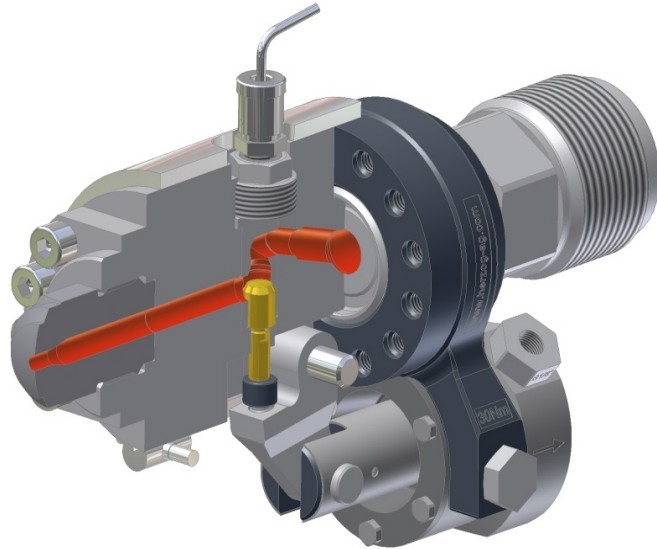


Machine bolt shut-off nozzle type BHP

pneumatically or hydraulically controlled



Applications:

Thermoplastics (not applicable for PVC)

Shut-off mechanism:

Bolt shut-off with integrated 2-way actuator
pneumatically or hydraulically operated

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Safety instructions



This symbol indicates explanations about important matters.
Failure to read these or false handling could result in injury or damage.

Please pay attention to the following safety instructions and precautions



Handling

- Installation and servicing to be only carried out by suitable personnel according to the installation and service instructions.
- Nozzle can become extremely hot. Full face protection and heat resistant gloves must be worn.



Damage precaution

- Do not drop the nozzle or exert it to unnecessary forces.
- Take care that no foreign bodies enter the working parts of the nozzle.
- No adjustment or manipulation when nozzle is in operation.
- Never heat steel parts over **520°C**.
- The actuator is designed for temperatures up to **180°C**.
- Nozzle is only to be used for injection molding purposes.



Operational notes

- Maximum injection rate / temperature: **3000 bar at 400°C**.
- Torques on screws and threaded parts must be adhered to.
- Noise emissions from the nozzle do not exceed 70 dB(A).



Explosion danger

- Some plastics produce gases if they stay for a longer time in a heated environment. There is a risk that the gas may escape explosively through the nozzle orifice.

Keep this manual in a convenient place for future reference.

Installation instructions



Read safety instructions!

Legend:



with Hand



smear with high temperature lubricant



tool



inspection



temperature equalisation

Note:

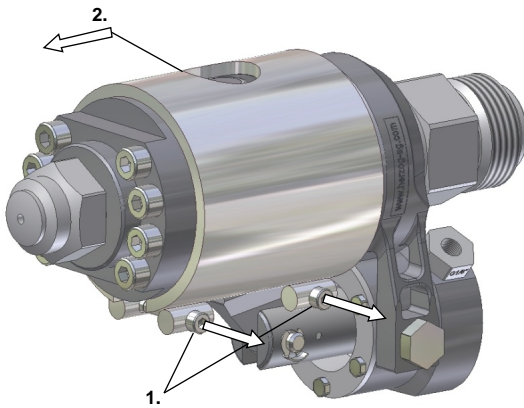
Nozzle is delivered pre-assembled. The following instructions are for installation on the machine. For easier handling remove the actuator.

Tools required:

Hexagonal wrench, allen key, ring spanner, socket wrench, pliers, punch.
See chapter **Assembly** for tool sizes and torques.

Installation steps A) - G)

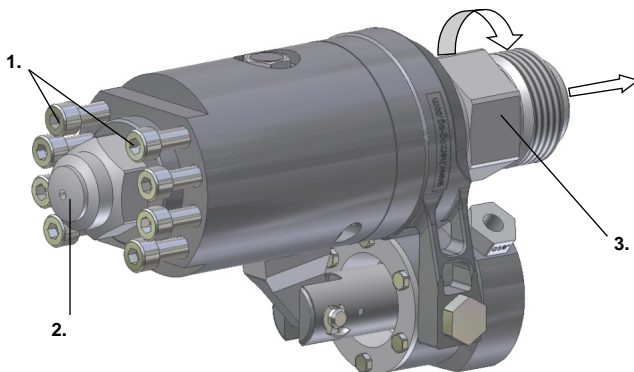
A)



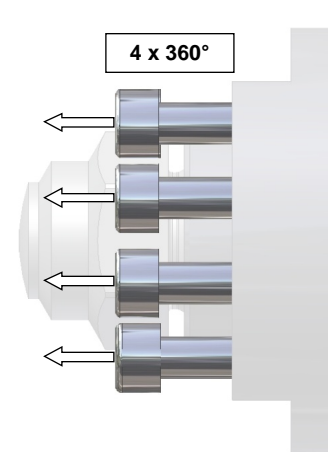
1. Loosen and respectively remove heater band screws
2. Take off heater band

B)

Note: Loosen the screws by four rotations.

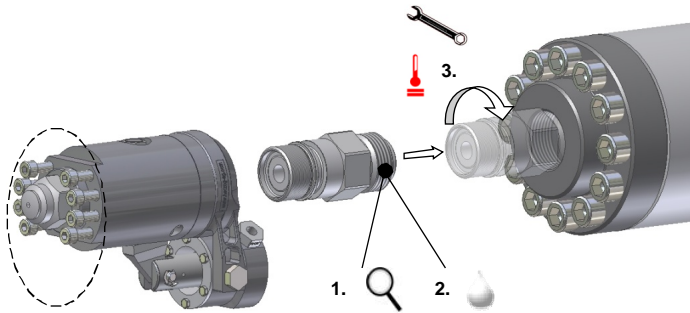


1. Loosen screws
2. Loosen tip
3. Screw the adapter out

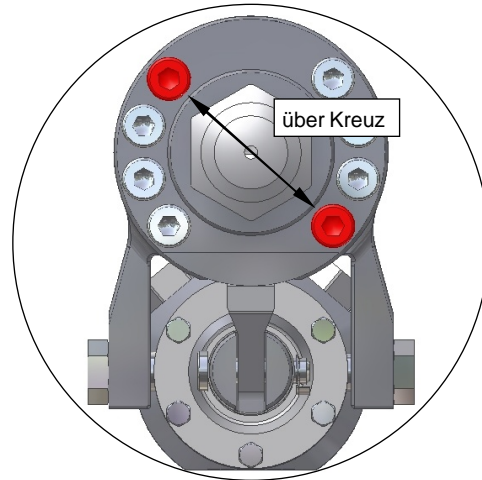


C)

4.

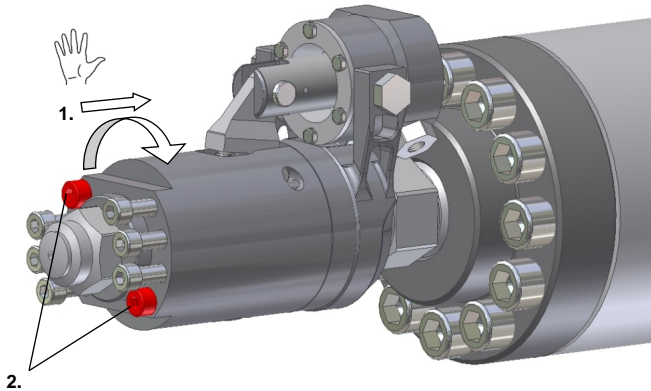


1. Check surfaces and threads
2. Smear adapter thread with high temperature lubricant
3. Mount adapter; await temperature equalisation and tighten acc. to machine handbook



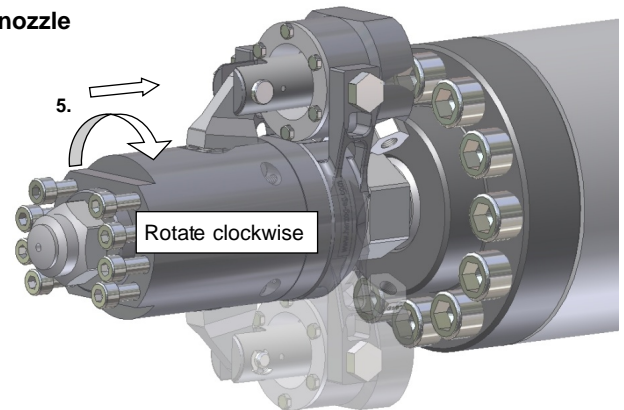
4. Tighten two screws crosswise

D)



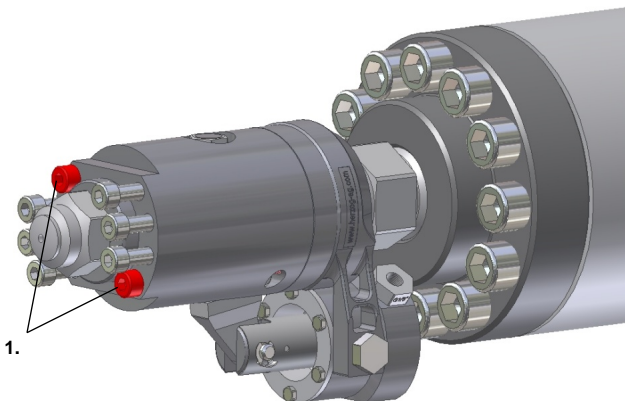
1. Screw nozzle onto the adapter until contact
2. Loosen the two previously tightened screws by four rotations.

Align nozzle



3. Align: Screw nozzle **clockwise** further onto the machine
Note: min. ¼ rotation

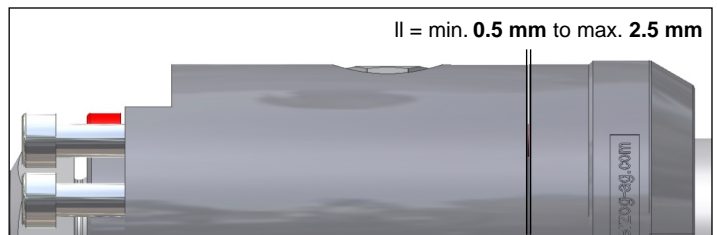
E)



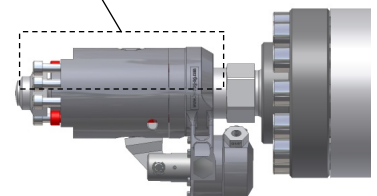
1. Tighten two crosswise screws
2. Check gap between body and adapter ring **max. 2.5 mm**



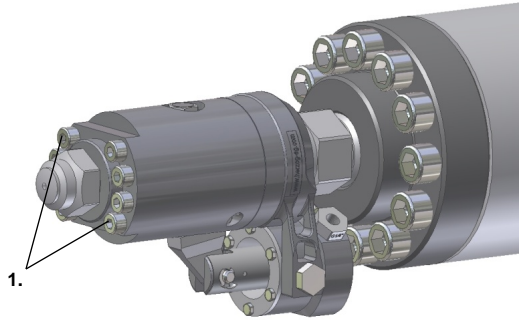
Adapter ring gap nonexistent: Loosen the two screws and screw the nozzle 360° clockwise.



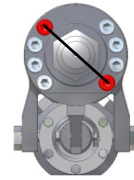
2.



F)



1. Tighten all screws in a crosswise fashion

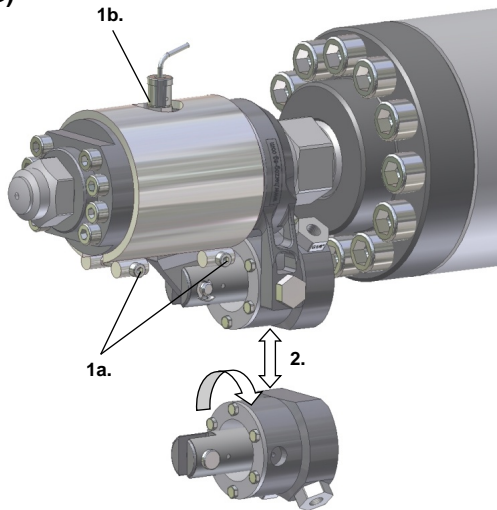


crosswise

Torque**BHP1**

1. pass	handtight
2. pass	15 Nm
3. pass	22 Nm
4. pass	25 Nm

G)



1. Mount heater band (1a) and temperature sensor (1b)
2. Attach flexible actuator pipe connections
Note: The actuator can be rotated 180° to suit



Only for initial operation: Re-tighten screws, tip and heaterband screws with maximum torque. See **Initial operation** below, torque in chapter **Assembly**.

Initial operation



Read safety instructions!

Initial operation:

1. Bring nozzle to operating temperature
2. **Only by first initial operation:** tighten screws and heater band screws to the maximum recommended torques
3. Make sure that the Polymer is completely melted
4. Eject the heated material. This follows after extrusion at low speed (time ca. 25 - 30 S) or through injecting out at three to five times the rate of injection

Actuator:

Operational data according to engraving on cylinder

Leakage:

Between bolt and guide there is a melt film which prevents the needle from blocking. The melt film will be continuously renewed and will eventually leak out of the nozzle.



At machine downtimes: nozzle temperature must be lowered.

Service instructions



Read safety and cleaning instructions!

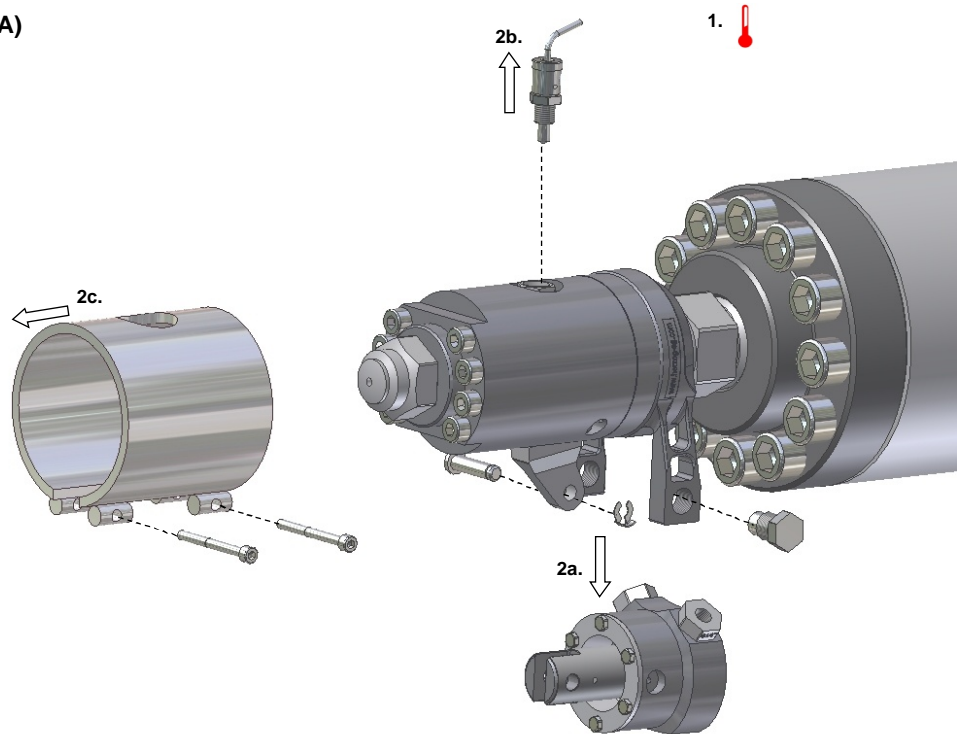
Assembly Note: Grease all threads with high temperature paste!

Attention

Actuator service information available separately in documentation **Actuator**.
For more information see www.herzog-ag.com.

Disassembly A) - C)

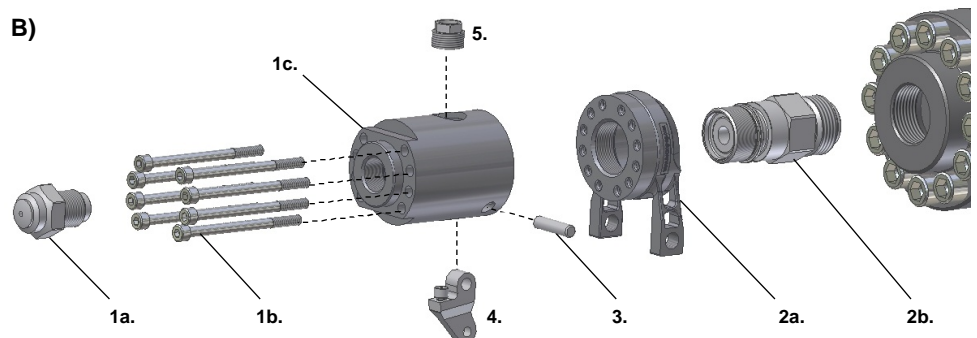
A)



Removing the nozzle from the machine:

1. Heat nozzle to operating temperature
2. Remove actuator (2a.), temperature sensor (2b.) and heater band (2c.)

B)

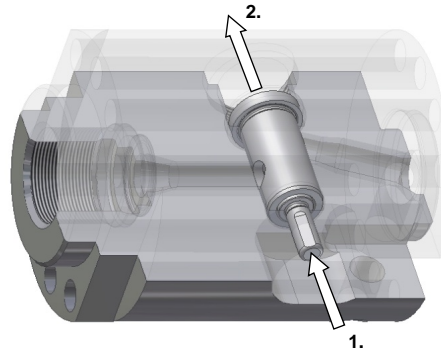


1. Remove tip (1a.), screws (1b.), body (1c.)
2. Remove bracket (2a.) and adapter (2b.)
3. Strike out pivot bolt (3a.) carefully using a soft punch
4. Remove lever (4.)
5. Screw out locking nut (5.)

c)

Important:

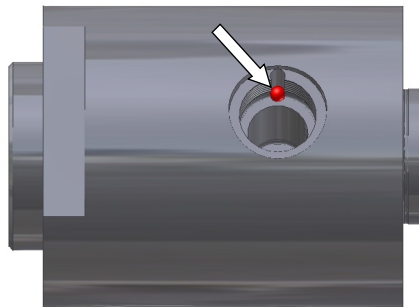
The bolt and bolt sleeve may sometimes be difficult to remove. Do not use excessive force on these parts. If you are experiencing problems at this stage of the disassembly please contact Herzog for further assistance.



1. Using a soft punch, strike out carefully
2. Remove sleeve and bolt from above

Assembly note:

Be careful to align the notch on the bolt sleeve with the positioning stud on the body.



Cleaning instructions

To clean the nozzle we recommend three methods:

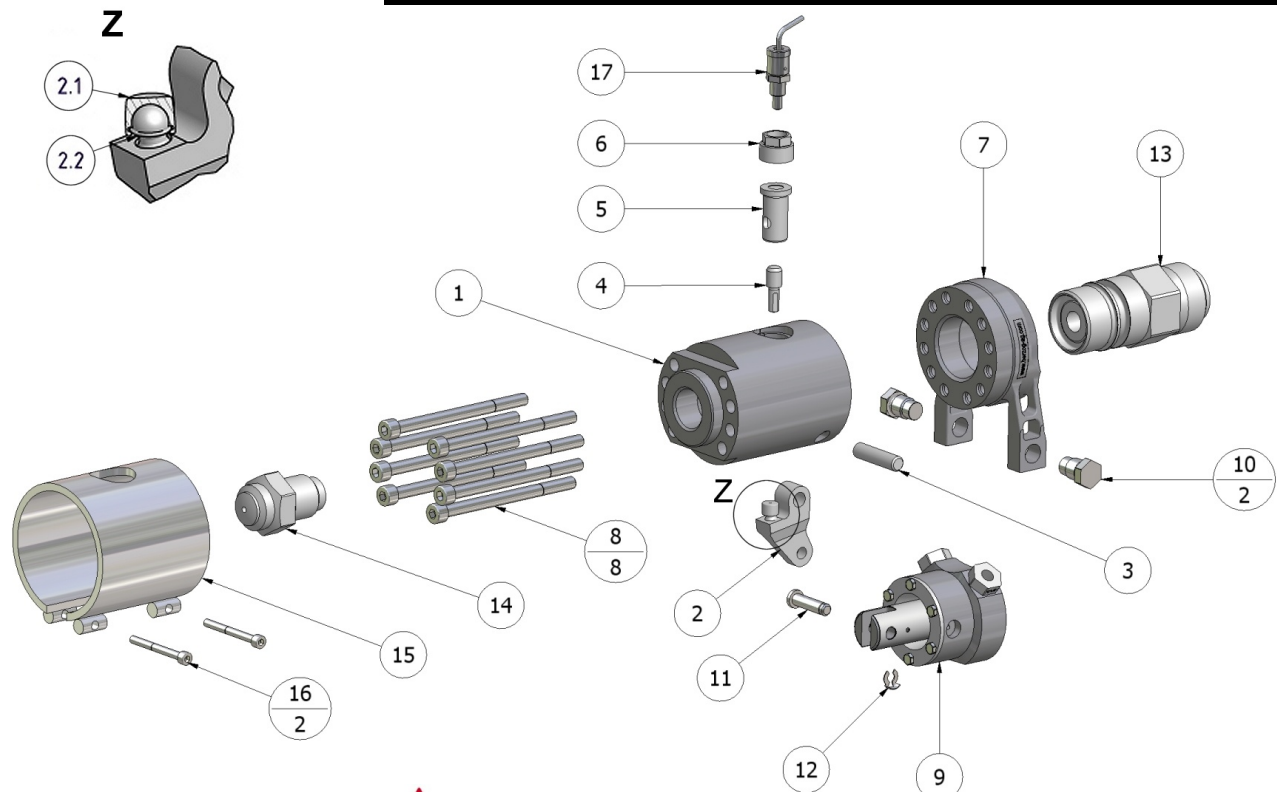
1. Clean the nozzle (**without actuator**) in a heated state, as far as possible on the machine and disassemble according to the instructions.
2. Remove the nozzle complete from the machine and (**without actuator**) clean in a fluidized bath, ultrasonic cleaning reactor or oven. Afterwards take the nozzle apart and clean the individual parts.
3. Profit from our cleaning service. The nozzle is taken apart, checked and repaired if necessary.

Best results for nozzles used with materials like LCP, PPS or PEEK can be expected, if the nozzle is heated up to 500°C and hold it at that temperature level for about 2 hours. If you do so the material will burn.

Clean using the following:

- Propane Gas (without oxygen)
- Oil bath
- Fluidized bath
- Micro-blasting

Assembly



Assemble according to the numerical order. Grease all threads with high temperature paste! See also chapter: **Disassembly**.

Pos.	Qty.	Designation	Tool size (torque) BHP1	
			Metric (Nm)	Imperial (lbs/ft)
1	1	Body	-	-
2	1	Lever	-	-

2.1	1	Pivot cover	-	-
2.2	1	Snap ring for bore ø8 mm	-	-

3	1	Pivot bolt ø10 mm	-	-
4	1	Bolt BHP	-	-
5	1	Bolt sleeve	-	-
6	1	Locking nut	SW17 (180)	11/16 (132)
7	1	Bracket / Adapter ring	-	-
8	8	Screws	SW6 (25)	1/4 (18)
9	1	Actuator	-	-
10	2	Bolt screws	SW17 (30)	11/16 (22)
11	1	Bolt ø8 mm	-	-
12	1	Slip plate	-	-
13	1	Adapter	SW46 / 60 (torque acc. to machine handbook)	1 13/16 - 2 3/8 (torque acc. to machine handbook)
14	1	Tip	SW32 (150)	1 1/4 (110)
15	1	Heater band ø80 mm x 90 mm	-	-
16	2	Heater band screws	SW 4 (handtight)	5/32 (handtight)
17	1	Temperature sensor	SW 14 (handtight)	9/16 (handtight)

Parts subject to wear / ordering spare parts

Your contact information:

Company	
Street	
City / Zip	
Contact	
Tel. / Fax	
E-Mail	

Lasered nozzle identity no.: please insert here

--

Quantity	Part (for part name, see chapter Assembly)

Send to:

herzog systems ag
CH-9230 Flawil / Switzerland

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www.herzog-ag.com / info@herzog-ag.com