10.3 Single Axis Valve Gate Nozzles

10.3.1 Single Axis Valve Gate Nozzle 12SVH

Technical Data

<table>
<thead>
<tr>
<th>Valve pin operation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation medium</td>
<td>hydraulic</td>
</tr>
<tr>
<td>Pressure range</td>
<td>40 - 60 bar (580 - 870 psi)</td>
</tr>
<tr>
<td>Flowrate</td>
<td>2.5 l/min</td>
</tr>
<tr>
<td>Reaction time</td>
<td>~0.5 s</td>
</tr>
<tr>
<td>Valve pin stroke</td>
<td>13 mm</td>
</tr>
<tr>
<td>Adjustment</td>
<td>± 1 mm Via adjustment threads from outside.</td>
</tr>
<tr>
<td>Closing force</td>
<td>3770 N / 40 bar (580 psi)</td>
</tr>
<tr>
<td>Opening force</td>
<td>2825 N / 40 bar (580 psi)</td>
</tr>
<tr>
<td>Connection</td>
<td>M12x1.5 (8-L)</td>
</tr>
</tbody>
</table>

Valve pin

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve pin diameter</td>
<td>Ø 6 mm</td>
</tr>
<tr>
<td>Attachment</td>
<td>Quick coupling, anti-rotation</td>
</tr>
</tbody>
</table>

Heating Power

| Zone 1 (From a nozzle length of 50 mm) | 300 - 417 Watt |
| Zone 2 (From a nozzle length of >215 mm) | 530 - 770 Watt |
| Head                                | 630 plus 650 Watt |

NOTICE

To ensure long life and continued flawless operation of the actuator, we recommend using a service medium that complies with the requirements of classification 21/18/13 pursuant to ISO 4406.
Technical Data / Exploded View - Cooling Unit CU12SVH01

**NOTICE**

If the mold temperature is 80 °C (176 °F) or more, the Cooling Unit CU12SVH01 is required.

**Technical Data CU12SVH01**

**Method:** Cooling water

**Temperature:**
- min. 30 °C / max. 60 °C
- Temp. difference IN/OUT max. 5 °C

**Flow rate per unit:** 4 l/min

**Pressure:** max. 8 bar (116 psi)

**Connections:** M14x1.5 (10-L)

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty.</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>2</td>
<td>CU12SVHCS01</td>
<td>Cooling Sleeve</td>
</tr>
<tr>
<td>02</td>
<td>1</td>
<td>CU12SVHCT01</td>
<td>Connecting Tube</td>
</tr>
<tr>
<td>03</td>
<td>2</td>
<td>Z942/6</td>
<td>Sealing Plug</td>
</tr>
<tr>
<td>04</td>
<td>4</td>
<td>GE08LMEDVITOMDCF</td>
<td>Straight Coupling</td>
</tr>
<tr>
<td>05</td>
<td>2</td>
<td>EW08LVITOMDCF</td>
<td>Elbow Coupling</td>
</tr>
<tr>
<td>06</td>
<td>2</td>
<td>PSR08LX</td>
<td>Cutting Ring</td>
</tr>
<tr>
<td>07</td>
<td>2</td>
<td>M08LCFX</td>
<td>Nut</td>
</tr>
<tr>
<td>08</td>
<td>3</td>
<td>DIN912-M6x120-12.9</td>
<td>Hexagon Socket Cap Screw</td>
</tr>
<tr>
<td>09</td>
<td>2</td>
<td>XAA01201401</td>
<td>Straight Coupling</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>12.7X18X1.5USFP</td>
<td>Bonded Seal</td>
</tr>
</tbody>
</table>

Position of the cooling unit on the nozzle head.

CU12SVH01 mounted on Single Axis Valve Gate Nozzle 12SVH
### 10.3.1.1 Single Axis Valve Gate Nozzle 12SVH Parts List

In this section the nozzle parts are identified with the numbers indicated in the following figure.

**NOTICE**

Always tighten the screws to the torque specified in the respective table in section 13.

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty.</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Isolation nut</td>
<td>GAN0010S</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Isolation ring</td>
<td>GAN0020S</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Nozzle head top</td>
<td>GAN0030S####</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Bridge</td>
<td>GAN0040S</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Sealing sleeve</td>
<td>GAN0050S</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Cooling bar</td>
<td>GAN0060S</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Nozzle head bottom</td>
<td>GAN0072S</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Actuator</td>
<td>HYC2013S01</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>Guide sleeve</td>
<td>12SVP-S-01</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Heater band</td>
<td>HT-045-022-01</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>Nozzle body complete</td>
<td>12E04 (varied)</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>Shutoff nozzle tip</td>
<td>(varied)</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>Shutoff valve pin</td>
<td>(varied)</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>Heater band</td>
<td>HB450941</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M3X14-12.9</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M4X12-12.9</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M5X90-12.9</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M6X10-12.9</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>Hexagon socket set screw</td>
<td>DIN915-M6X10-45H</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Parallel pin</td>
<td>DIN6325-4M6X16</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>Parallel pin</td>
<td>DIN6325-3M6X8</td>
</tr>
<tr>
<td>22</td>
<td>2</td>
<td>Thermo couple</td>
<td>XTA00115001</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>Head body</td>
<td>12SVPHB-01</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M3X10-12.9</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>Clamping device</td>
<td>GAN0170S</td>
</tr>
</tbody>
</table>
### Actuator HYC2013S01 Parts List

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty.</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1</td>
<td>Actuator housing</td>
<td>HYC2013CH01</td>
</tr>
<tr>
<td>02</td>
<td>3</td>
<td>Piston D23</td>
<td>HYC2013PI01</td>
</tr>
<tr>
<td>03</td>
<td>3</td>
<td>Gasket locator</td>
<td>HYC2013GL01</td>
</tr>
<tr>
<td>04</td>
<td>3</td>
<td>Gasket locator cover</td>
<td>HYC2013GC01</td>
</tr>
<tr>
<td>05</td>
<td>1</td>
<td>Suspension ring</td>
<td>HYC2013SR01</td>
</tr>
<tr>
<td>06</td>
<td>1</td>
<td>Adjustment bushing</td>
<td>HYC2013AB01</td>
</tr>
<tr>
<td>07</td>
<td>1</td>
<td>Protection ring</td>
<td>HYC2013PR01</td>
</tr>
<tr>
<td>08</td>
<td>1</td>
<td>Seal kit complete</td>
<td>HYC2013SK01</td>
</tr>
<tr>
<td>8.1</td>
<td>3</td>
<td>Back up ring 10x15x2</td>
<td>Y21015PS030</td>
</tr>
<tr>
<td>8.2</td>
<td>3</td>
<td>Rod seal</td>
<td>C1-1005-V3664</td>
</tr>
<tr>
<td>8.3</td>
<td>3</td>
<td>O-ring seal</td>
<td>VIOR17.12X2.62FPM80</td>
</tr>
<tr>
<td>8.4</td>
<td>3</td>
<td>Piston seal (Compact sealing ring consist of an O-ring and a sealing element).</td>
<td>2G0-20X14X2.85</td>
</tr>
<tr>
<td>8.5</td>
<td>3</td>
<td>Guiding element</td>
<td>FB2.3-1.5L33</td>
</tr>
<tr>
<td>09</td>
<td>13</td>
<td>Sealing plug</td>
<td>MB600060</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M4X16-12.9</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>Hexagon socket cap screw</td>
<td>DIN912-M4X25-12.9</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>Set screw</td>
<td>DIN915-M4X6-4SH</td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>Parallel pin</td>
<td>DIN6325-4M6X28</td>
</tr>
</tbody>
</table>
Assembly Tools

In this section the Stripping and Mounting Tool parts are identified with the numbers indicated in the following figure.

Seal Cap Assemble Tools for VSW Nozzle Tip

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>AT12E-0104</td>
<td>Seal cap assemble tool for VSW nozzle tip</td>
</tr>
<tr>
<td>T3</td>
<td>AT12E-0105</td>
<td></td>
</tr>
</tbody>
</table>

Heater Disassembly Tool Compl. AT12E-0101

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1.1</td>
<td>AT12E-010101</td>
<td>Heater Disassembly Tool 12E Type 01</td>
</tr>
<tr>
<td>T1.2</td>
<td>AT12E-010102</td>
<td>Heater Disassembly Tool 12E Type 02</td>
</tr>
<tr>
<td>T1.3</td>
<td>AT12E-010103</td>
<td>Heater Disassembly Tool 12E Type 03</td>
</tr>
</tbody>
</table>

10.3.1.2 Nozzle Disassembly Tool

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3</td>
<td>AT12S-01</td>
<td>Nut</td>
</tr>
</tbody>
</table>

Tools for Disassembling the Actuators - ATCYL10

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4</td>
<td>ATCYL1001</td>
<td>Calibration sleeve</td>
</tr>
<tr>
<td>T2</td>
<td>ATCYL1002</td>
<td>Mounting tool</td>
</tr>
<tr>
<td>T3</td>
<td>ATCYL1003</td>
<td>Installation cone</td>
</tr>
<tr>
<td>T4</td>
<td>ATCYL1004</td>
<td>Spread tube</td>
</tr>
<tr>
<td>T5</td>
<td>ATCYL1005</td>
<td>Wrench complete</td>
</tr>
</tbody>
</table>
## Safety Instructions for the Service at the Single Axis Valve Gate Nozzle 12SVH

### WARNING

**Hot Surfaces Hazard**

Contact between the skin and hot surfaces could result in burns.

- Use personal protective equipment, such as gloves, apron, sleeves and face protection, to guard against burns.
- When servicing or handling the hot runner system outside the manifold plates or the injection molding machine, care must be taken to heed the hot surface exposure warnings.
- For first aid contact your medical / safety representing.

### NOTICE

**Hazard of Pressurized Air**

Pressurized air blow can result in hot plastic or foreign bodies entering the eyes, causing vision damage.

- Following work must be carried out by qualified and experienced persons.
- Use personal protective equipment: Face protection, hearing protection and gloves.

**Hazard of Material Damage**

Without consulting Synventive it is not permitted to do modifications to the hot runner system e.g. geometrical changes to the nozzle tip, except the part shape adjustment in the area of material allowance.

- Any impact against the nozzle tip may result in its damage.
- Never hammer or impact the nozzle tip from the front (i.e. from the side of the mold).
- Twisting could damage the nozzle tip.

- When replacing the nozzles, the sealing rings must always be replaced.
10.3.1.3 Dismounting the Hydraulic Cylinder Housing and Sealing

1) Remove the socket head cap screw (16).
2) Remove the dasher and grounding cable.

3) Unlocked the Hexagon socket cap screws.
4) Remove the parallel pins.

5) Fasten the isolation nut (1) in a vice.
6) Losen the isolation nut (1) at the nozzle tip (12).
7) Remove the isolation nut (1).
8) Lift the complete actuator housing (8) from the guide sleeve (9).

9) Unscrew the suspension ring (HYC2013SR01) from the adjustment bushing (HYC2013AB01).

10) Loosen and remove the socket cap screws (10, Part of HYC2013S01) and (11, Part of HYC2013S01).
11) Remove the protection ring (07, Part of HYC2013S01) from the cylinder housing (01, Part of HYC2013S01).
12) At the 3 pistons (02) loosen and remove the gasket locators (03) with the wrench ATCYL1005 (T5).

13) Pull the pistons (02) out of the cylinder housing (01).

14) Dismount the seals from the gasket locators (03).
   - 8.1 Back up ring
   - 8.2 Rod seal
   - 8.3 O-ring seal

15) Dismount the guiding elements (8.5) out of the inner groove of the gasket locator covers (04).

16) Dismount the piston seals (8.4) out of the inner grooves at the pistons (02).

**NOTICE**

The piston seal is a compact seal consisting of:
- O-ring (a)
- Sealing element (b)
10.3.1.4 Assembly of the Cylinder Housing HYC2013S01 on the Nozzle

Assembly of the Pistons into the Actuator HYC2013S01

NOTICE
After disassembly of the sealing elements, the original seals should be replaced as required by Synventive.

1) Fit the mounting cone (T3) on the piston (02).

2) Lubricate the piston seal elements (8.4) with hydraulic oil or white grease.
   - O-ring (8.4) (a)
   - Sealing element (8.4) (b)

3) Mount the O-ring (8.4) (a) into the seal groove of the piston (02).
4) Using the spreader sleeve (T4) and the mounting cone (T3) to push the sealing element (8.4) (b) into the seal groove of the piston (02).

NOTICE
In the seal groove of the piston (02) the sealing element (8.4) (b) is placed above the O-ring (8.4) (a).
5) Fit the shaft of the piston (02) into the mounting tool (T2).
6) Place the calibration sleeve (T1) into the bore in the cylinder housing (01).
7) Insert the piston (02) with the mounting tool (T2) through the calibration sleeve (T1) into the cylinder housing (01).

8) Insert the guiding element (8.5) into the groove of the gasket locator cover (04).

9) Install the seals of the gasket locators (03).
   8.1 Back up ring
   8.2 Rod seal
   8.3 O-ring seal

10) Install the gasket locator covers (04) into the gasket locators (03).
11) Place the gasket locator (03) (04) on the shaft of the piston (02).
12) Turn the gasket locator (03) (04) into the cylinder housing (01) thread with the wrench ATCYL1005 (T5) up to the mechanical stop.

**NOTICE**
The top of the gasket locator (03) must not exceed (01) the lower edge of the cylinder housing.

13) Pull the piston (02) until it reaches the gasket locator cover (04).

**NOTICE**
In this position, the top of the piston shaft protrudes 24 mm above the cylinder housing (01).

14) The following components are provided for mounting on the nozzle (not screwed together):

- (1) Cylinder housing (pre assembled)
- (5) Suspension ring
- (6) Adjustment bushing
- (7) Protection ring
- (10) Hexagon socket cap screw DIN912-M4X16-12.9
- (11) Hexagon socket cap screw DIN912-M4X25-12.9
- (12) Set screw DIN915-M4X6-45H
- (13) Parallel pin DIN6325-4m6X28
Mounting the Actuator Housing HYC2013S01 on the Single Axis Valve Gate Nozzle 12SVH

1) Mount the actuator housing (1, part of HYC2013S01) with the pistons (2, part of HYC2013S01) into the related holes of the suspension ring (5, part of HYC2013S01).

2) Turn the pistons (2, part of HYC2013S01) to align the holes (a) at the pistons (2, part of HYC2013S01) regarding the holes at the suspension ring (5, part of HYC2013S01).

3) Take the actuator housing (1, part of HYC2013S01) away from the suspension ring (5, part of HYC2013S01).

4) Attach the Protection ring (07, part of HYC2013S01) with hexagon socket cap screws (10 and 11, part of HYC2013S01) at the actuator housing (01, Part of HYC2013S01).

5) Check the fit of the adjustment bushing (HYC2013AB01).

**NOTICE**

The adjustment bushing (HYC2013AB01) has to be positioned 20 mm to the upper edge of the guide sleeve and fixed with the hexagon socket set screw (19).

**NOTICE**

The inside thread of the suspension ring (HYC2013SR01) is a left-hand thread.

6) Screw the suspension ring (HYC2013SR01) at the adjustment bushing (HYC2013AB01).

**NOTICE**

The suspension ring (HYC2013SR01) has to be positioned 42 mm to the upper edge of the guide sleeve.
7) Keep the suspension ring (HYC2013SR01) shown like right.

**NOTICE**

If the suspension ring is not exactly aligned with the large recess to the cooling strip, place the bearing ring (HYC2013SR01) in the shortest path to the position shown in figure Doc007289.png.

8) Mount the actuator (8) at the nozzle.

**NOTICE**

Examine whether the isolation ring (2) at the nozzle head top (3) is placed in the right position.
9) Screw in the isolation nut (1) at the nozzle head top (3).
10) Check the clearance of the cooling bar (6).

11) Fix the nozzle at the isolation nut (1) in a vice.
12) Fasten the isolation nut (1) at the nozzle tip (12).

NOTICE
Torque value - 40 Nm
13) Mount the parallel pin and lock it with the socket head cap screw.

14) Check the position of the cooling bar (6) on the actuator (8).

**NOTICE**

The cooling bar (6) must be easily movable to be positioned on the actuator (8). If this is not possible, contact Synventive customer service.

15) Tighten the ground wire with a socket cap screw (16) on the cooling bar (6).

**NOTICE**

Note the arrangement of the components shown in the figure (Doc007414.png) on the right side.
10.3.1.5 Dismounting and Mounting of the Nozzle 12SVH

Dismounting of the Nozzle and Heater from the Head Body

1) Remove the socket head cap screw (16).
2) Remove the dasher and grounding cable.

3) Unlocked the Hexagon socket cap screws.
4) Remove the parallel pins.
5) Fix the nozzle at the isolation nut (1) in a vice.
6) Loosen the isolation nut (1) at the nozzle tip (12).

7) Remove the isolation nut (1).
8) Lift the complete actuator housing (8) from the guide sleeve (9).
9) Screw the 2 hexagon socket screws (18) out of the guide sleeve (9), heater band (14) and bridge (4).

10) Take off the guide sleeve (9) from the heater band (14).
11) Fix the nozzle (11) at the head body (23) in a vice.

**NOTICE**

Refer to the procedure page 370 Disassembly Nozzle 12E including „Disassembling the Nozzle Heater“ and „Disassembling the Nozzle Tip and Nozzle Body“

The difference is as follow:

- The 12SVH nozzle is fixed in a vice.
- The 12E is screwed into the manifold.

Mounting of the Nozzle and Heater

**NOTICE**

For the assembly procedure follow the section 10.1.3.3 „Assembling Nozzle 12E“. The difference is as follow:

- The 12SVH nozzle is fixed in a vice
- The 12E is screwed into the manifold.

For Mounting the Actuator Housing HYC2013S01 on the Single Axis Valve Gate Nozzle 12SVH, see the page 366 above.

**NOTICE**

The torque value for fastening the nozzle body on the head body (23) is 175 Nm.

Setup for the Disassembly and Assembly of the Nozzle from / to the Head body

(T3) - Nozzle Disassembly Tool AT12S-01
(23) - Head body
10.3.1.6 Dismounting and Mounting of the Thermocouple

Dismounting of the Thermocouple

**NOTICE**
For dismounting and mounting the thermocouple there is not a need to have the cylinder housing dismounted.

1) Loosen the hexagon socket cap screw (24).
2) Move the clamping device (25) to the side, away from the thermocouple (22).

3) Pull the thermocouple (22) out of the bore of the heater band (14) and nozzle head bottom (7).

4) Dismount the 12E-04 nozzle heater.

**NOTICE**
Follow the heater dismounting procedure of the nozzle 12E-04 Series.

5) Move the heater band (10).
6) Pull the thermocouple (22) out of the bore of the head body (23).
Mounting of the Thermocouple

**NOTICE**

For dismounting and mounting the thermocouple there is not a need to have the cylinder housing dismounted.

1) Guide the thermocouple (22) through the heater band (14) into the thermocouple hole on the nozzle head bottom (7).

2) Bring the clamping device (25) to vertical position.
3) Fix the thermocouple (22) with the hexagon socket cap screw (24).

4) Align the thermocouple (22) in the nozzle heater (14) direction.
5) Fix the thermocouple (22) with heat resistant adhesive tape at the outlet of the nozzle heater (14).
6) Guide the thermocouple (22) into the thermocouple hole of the head body (23).
7) Mount the heater band (10).
8) Complete the nozzle 12E-04.

**NOTICE**
Follow the mounting procedure of the nozzle 12E-04 Series.

---

### 10.3.1.7 Grounding of the Single Axis Valve Gate Nozzle

**DANGER**

**Danger to Life by Electric Shock**

The Single Axis Valve Gate Nozzle has to be properly grounded to prevent serious personal injury or death.

- Electrical work must be carried out by qualified persons.
- Verify that all power source connections are properly grounded.
- In Emergency case - Switch all systems off.
- For first aid contact your medical / safety representing.

1) Check the position of the cooling bar (6) on the actuator (8).

**NOTICE**
The cooling bar (6) must be easily movable to be positioned on the actuator (8). If this is not possible, contact Synventive customer service.

2) Tighten the ground wire with a socket cap screw (16) on the cooling bar (6).

**NOTICE**
See the order of the components in the image of the right side Doc007414.png
10.3.1.8 Valve Pin Height Adjustment

1) Unscrew the socket set screw (19).
2) Drive valve pin in closed position with reduced pressurized air of approx. 2.76 bar (40 psi).
3) Adjust valve pin position with a suitable pin in holes of the adjustment bushing (HYC2013AB01).
4) Turn the adjustment bushing (HYC2013AB01) by using a pin to get the valve pin front into basic position 0.3 mm.

**NOTICE**

Turning one hole forward results in a height adjustment of 0.25 mm at the valve pin.

5) Tighten the socket set screw (19).

(A) Hydraulic access “CLOSE”

(B) Hydraulic access “OPEN”
10.3.1.9 Disassembling the Single Axis Valve Gate Nozzle out of the Mold

**NOTICE**
The Single Axis Valve Gate Nozzle is located on the fit diameters of the nozzle tip and the lower part of the cylinder housing in the mold.

![Diagram of Single Axis Valve Gate Nozzle](Doc007297.png)

1) Cool down the Single Axis Valve Gate Nozzle and the mold to room temperature.
2) Lift the Single Axis Valve Gate Nozzle inclusive of actuator out of the mold.

**NOTICE**
If it is not possible to lift the Single Axis Valve Gate Nozzle inclusive of actuator out of the mold, please contact the Synventive Customer Service or Technical Support.