

SVG Valve Gate



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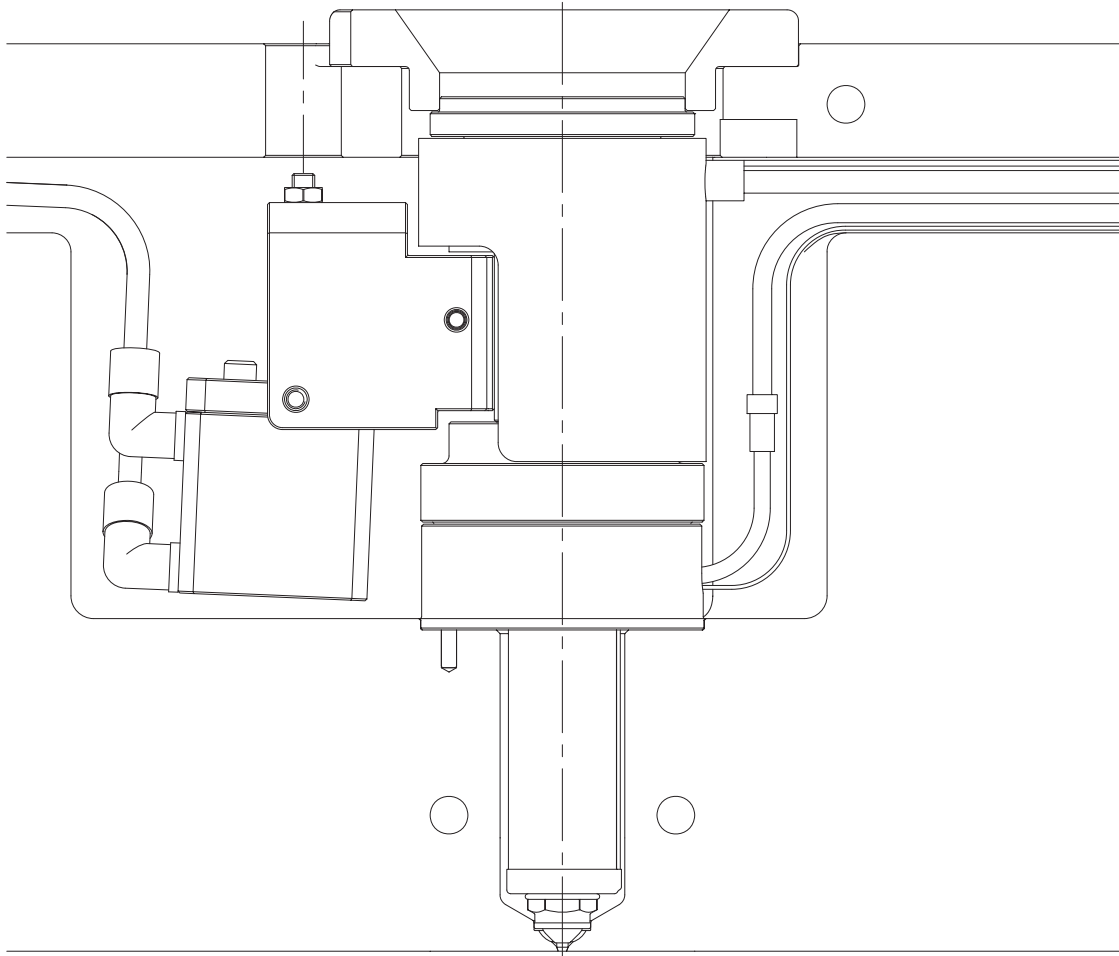
IMPORTANT!!

High temperature (°C) air fittings and line must be used on this nozzle.

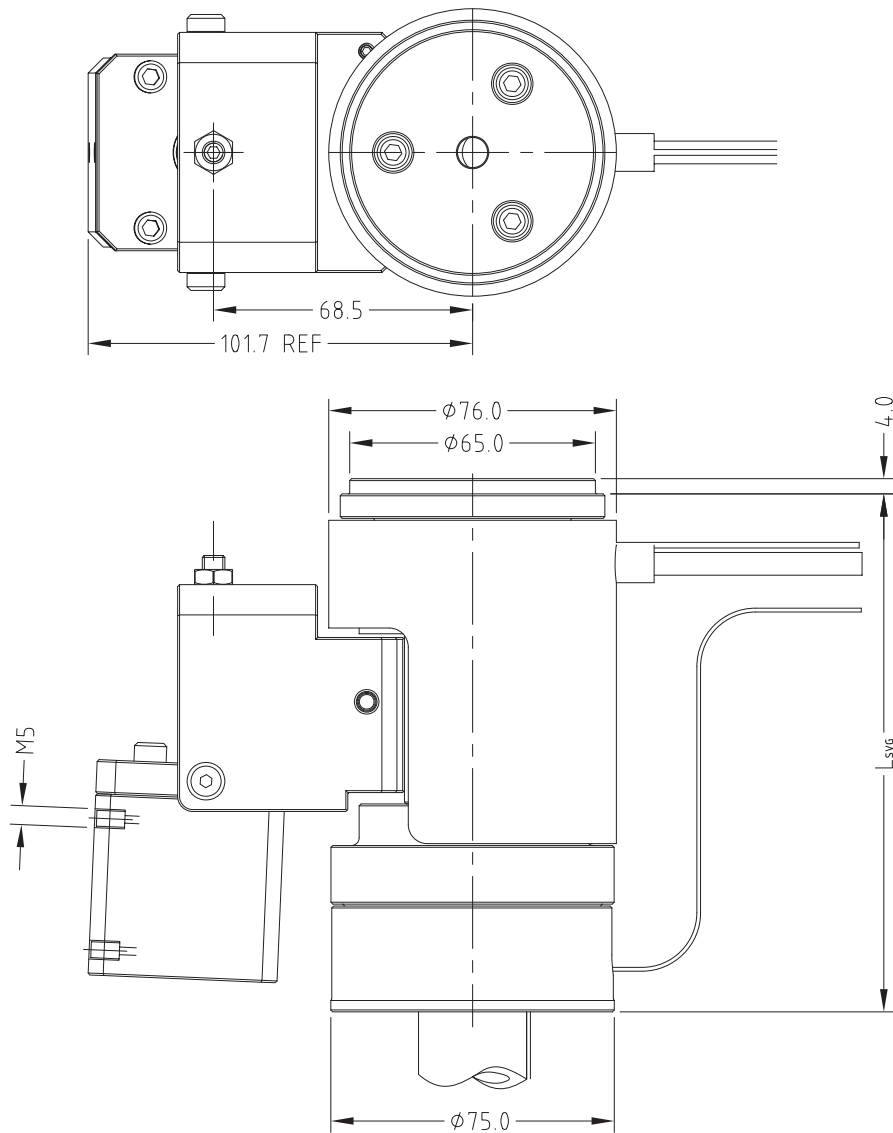
The cylinder should be in the closed position at all times except during injection and packing.

Air quality: Filtered to 40 µm & lubricated

Maximum air: pressure 10 Bar

**Key Features**

- Suitable for most materials - temperature control in gate area is critical for gate quality
- Tapered or plunger type shut off pin
- Ø2.5mm to Ø5.0mm pin
- Air Actuated
- Compatible with BX 16, 19 and 27 series nozzles



Nozzle Compatibility

Description	Nozzle	Tip	Nozzle Length	Supplied Pin Size (D x L)	L_{SVG}
SVG33 - 2.5 x 250	BX16	OV / TV	55 - 145	2.5 x 250	134
SVG33 - 3.0 x 250	BX19	OV / TV	55 - 145	3.0 x 250	137
SVG33 - 5.0 x 350	BX27	OV / TV	75 - 175	5.0 x 350	142

→ Refer to Pg. SVG-6 **Pin Details** section to calculate required pin length

Product Codes

Description	Fully Assembled	Semi Assembled
SVG33 - 2.5 x 250	91-120-116	91-120-016
SVG33 - 3.0 x 250	91-120-119	91-120-019
SVG33 - 5.0 x 350	91-120-127	91-120-027

The SVG is available in two formats:

1. Fully assembled:

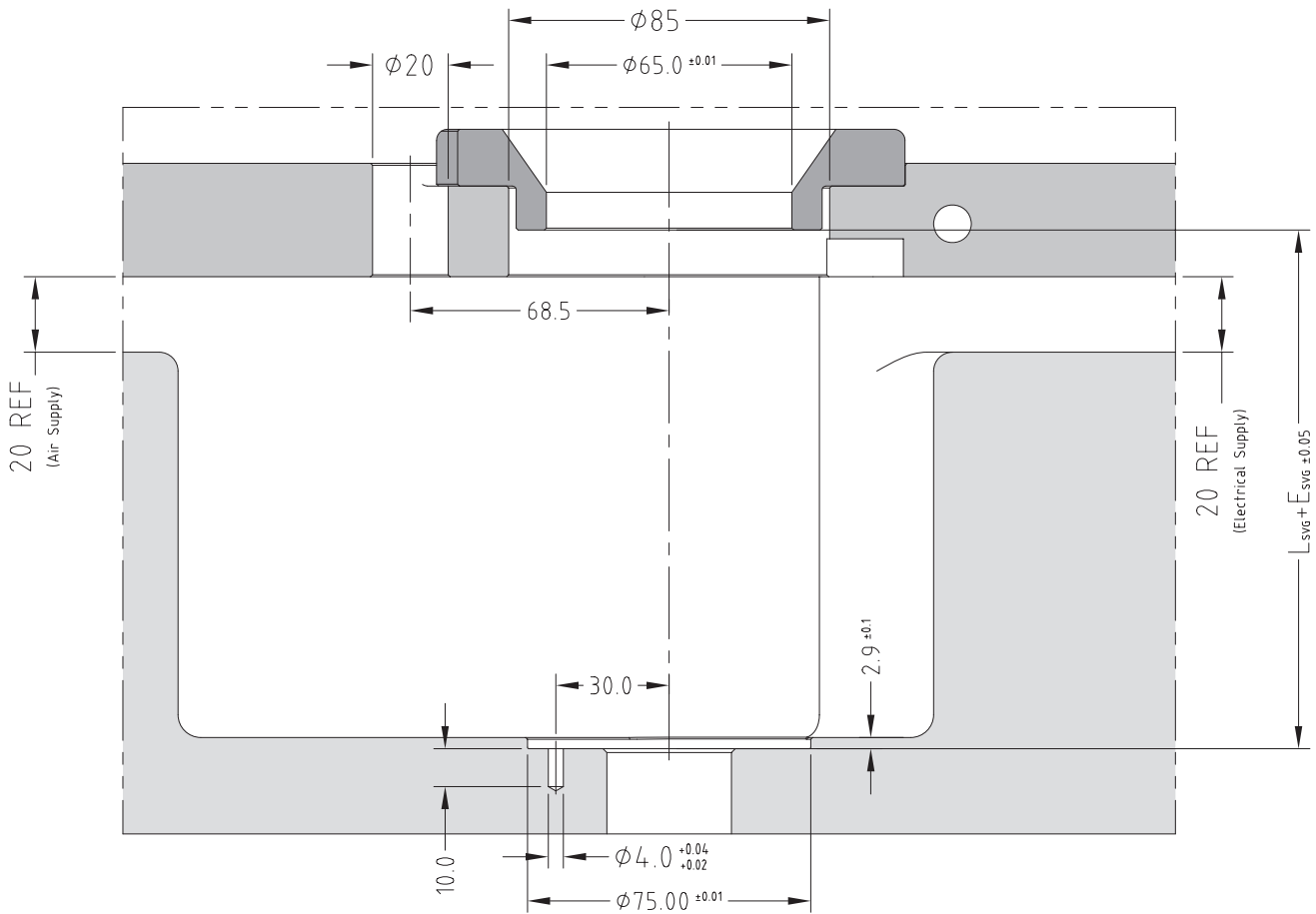
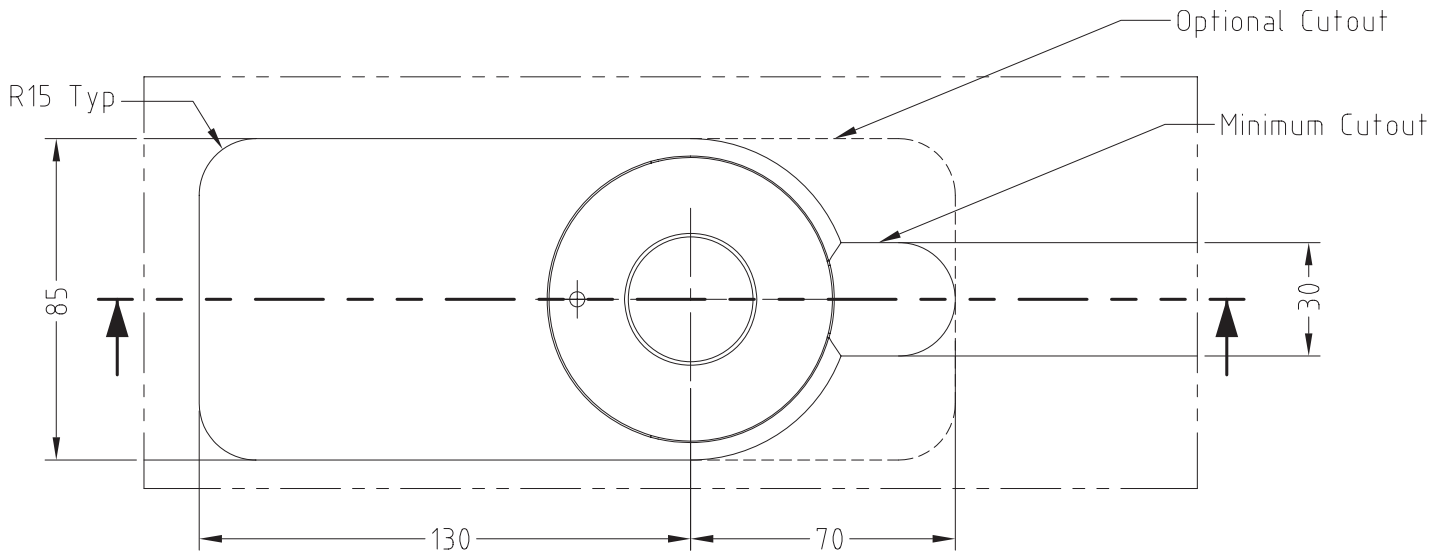
- i. Product is supplied ready to install
- ii. Nozzle code must be specified with placing order

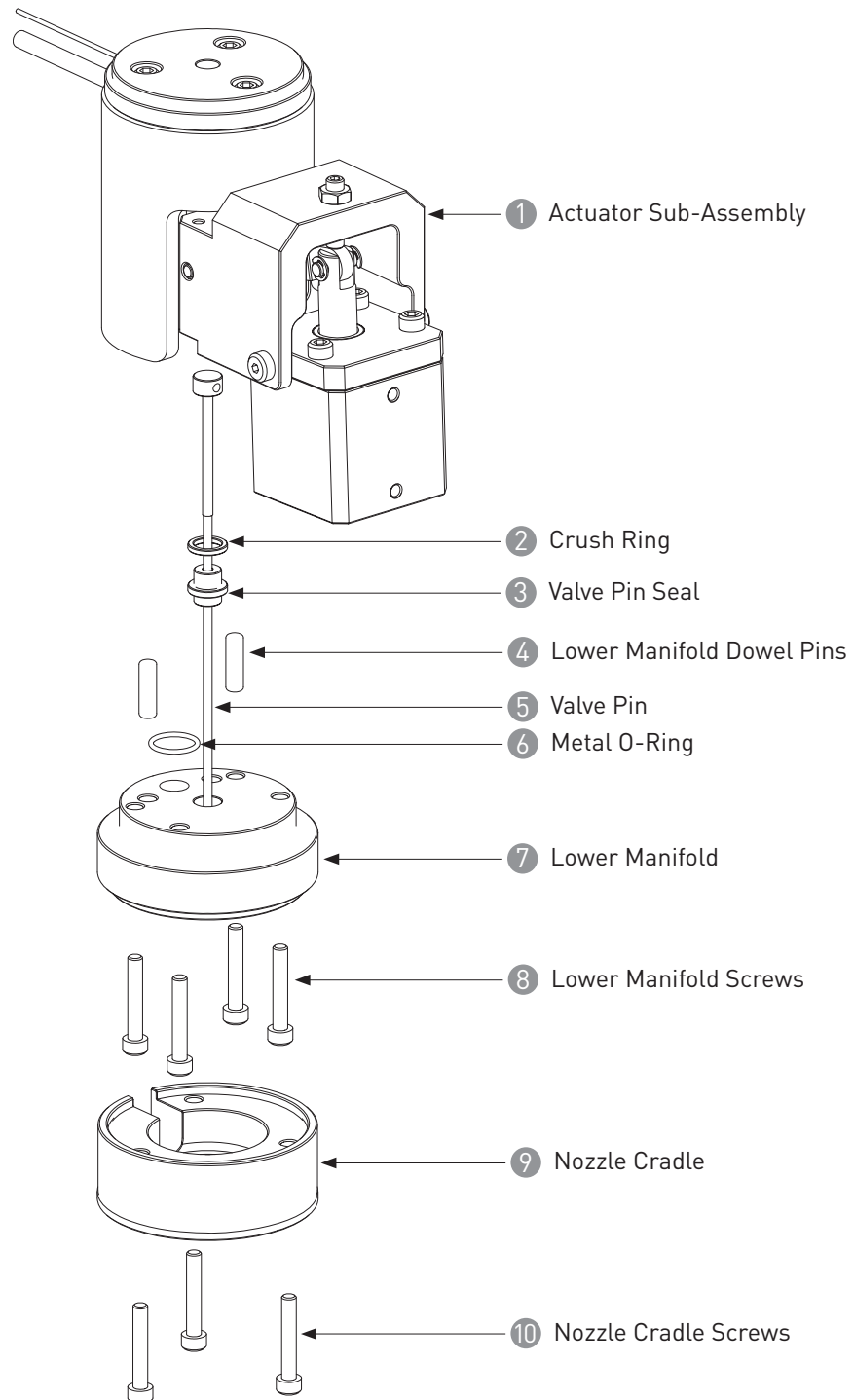
2. Semi Assembled:

- i. Semi assembled kit set requiring pin to be cut to length and final assembly with nozzle
- ii. Nozzle size must be specified when placing order

$$E_{SVG} = L_{SVG} \times 0.0000132 \times (\text{nozzle temp. } ^\circ\text{C} - \text{mould temp. } ^\circ\text{C})$$

→ Refer to Pg. SVG-3 for dimension L_{SVG}





Caution: The gap between the gate and the pin in cold state is critical. If the gap is too large there will be a poor gate vestige and drooling from the nozzle may occur. If the gap is too small, the pin can strike the gate and may decrease the gate life.

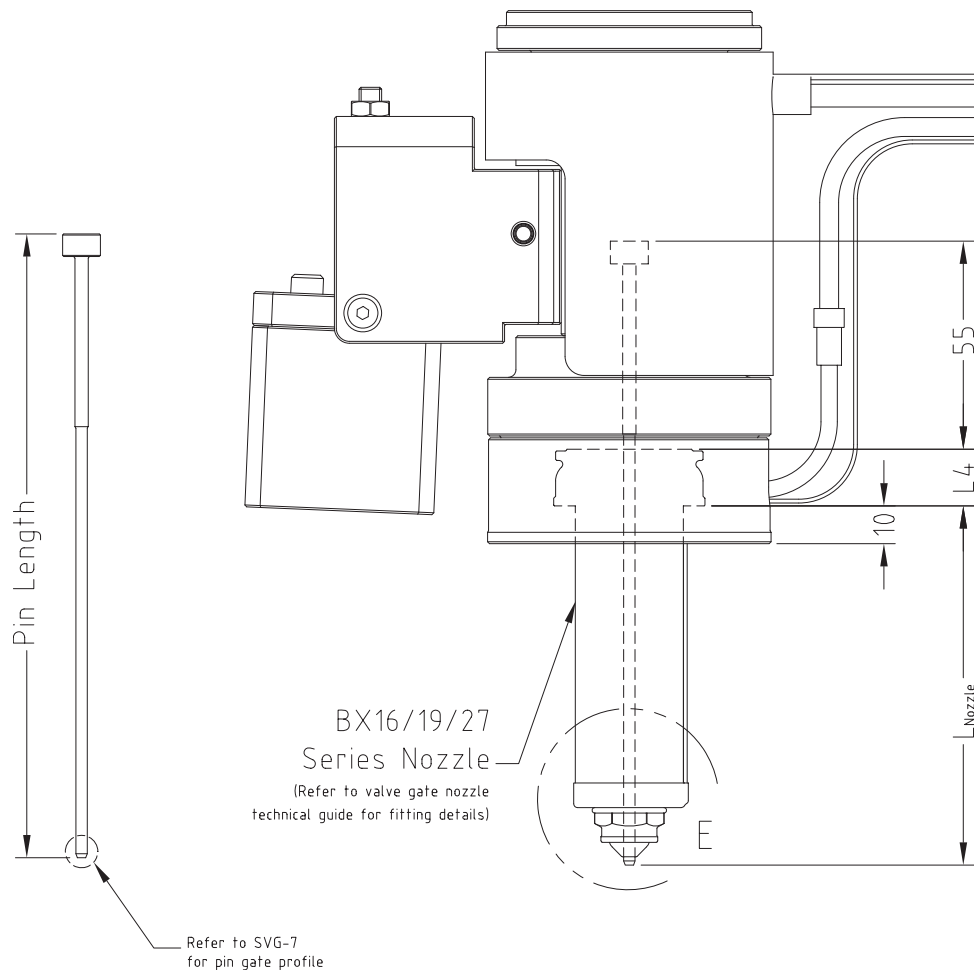
Variables			
Description	Variable	Units	Value
Nozzle Temperature	T_{Nozzle}	°C	
Mould Temperature	T_{Mould}	°C	
Delta Temperature	ΔT	°C	$T_{\text{Nozzle}} - T_{\text{Mould}}$
Coefficient of Thermal Expansion	α	1/°C	0.0000132

To calculate final pin length use the following equation:

$$L_{\text{Pin Length}} = 55 + L4 + L_{\text{Nozzle}}$$

To calculate pin expansion use the following equation:

$$E_{\text{Pin Length}} = L_{\text{Pin Length}} \times \alpha \times \Delta T$$



Assembling Nozzle to Actuator Sub-Assembly

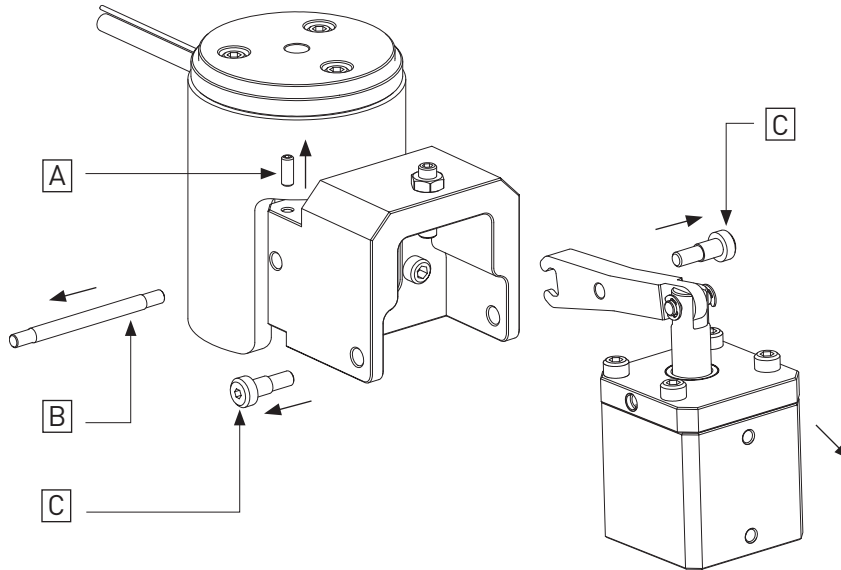
INSTALLATION

ONE

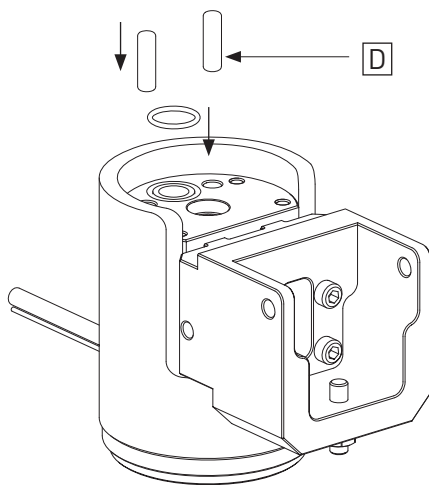
Ensure valve pin is cut to correct length and all mating surfaces are clean.

TWO

Loosen **A** Lever Pivot Pin Locking Screw and remove **B** Lever Pivot Pin, **C** Cylinder Pivot Screws and remove cylinder assembly from the **1** Actuator sub-Assembly.

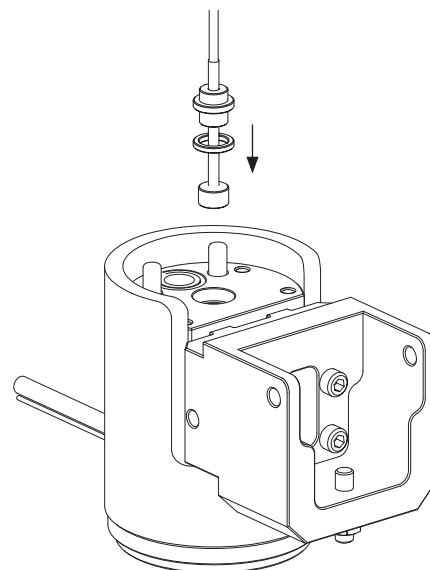


THREE



Fit $\text{\O}6 \times 20$ **D** Dowel Pins and **5** Metal O-Ring to top manifold plate.

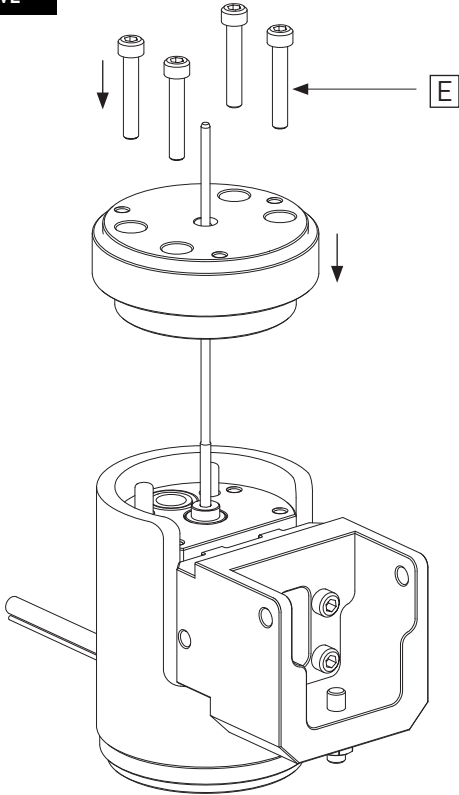
FOUR



Fit **5** Valve Pin, **4** Valve Pin Seal and **3** Crush Ring to the top manifold assembly, ensuring the crush ring is located between the pin seal and the top manifold.

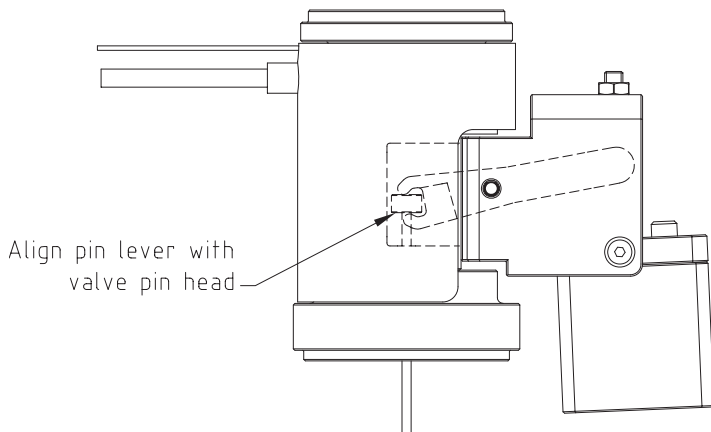
INSTALLATION CONT.....

FIVE



Fit the **6 Lower Manifold** plate to the top manifold plate assembly and fasten with **E M5x30 Cap Screws**, tighten to 9 Nm.

SIX

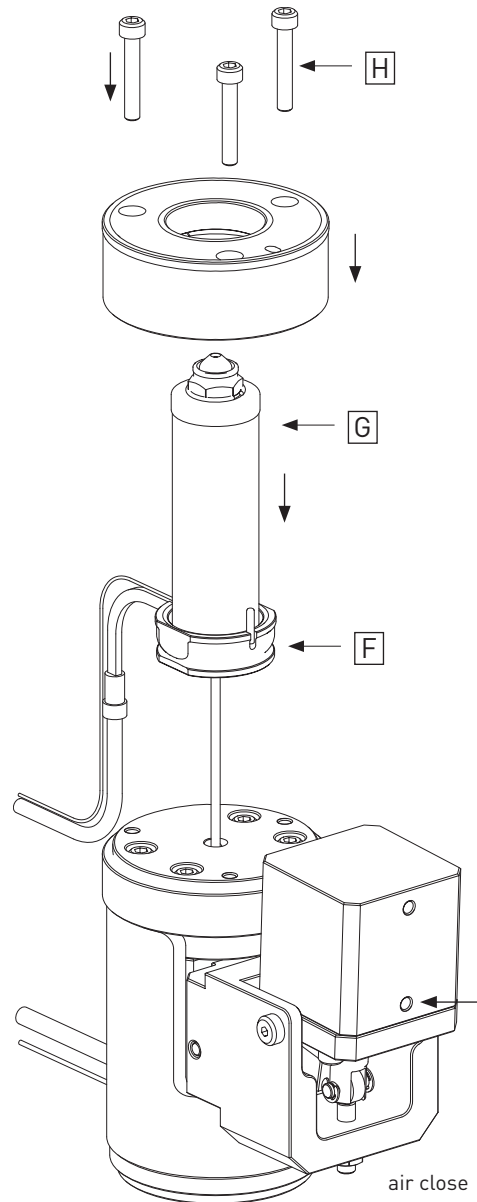


Align pin lever with valve pin head

Fit cylinder assembly to cylinder bracket taking care to align pin lever with valve pin head, and fit lever pivot pin and cylinder pivot screws.

→ Refer Pg.SVG-10 if a valve pin alignment dowel is required.

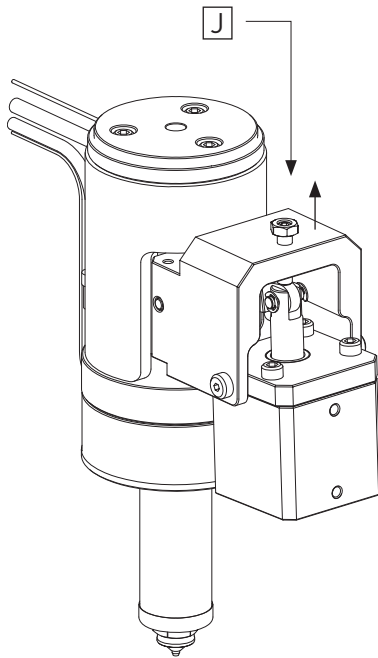
SEVEN



Fit **F BX Dowel Pin** and **G BX Nozzle Assembly** to the nozzle cradle and fit to the actuator assembly, and fasten with **H M5x30 Cap Screws**, tighten to 9 Nm.

Pin Adjustment

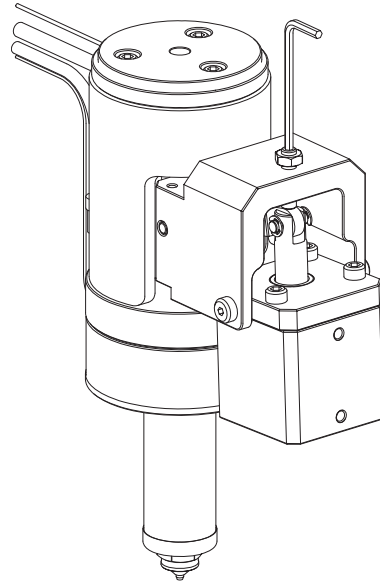
ONE



Ensure air supply is connected to the pin close supply.

Loosen adjustment **J** Screw Lock Nut.

TWO



Ensure the closing air supply is on. Use a hex key in the pin stop screw to adjust the pin to the correct position.

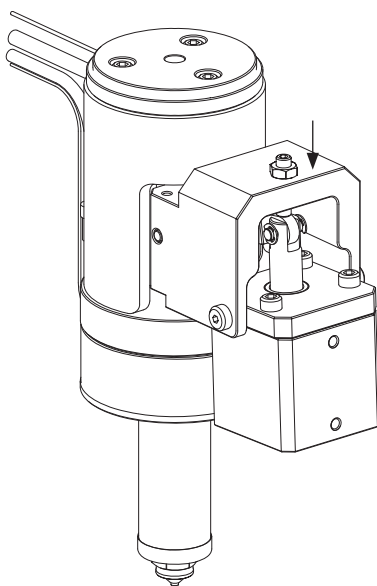
a. For adjusting a new installation:

- i. While cold set the pin position using a depth micrometer to 'E' back from the cavity. → Refer Pg.SVG-6.

b. For adjusting an existing installation:

- i. Heat nozzle and SVG actuator to processing temp.
- ii. Adjust the valve pin forward until the pin stops in the gate and then back the pin off by 1/8 of a turn of the stop screw.

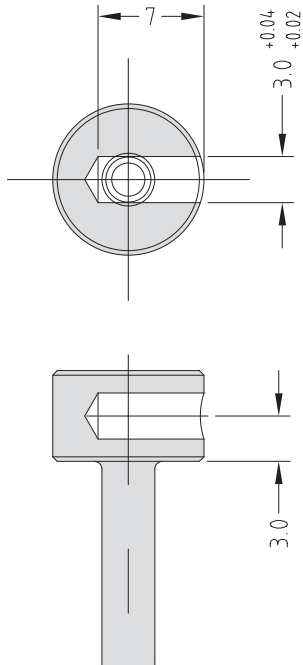
THREE



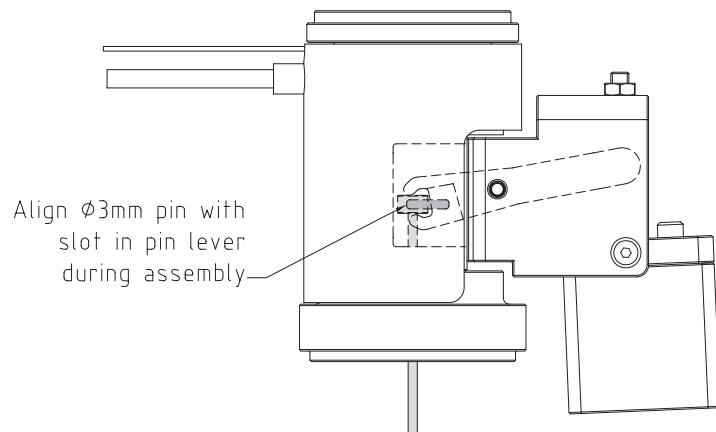
Tighten the adjustment screw lock nut.
Pin adjustment is complete.

Pin Alignment

The following steps demonstrate how the SVG is able to be easily modified to stop the pin rotating during use.

ONE

Drill a dowel hole in the head of the valve pin.

TWO

At STEP SIX of **Assembling the nozzle to actuator sub-assembly** fit a $\text{Ø}3 \times 14\text{mm}$ dowel pin in the dowel hole. Fit the actuator cylinder assembly taking care to guide the dowel pin into the corresponding slot in the pin lever.

THREE

Go to STEP SEVEN of **Assembling the Nozzle to Actuator Sub-Assembly** section and follow the remaining steps to assemble the nozzle and actuator.

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