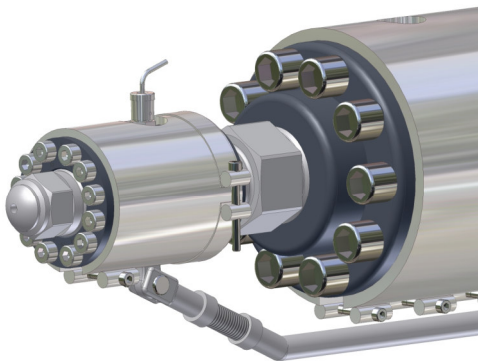
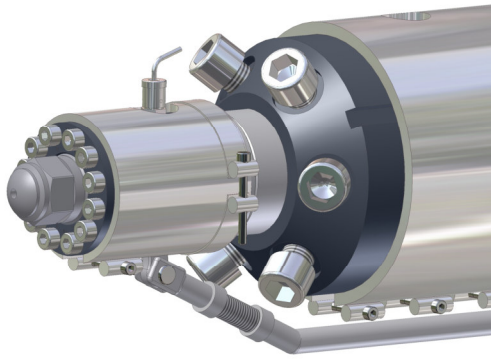


Machine needle shut-off nozzle type HP

pneumatically or hydraulically controlled



Adaption example with thread



Adaption example with pressure screws

Applications:
Thermoplastics (not applicable for PVC)

Shut-off mechanism:
Needle shut-off with machine-side actuator

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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 protected 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**.
- Nozzle is only to be used for injection moulding 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

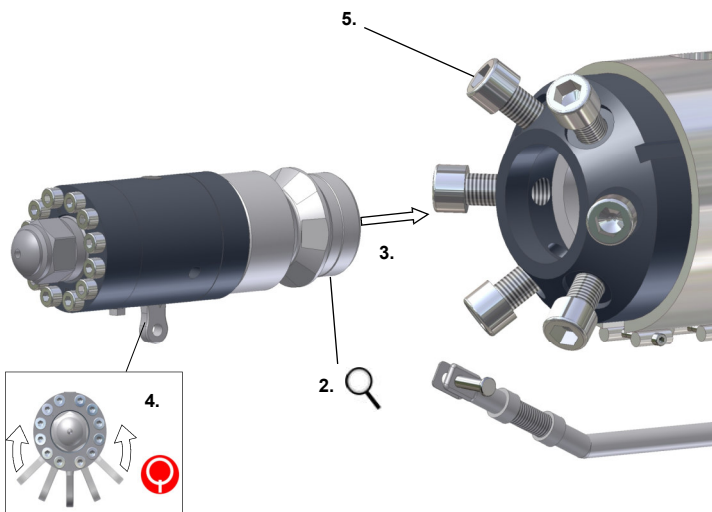
Note:

Nozzle is delivered pre-assembled. The following instructions are for installation on the machine.

Tools required:

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

Installation Steps - Adaption with pressure screws

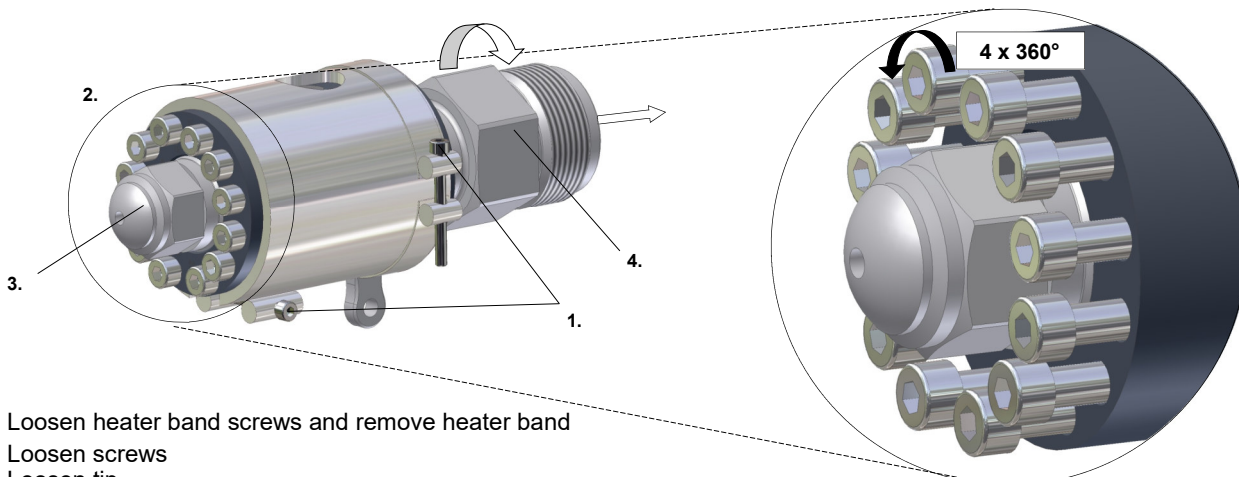


Note: the following steps are valid for a pre-assembled nozzle only

1. If required remove heater band
2. Check surfaces
3. Insert complete nozzle into the machine opening
4. Align lever with stroke bar
5. Tighten screws (see machine handbook)
6. Skip to: **Installation step Adaption with thread D)** and check the adapter ring gap
7. Complete the installation with **Installation step Adaption with thread E)** Point 2 and the remaining steps

Installation steps - Adaption with thread A) - F)

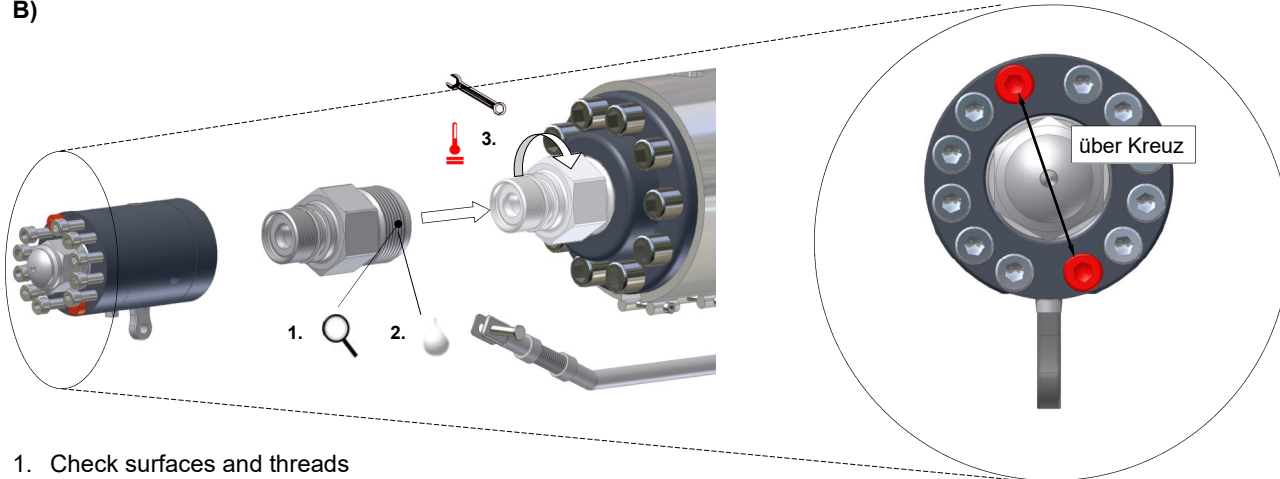
A)



1. Loosen heater band screws and remove heater band
2. Loosen screws
3. Loosen tip
4. Screw the adapter out

Note: Loosen the screws by four rotations.

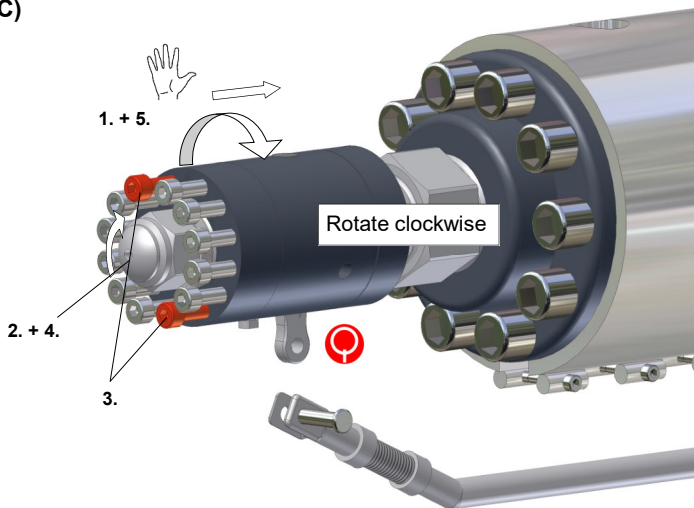
B)



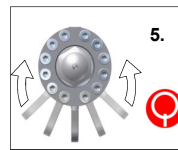
1. Check surfaces and threads
2. Smear adapter thread with high temperature lubricant
3. Mount adapter; await temperature equalisation and tighten acc. to machine handbook

4. Tighten two screws crosswise

C)



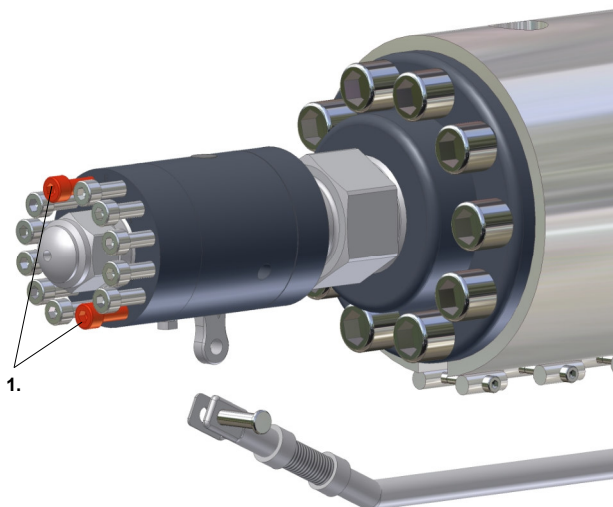
1. Screw nozzle onto the adapter until contact
2. Screw in tip further until contact
3. Loosen the two previously tightened screws by four rotations.
4. Screw in tip approx. 180° further



Align lever with stroke bar!

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

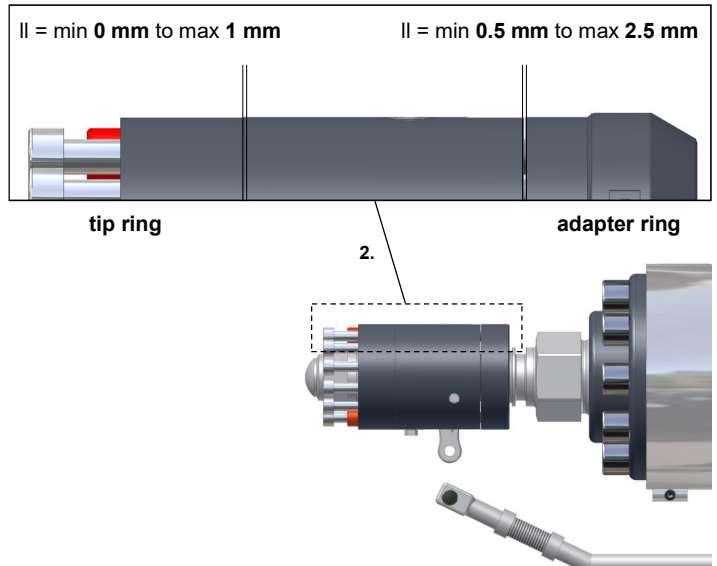
D)

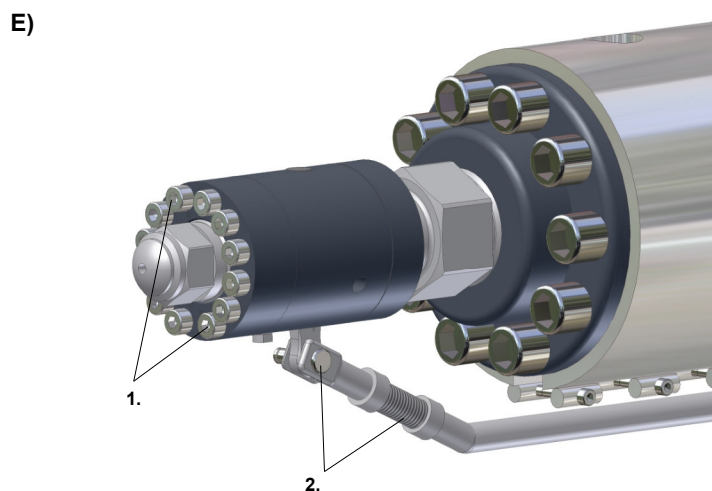


1. Tighten two crosswise screws
2. Check gap between body and adapter ring **max. 2.5 mm**



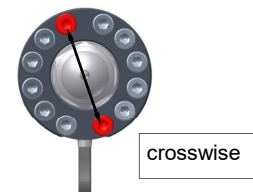
Adapter ring gap nonexistent: Loosen the two screws and screw the nozzle 360° clockwise.



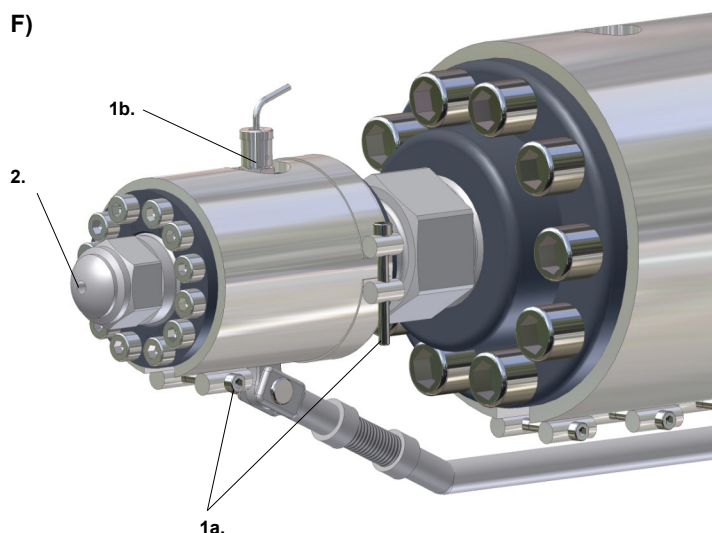


Torque	HP0	HP1	HP2
1. pass	handtight	handtight	handtight
2. pass	7 Nm	15 Nm	35 Nm
3. pass	10 Nm	22 Nm	45 Nm
4. pass	12 Nm	25 Nm	50 Nm

1. Tighten all screws in a crosswise fashion
2. Set stroke bar range (see table below) and couple with lever



	HP0	HP1	HP2
Maximum lever force	800N	900N	2000N
Minimal lever range	14 mm	16mm	22 mm



1. Mount heater band (1a) and temperature sensor (1b)
2. Tighten tip with torque according to chapter Assembly*

* Tip is already tight when mounting step D) has been correctly observed and the required gap exists between tip-ring and the nozzle body

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

Leakage:

Between needle 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.



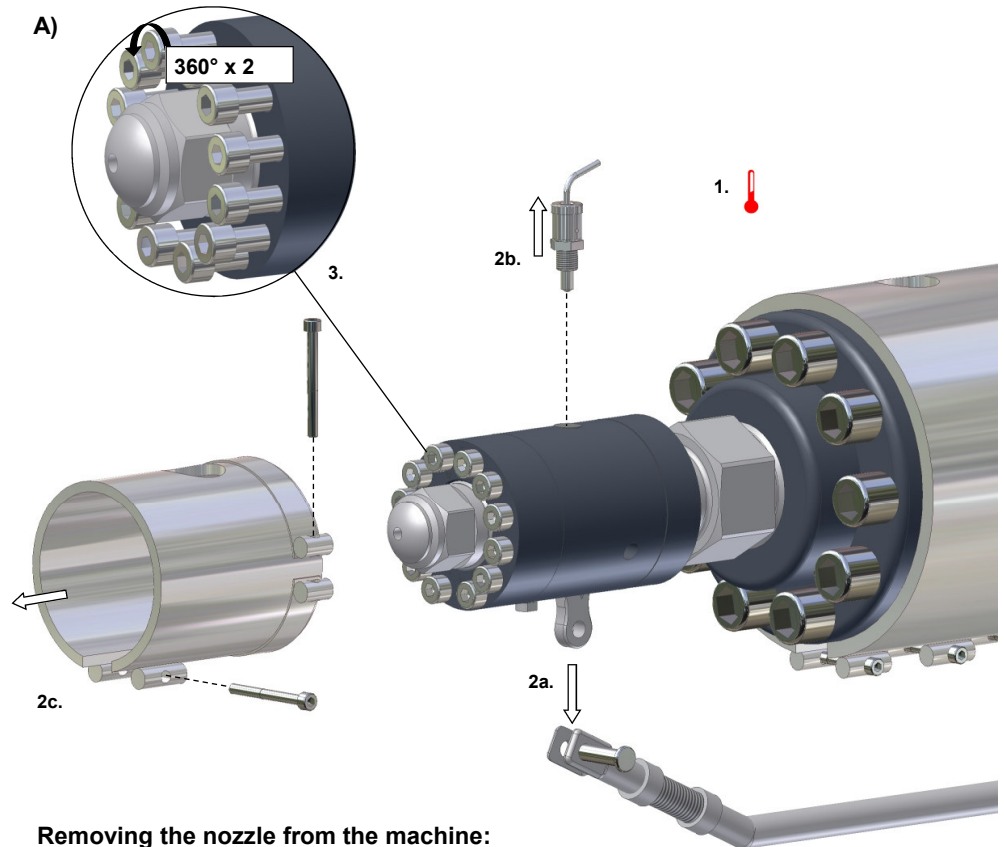
At machine downtimes: nozzle temperature must be lowered.

Service instructions



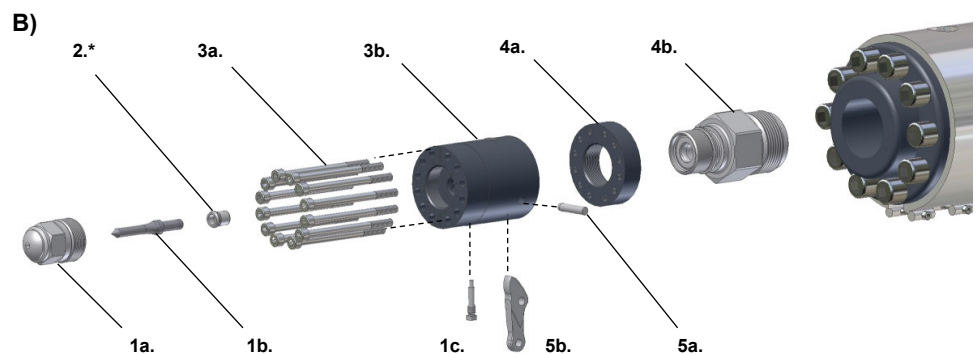
Read safety and cleaning instructions!
Assembly Note: Grease all threads with high temperature paste!

Disassembly A) - B)



Removing the nozzle from the machine:

1. Heat nozzle to operating temperature
2. Remove stroke bar (2a.), sensor (2b.) and heater band (2c.)
3. Loosen screws (**two rotations**)



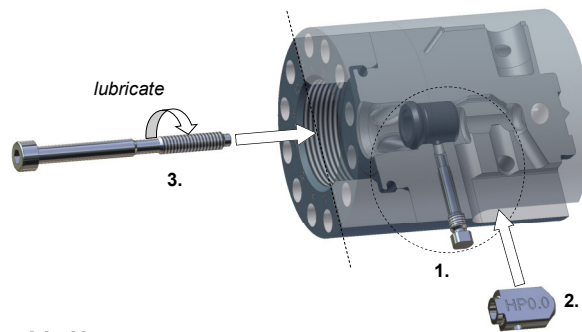
1. Remove tip (1a.), Needle (1b.) and holding pin (1c.)
2. Remove bushing. *If you have difficulty removing the bushing we recommend using our disassembly tool, see **Recommended disassembly tool**
3. Remove screws (3a.) and nozzle body (3b.)
4. Remove adapter ring (4a.) and adapter (4b.)
5. Strike out the lever bolt using a punch (5a.) and remove lever (5b.)

Recommended disassembly tool

Option:

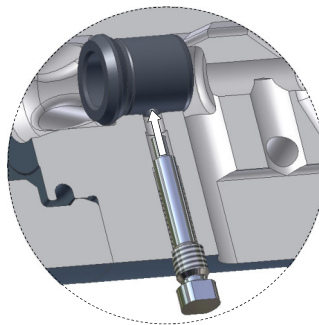
Our disassembly tool eases the needle bushing removal.

1. Holding pin must be removed or min. 5 mm screwed out
2. Position removal nut
3. Screw in removal screw until the bushing is removed



Assembly Note:

Bushing bore must be aligned with holding pin. Tighten the holding pin with moderate strenght (ca. 8Nm).



The end position of the holding pin is approx. **0.5 mm** away from the body unit.

More information at www.herzog-ag.com

Cleaning instructions

To clean the nozzle we recommend three methods:

1. Clean the nozzle 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 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.

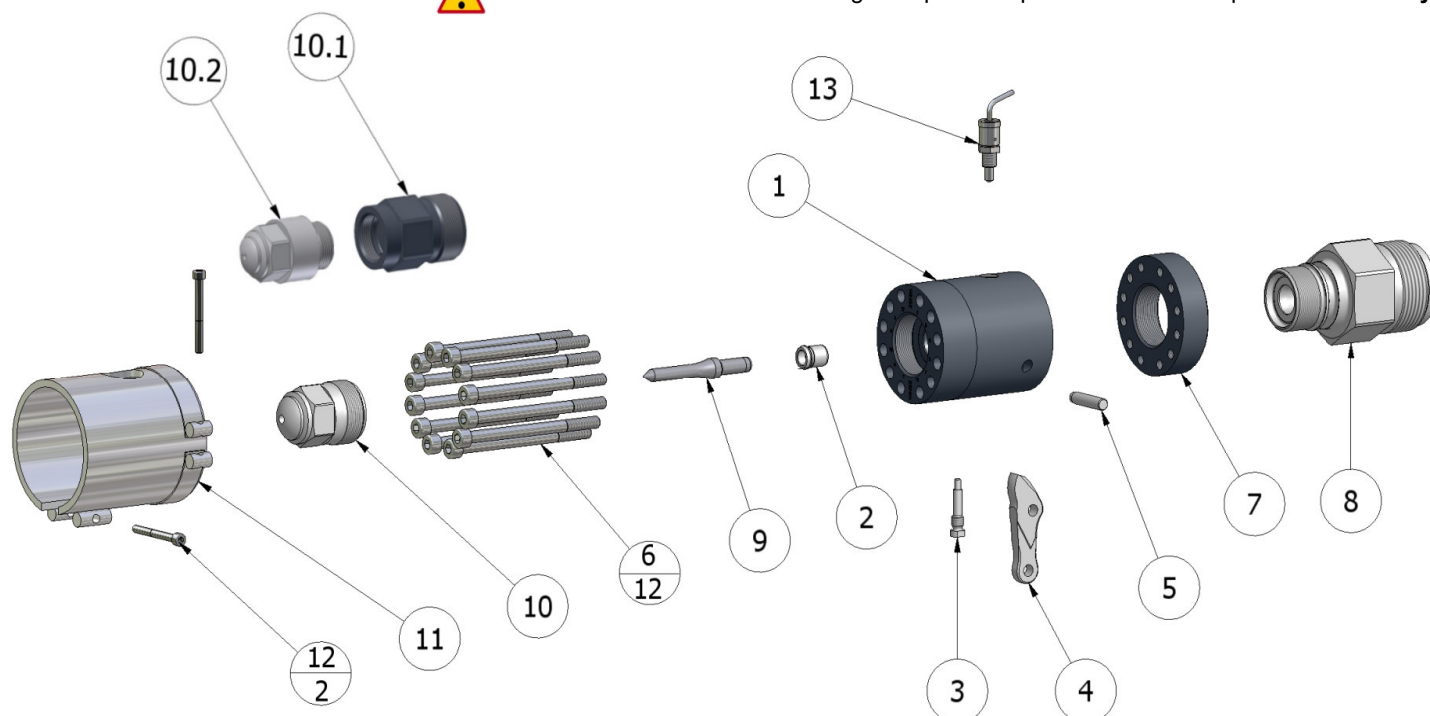
Clean using the following:

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

Assembly



Note: Grease all threads with high temperature paste! See also chapter: **Disassembly**.



Assemble according to the numerical order.

Pos.	Qty.	Description	Tool size (Torque)					
			HP0		HP1		HP2	
			Metric (Nm)	Imperial (lbs/ft)	Metric (Nm)	Imperial (lbs/ft)	Metric (Nm)	Imperial (lbs/ft)
1	1	Body	-	-	-	-	-	-
2	1	Needle bushing	-	-	-	-	-	-
3	1	Holding pin	SW5 (3)	3/16 (2.2)	SW5 (3)	3/16 (2.2)	SW8 (5)	5/16 (3.7)
4	1	Lever	-	-	-	-	-	-
5	1	Pivot bolt	-	-	-	-	-	-
6	12	Screws	SW5 (12)	3/16 (8.8)	SW6 (25)	1/4 (18.4)	SW10 (50)	13/32 (36.8)
7	1	Adapter ring	-	-	-	-	-	-
8	1	Adapter (torque acc. to machine handbook)	SW36	1 7/16	SW46 - 60	1 13/16 - 2 3/8	SW65 - 80	2 6/16 - 3 1/8
9	1	Needle	-	-	-	-	-	-
10	1	Tip	SW27 (220)	1 1/16 (162)	SW36 (500)	1 7/16 (368)	SW55 (1200)	2 3/16 (885)
10.1	1	Base for two-piece tip	SW36 (220)	1 7/16 (220)	SW41 (500)	1 5/8 (368)	SW65 (1200)	2 9/16 (885)
10.2	1	Cap for two-piece tip	SW27 (120)	1 1/16 (88.5)	SW32 (200)	1 1/4 (147)	SW41 (600)	1 5/8 (442)
15	1	Heater band	-	-	-	-	-	-
16	2	Heater band screws	SW4	5/32	SW4	5/32	SW4	5/32
17	1	Temperature sensor	SW14	9/16	SW14	9/16	SW14	9/16

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:

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CH-9230 Flawil / Switzerland

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