**Product Description**

**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)**

<table>
<thead>
<tr>
<th>J</th>
<th>Flow bore</th>
<th>Ø 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jib1</td>
<td>Flow bore inlet bushing</td>
<td>Ø 12</td>
</tr>
<tr>
<td>Lsb</td>
<td>Nozzle length</td>
<td>100...640</td>
</tr>
<tr>
<td>F</td>
<td>Tip Extension</td>
<td>see page 4</td>
</tr>
<tr>
<td>D</td>
<td>Cutout</td>
<td>Ø 50</td>
</tr>
<tr>
<td>Dt</td>
<td>Tip Ø</td>
<td>see page 4</td>
</tr>
<tr>
<td>H</td>
<td>Gate Orifice</td>
<td>see page 4</td>
</tr>
<tr>
<td>K</td>
<td>Head height</td>
<td>45</td>
</tr>
<tr>
<td>Dk</td>
<td>Head diameter</td>
<td>Ø 72</td>
</tr>
<tr>
<td>Ls</td>
<td>Depth of head centring</td>
<td>8</td>
</tr>
<tr>
<td>Ds</td>
<td>Diameter of head centering</td>
<td>Ø 72</td>
</tr>
<tr>
<td>R</td>
<td>Nozzle contact radius</td>
<td>0...40</td>
</tr>
<tr>
<td>AD</td>
<td>Nozzle contact angle</td>
<td>90°...120°</td>
</tr>
</tbody>
</table>

**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, 400...2460 W
- Head heater, 800 W
  Thermocouples, EN 60584
  Fe-CuNi 0 = Typ J, NiCr-Ni = Typ K

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

\( \text{LSB} \)  Nozzle length

General tolerances: DIN ISO 2768-mK

Surfaces: \( \sqrt[3]{0.25} \left( \sqrt[3]{0.16} \right) \)

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)

\( D_t \)  Tip Ø

\( H \)  Gate orifice Ø

Depending on the selected nozzle type, different cutouts are required for the nozzle tip.
### TTP
**Thermal Gate – Torpedo - Plunged Through**

<table>
<thead>
<tr>
<th>Tip Style</th>
<th>Description</th>
<th>Application range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTP</td>
<td>Universal</td>
<td>H=2.5, 3.0, 3.5, 4.0</td>
</tr>
<tr>
<td>TTP-SC</td>
<td>Seal cap</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Tip Style</th>
<th>Description</th>
<th>Application range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTW</td>
<td>Universal</td>
<td>H=2.5, 3.0, 3.5, 4.0</td>
</tr>
<tr>
<td>TTW-SC</td>
<td>Seal cap</td>
<td></td>
</tr>
</tbody>
</table>

### TFP
**Thermal Gate – Full Flow - Plunged Through**

<table>
<thead>
<tr>
<th>Tip Style</th>
<th>Description</th>
<th>Application range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFP</td>
<td>Universal</td>
<td>H=2.0, 2.5, 3.0, 3.5</td>
</tr>
<tr>
<td>TFP-SC</td>
<td>Seal cap</td>
<td></td>
</tr>
</tbody>
</table>

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

Preferred: (✓) Available: (✓) Not Available: (✗)
### Wear Insert

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

- **H** = Gate orifice diameter
- **F** = Tip extension
- **Dt** = Tip Diameter
- **Mod** = Modifiable

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>F = 0, 30, Mod</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>H=2.5</td>
</tr>
<tr>
<td><strong>WI-TTW</strong></td>
<td>Wear Insert</td>
<td>✓</td>
</tr>
</tbody>
</table>

- ✓ Preferred
- (✓) Available
- ✗ Not Available

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Master Language is English

For a specific application, please consult Synventive

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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.

TTP, TFP- Nozzle tip cutout dimensions

Nozzle Tip Cutout Dimensions

16S Sprue Bushing, open

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.
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 $Ra=0.8$.

<table>
<thead>
<tr>
<th>ØH</th>
<th>L1</th>
<th>D1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>0.244</td>
<td>2.658</td>
</tr>
<tr>
<td>3</td>
<td>0.384</td>
<td>3.393</td>
</tr>
<tr>
<td>3.5</td>
<td>0.602</td>
<td>4.259</td>
</tr>
<tr>
<td>4</td>
<td>1.025</td>
<td>5.468</td>
</tr>
</tbody>
</table>
WI-TTW - 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.