Dt = Ø10 F10, 0, Mod		
		H=1.5	H=2.0	H=2.5
 Doc009109_RIS.png	<b>TTP</b>  Standard	✓	✓	✓



Preferred



Available



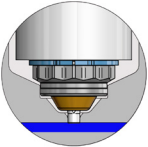
Not Available



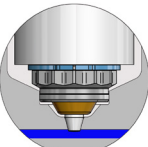


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.  
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

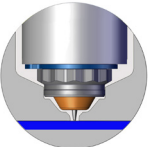
**VSW** Valve Gate - Straight Pin - Blind

Tip Style	Description	Dt = Ø14			
		H=1.5	H=2.0	H=2.5	H=3.0
 Doc009112_RIS.png	<b>VSW</b> Standard	✓	✓	✓	✓

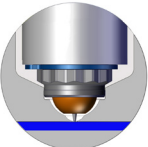
**VTW** Valve Gate - Tapered Pin - Blind

Tip Style	Description	Dt = Ø14		
		H=1.5	H=2.0	H=2.5
 Doc009113_RIS.png	<b>VTW</b> Standard	✓	✓	✓

**TTW** Thermal Gate – Torpedo - Blind

Tip Style	Description	Dt = Ø14			
		H=1.2	H=1.6	H=2.0	H=2.5
 Doc009114_RIS.png	<b>TTW</b> Standard	✓	✓	✓	✓

**TTW-C** Thermal Gate – Torpedo - Blind

Tip Style	Description	Dt = Ø14			
		H=1.2	H=1.6	H=2.0	H=2.5
 Doc009115_RIS.png	<b>TTW-C</b> Standard	✓	✓	✓	✓



Preferred



Available



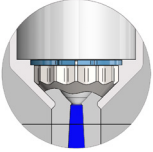
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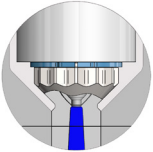


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.  
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

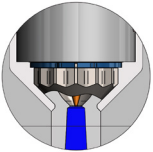
**TPK** Thermal Gate – Full Flow - Plunged Through

Tip Style	Description	Dt = Ø10 F = 10	
		H=2.0	H=2.5
 <b>TPK</b> Doc009119_RIS.png	Standard	✓	✓

**TNK** Thermal Gate – Full Flow - Plunged Through

Tip Style	Description	Dt = Ø10 F = 10	
		H=2.0	H=2.5
 <b>TNK</b> Doc009120_RIS.png	Standard Cold Runner	✓	✓

**TTK** Thermal Gate – Torpedo - Plunged Through

Tip Style	Description	Dt = Ø10 F = 10	
		H=2.0	H=2.5
 <b>TTK</b> Doc009121_RIS.png	Standard Cold Runner	✓	✓

✓ Preferred

(✓) Available

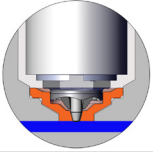
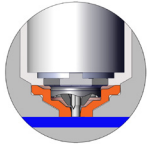
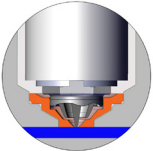
✗ Not Available



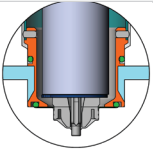
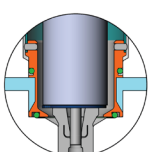


Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.  
H = Gate orifice diameter, F = Tip extension, Dt = Tip Diameter, Mod = Modifiable

## Wear Inserts

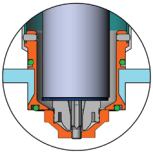
Part	Description	F = 0, 10, Mod					
		H=1.2	H=1.5	H=1.6	H=2.0	H=2.5	H=3.0
 <b>WI-VTW</b> Doc009122_RIS.png	Wear Insert for VTW Nozzle tips	✗	✓	✗	✓	✓	✗
 <b>WI-VSW</b> Doc009123_RIS.png	Wear Insert for VSW Nozzle tips	✗	✓	✗	✓	✓	✓
 <b>WI-TTW</b>	Wear Insert for TTW Nozzle tips	✓	✗	✓	✓	✓	✗

## Cooling Bushings

Part	TTW	VSW	VTW	TTP	VSP	VTP	TPK	TNK	TTK
 <b>NC</b> Doc009125_RIS.png	✓	✓	✓	✓	✓	✓	✓	✓	✓
 Doc009126_RIS.png									

Nozzle Cooling Bushing for Nozzle Tips, Blind and Plunged Through

## Wear Insert and Cooling Bushing

Part	TTW	VSW	VTW
 <b>NC + WI</b> Doc009127_RIS.png	✓	✓	✓

Wear Insert combined with Nozzle Cooling Bushing for Nozzle Tip Blind

✓ Preferred

(✓) Available

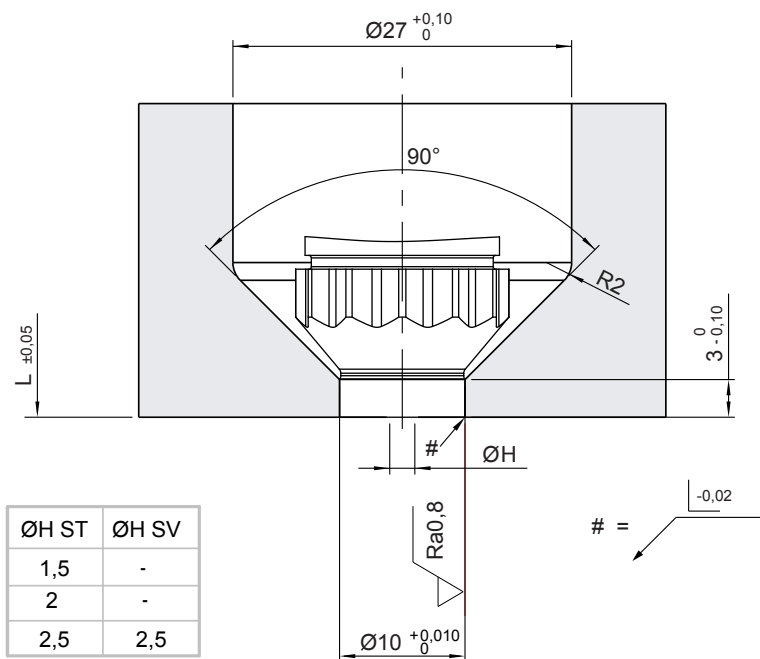
✗ Not Available





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, VSP, VTP Nozzle tip cutout dimensions



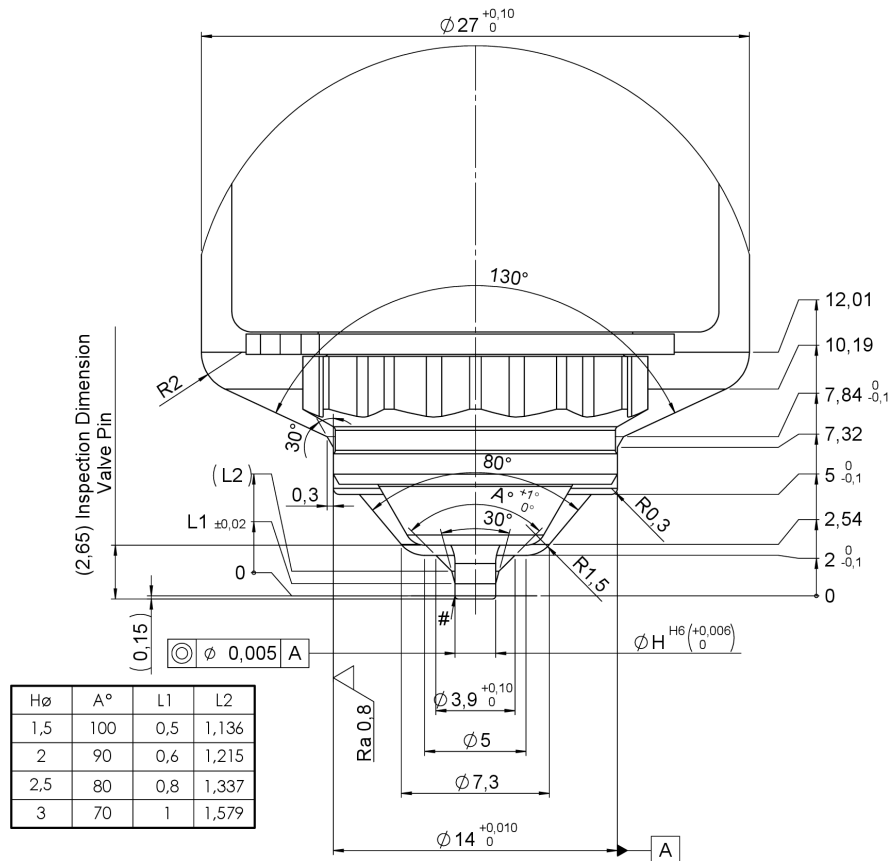
Doc003860.ai





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



### Notes:

- Cooling required around the nozzle tip, opposite to the nozzle tip
- The front of the nozzle tip must always be against plastic.

Doc009205\_RIS\_en.png

General tolerances according to DIN ISO 2768-mK

At the area of the nozzle gate replaceable, hardened (52 +2/-1 HRC) inserts are recommended by Synventive.

Radius / chamfer at the front of the valve pin shall not be removed.

Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of  $\sqrt{Ra\ 0.8}$ .

To avoid a deformation at the gate the space to move freely has to be checked at hot condition.

For angled surface the valve pin may not be adjusted toward cavity.

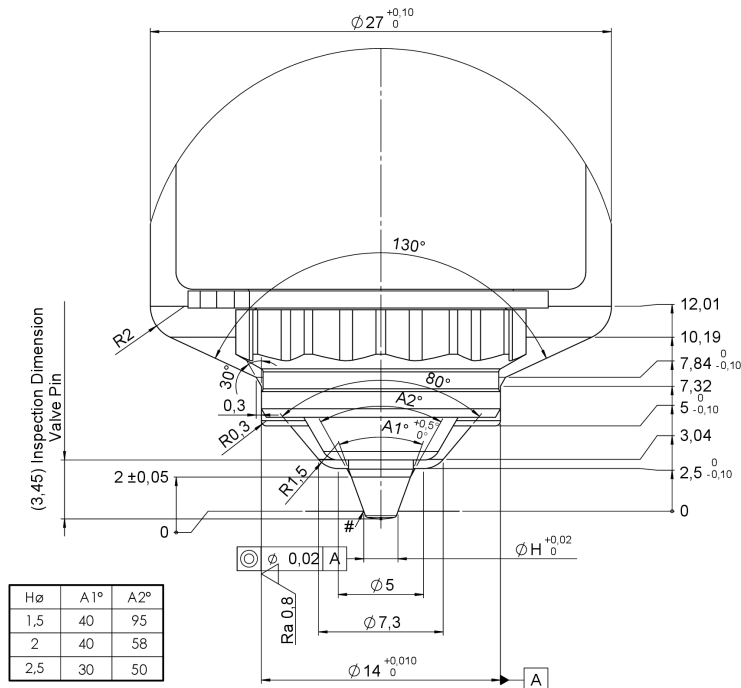
Ensure 0.5 mm sealing surface is maintained.





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.

## VTW - Nozzle tip cutout dimensions



### Notes:

- Cooling required around the nozzle tip, opposite to the nozzle tip
- The front of the nozzle tip must always be against plastic.

Doc009207\_RIS\_en.png

General tolerances according to DIN ISO 2768-mK

At the area of the nozzle gate replaceable, hardened (52 +2/-1 HRC) inserts are recommended by Synventive.

Radius / chamfer at the front of the valve pin shall not be removed.

Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of  $\sqrt{Ra0.8}$ .

To avoid a deformation at the gate the space to move freely has to be checked at hot condition.

For angled surface the valve pin may not be adjusted toward cavity.

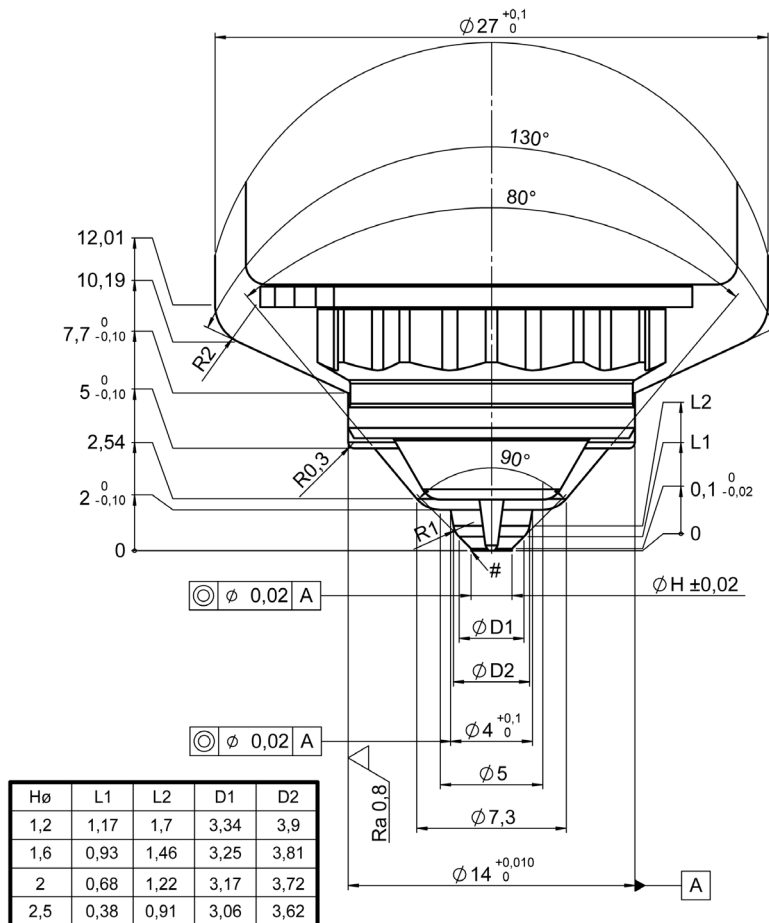
Ensure 0.5 mm sealing surface is maintained.





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## TTW - Nozzle tip cutout dimensions



Doc009206\_RIS\_en.png

### Notes:

- Cooling required around the nozzle tip, opposite to the nozzle tip
- The front of the nozzle tip must always be against plastic.

### General tolerances according to DIN ISO 2768-mK

At the area of the nozzle gate replaceable, hardened ( $52 \pm 2/-1$  HRC) inserts are recommended by Synventive.

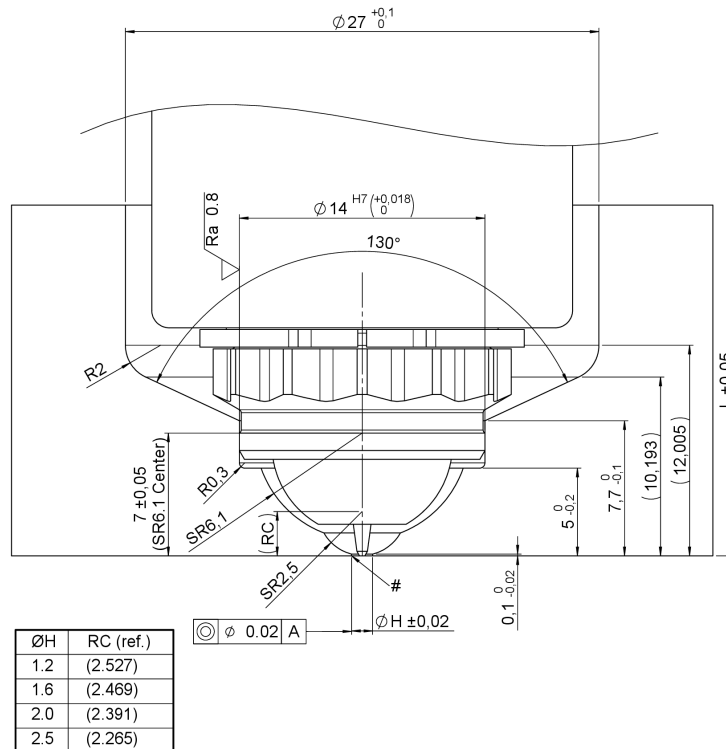
Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of  $\sqrt{Ra 0,8}$ .





Illustrations simplified, schematically drawn and not to scale. All dimensions in mm.  
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## TTW-C - Nozzle tip cutout dimensions



### Notes:

- Cooling required around the nozzle tip, opposite to the nozzle tip
- The front of the nozzle tip must always be against plastic.

Doc009209\_RIS\_en.png

### General tolerances according to DIN ISO 2768-mK

At the area of the nozzle gate replaceable, hardened (52 +2/-1 HRC) inserts are recommended by Synventive.

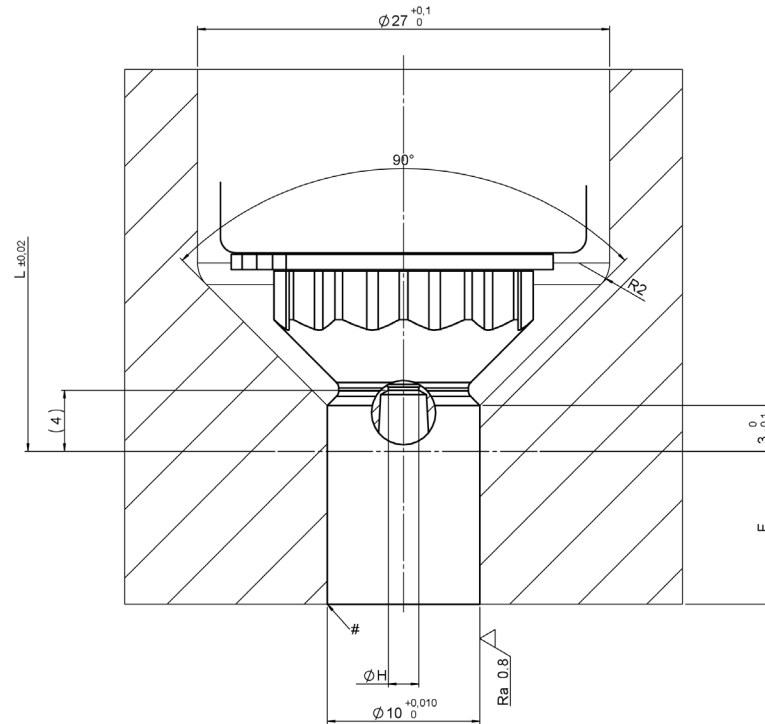
Synventive recommends that the gate area geometry is manufactured by grinding and not EDM with a surface quality of  $\sqrt{Ra\ 0.8}$ .





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

## TPK, TNK, TTK Series - Nozzle tip cutout dimensions



Doc009208\_RIS\_en.png

















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