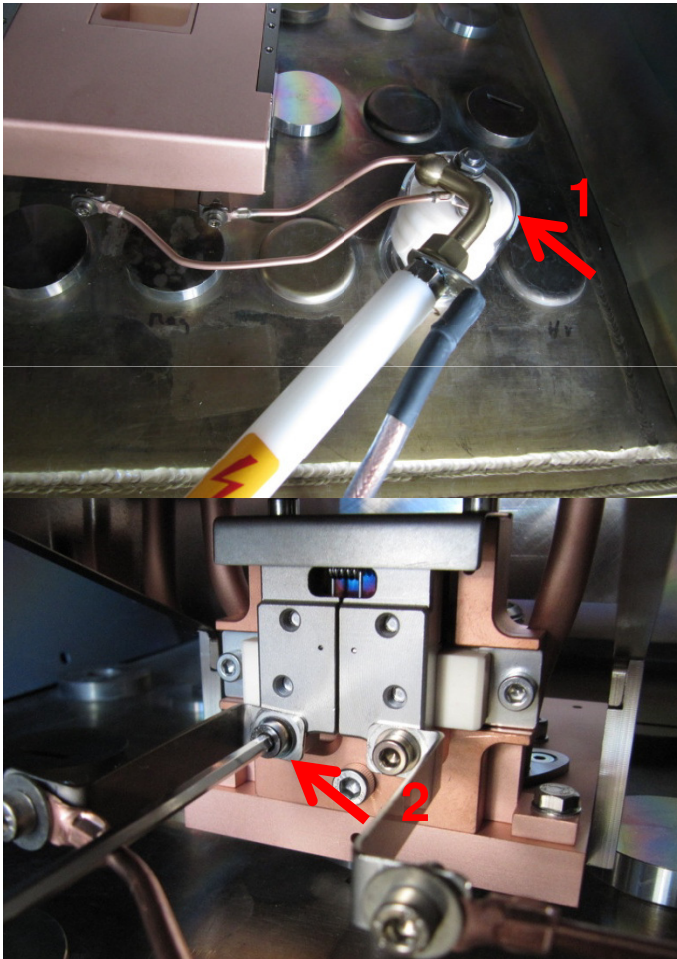




**Instruction for Filament change for EVM 6/8/10
Electron Beam Evaporators
23th September 2013**

Instruction for Filament Change

a. Filament block removal

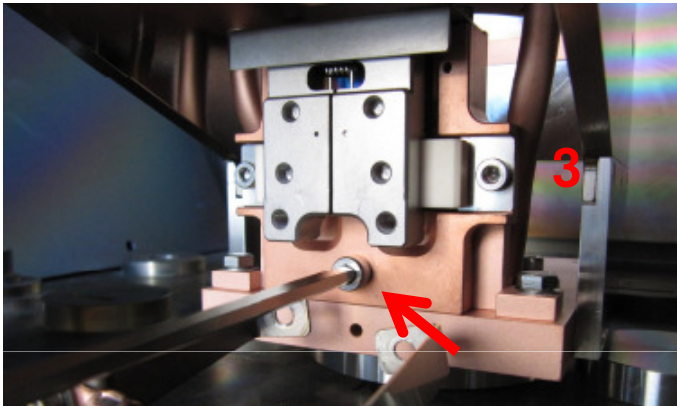


1) Touch the high voltage leads with the supplied grounding hook.

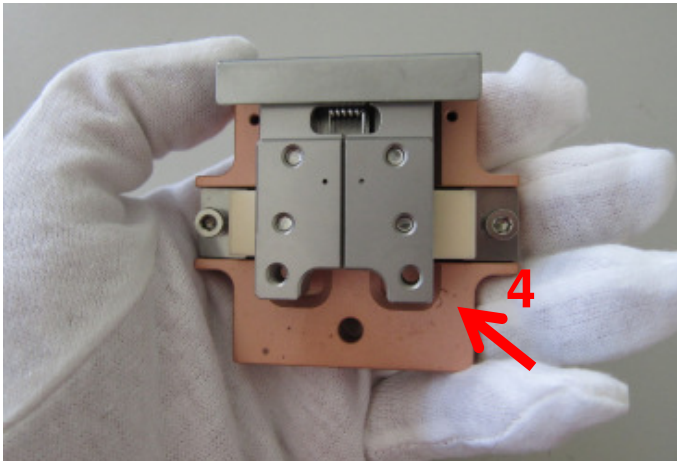
2) Open the screws on the high voltage leads on the filament block side.

Instruction for Filament Change

a. Filament block removal



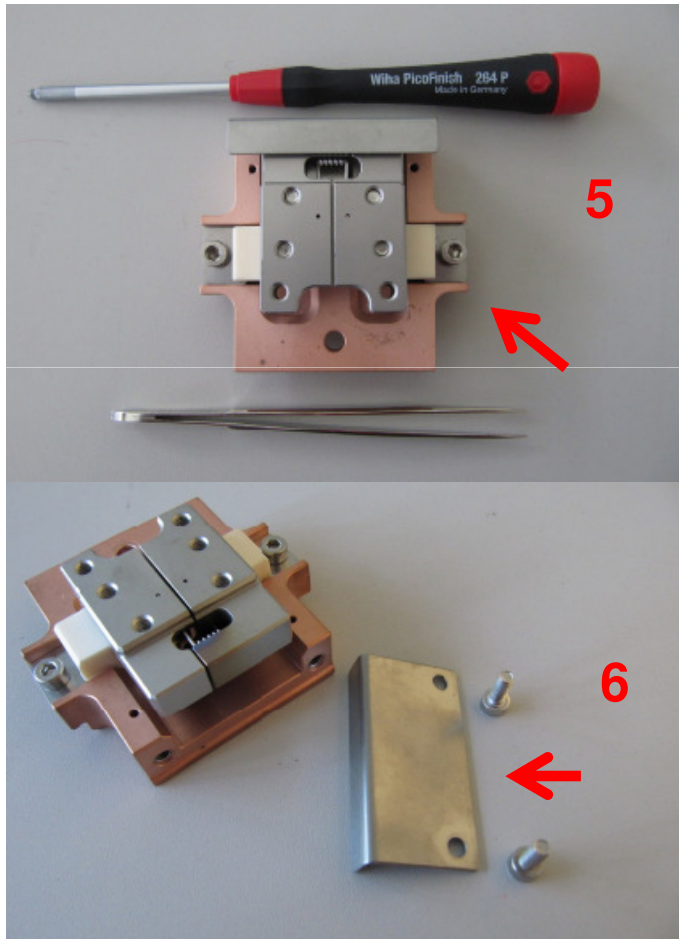
3) Open the screw on the bottom of the filament block. Remove filament block from evaporator.



4) Remove filament block and place it on table.

Instruction for Filament Change

b. Dissassembly

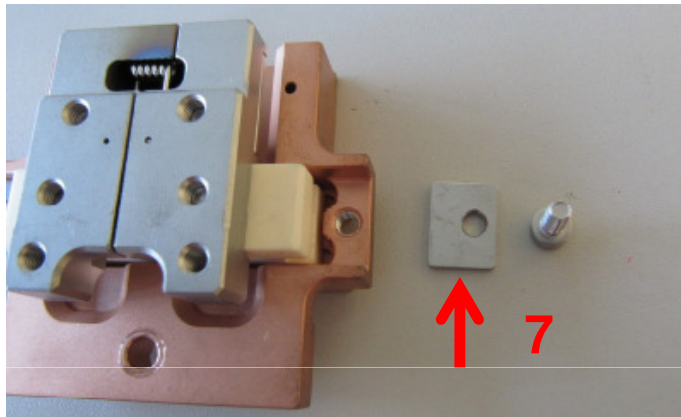


5) Filament block with required tools.

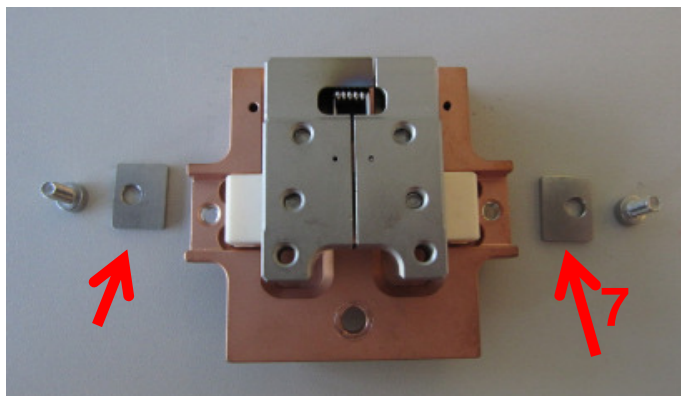
6) Remove anode plate.

Instruction for Filament Change

b. Dissassembly

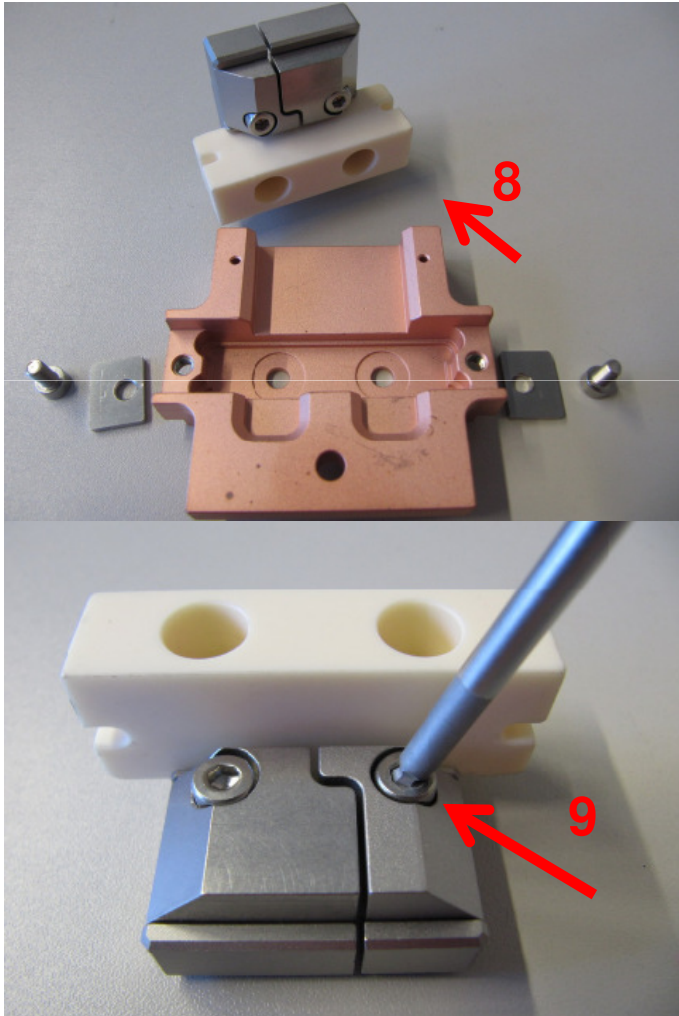


7) Remove brackets.



Instruction for Filament Change

b. Dissassembly

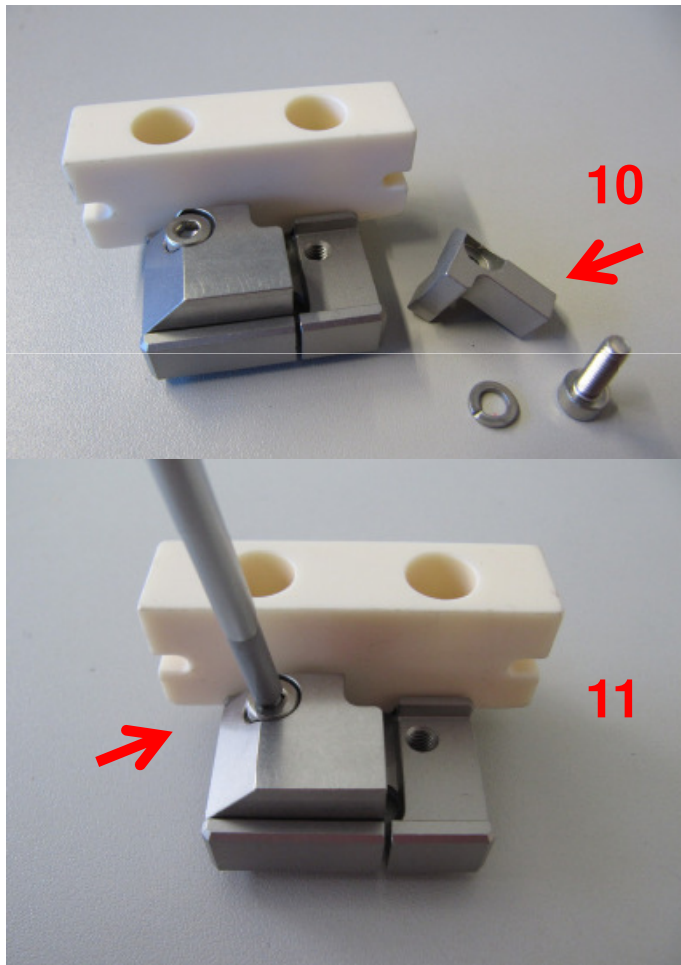


8) Remove cathode blocks (including ceramic).

9) Flip cathode by 180° . Unscrew the screw of the filament clamp right.

Instruction for Filament Change

b. Dissassembly

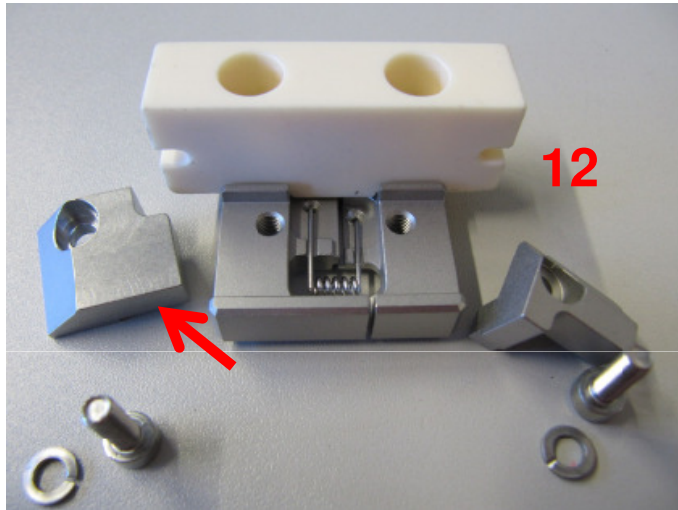


10) Remove filament clamp.

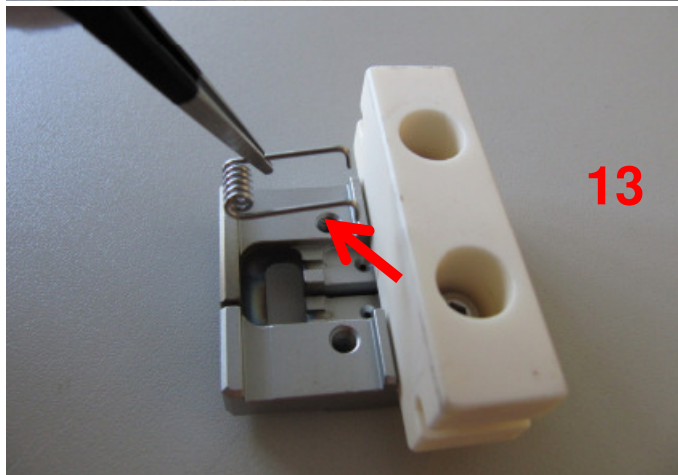
11) Unscrew the second screw of left filament clamp.

Instruction for Filament Change

b. Dissassembly



12) Remove the second filament clamp.



13) Remove the filament.

Instruction for Filament Change

c. Spare parts needed for filament change



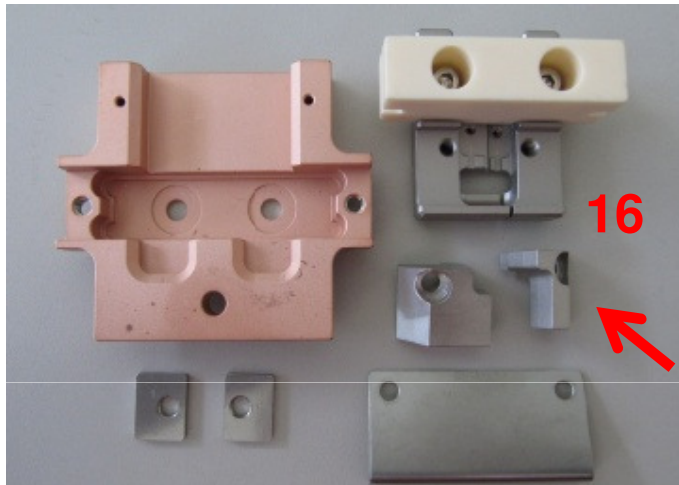
14) Spare Filament.



15) Screw Kit P/N 1-703022.

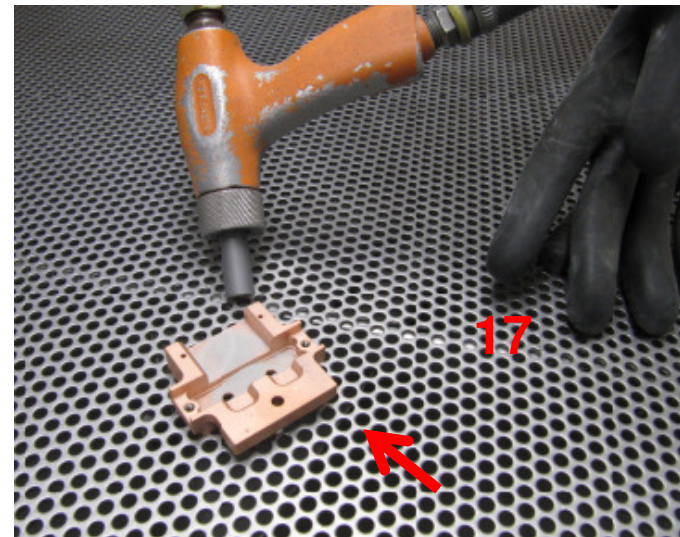
Instruction for Filament Change

d. Cleaning



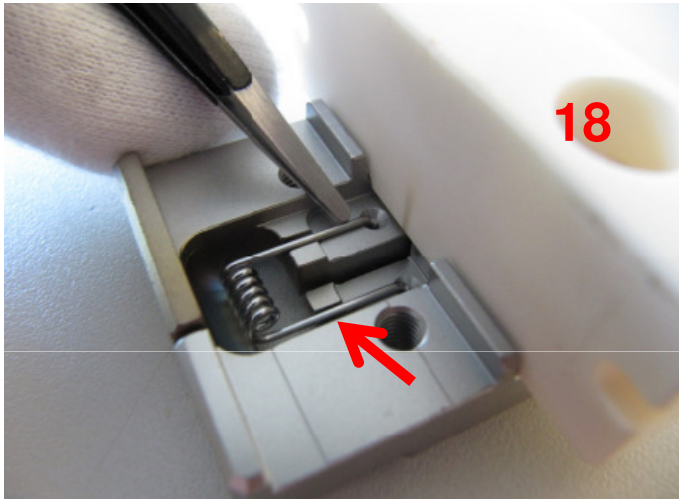
16) Parts to be sand blasted.

17) Use graine size 200 – 400 μm and a maximum pressure of 3 bar. Use glas bead blasting. **Do NOT use corundum**

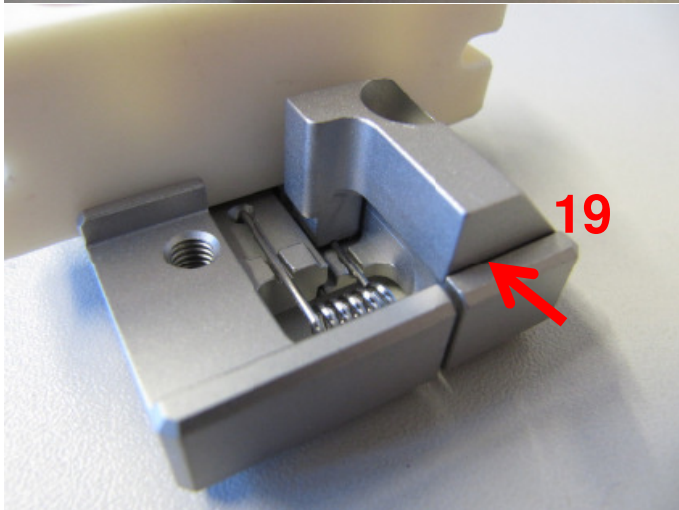


Instruction for Filament Change

e. Assembly



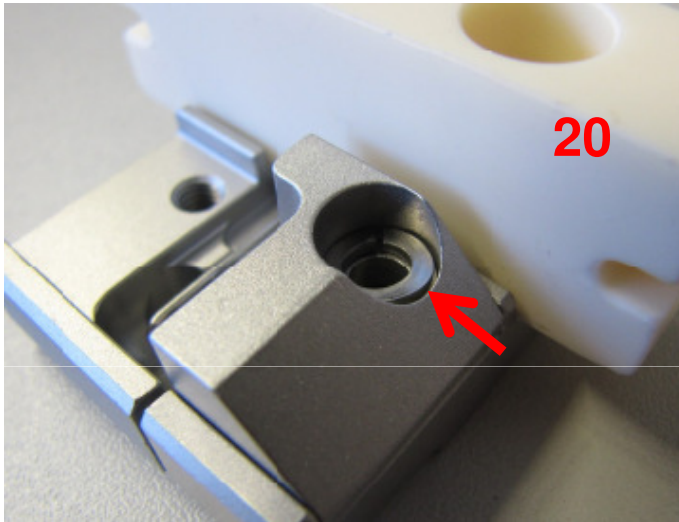
18) Place new filament in its position.



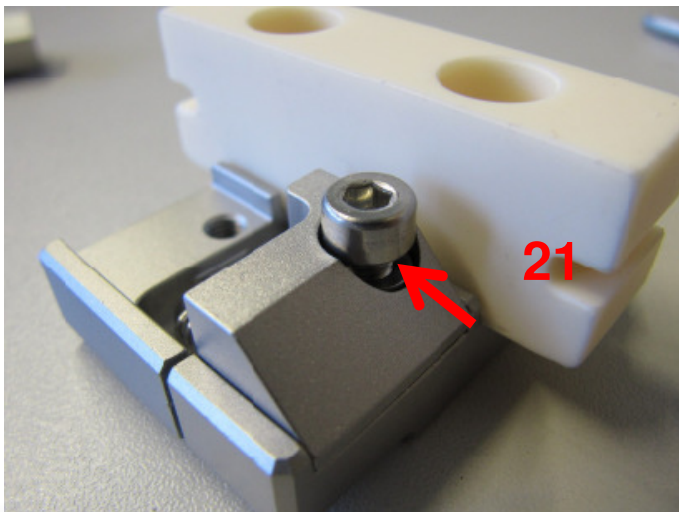
19) Place first filament clamp right on its position.

Instruction for Filament Change

e. Assembly



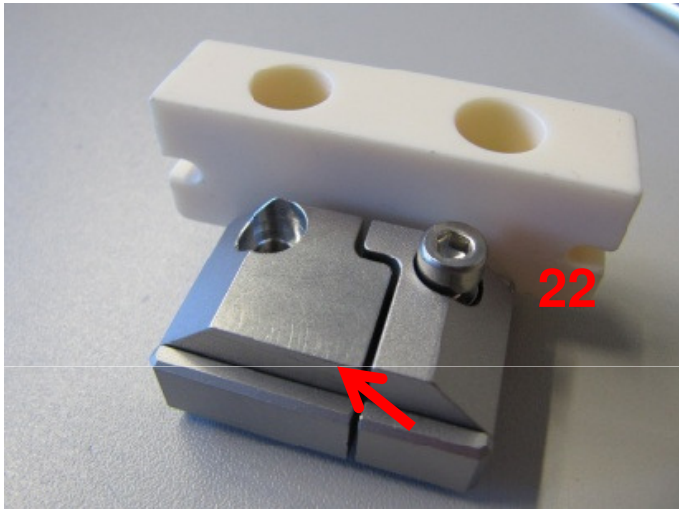
20) Place new lock washer on its position.



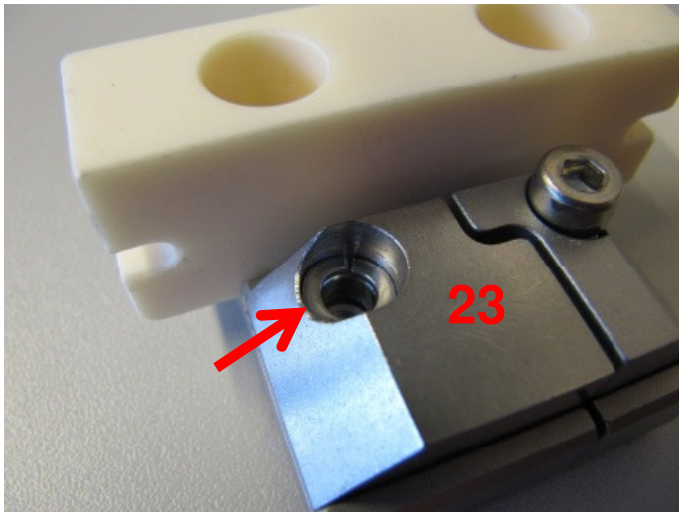
21) Place new screw on its position.

Instruction for Filament Change

e. Assembly



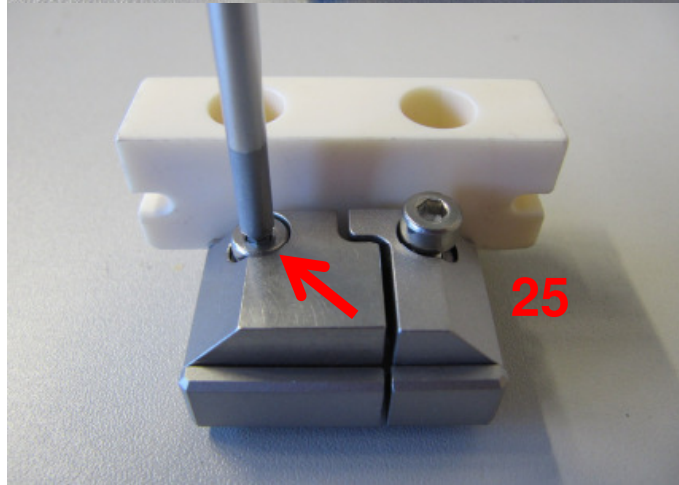
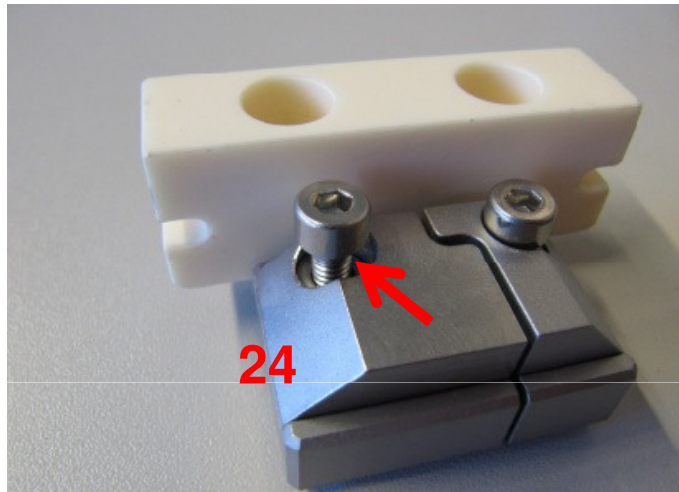
22) Place second filament clamp on its position.



23) Place second new lock washer on its position.

Instruction for Filament Change

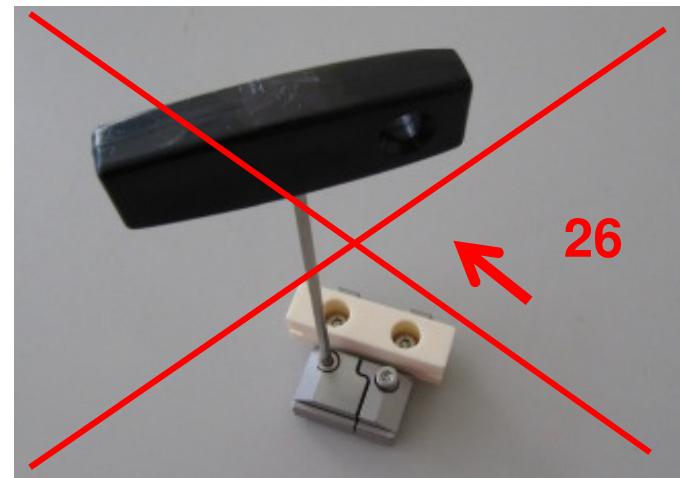
e. Assembly



24) Place second new screw on ist position

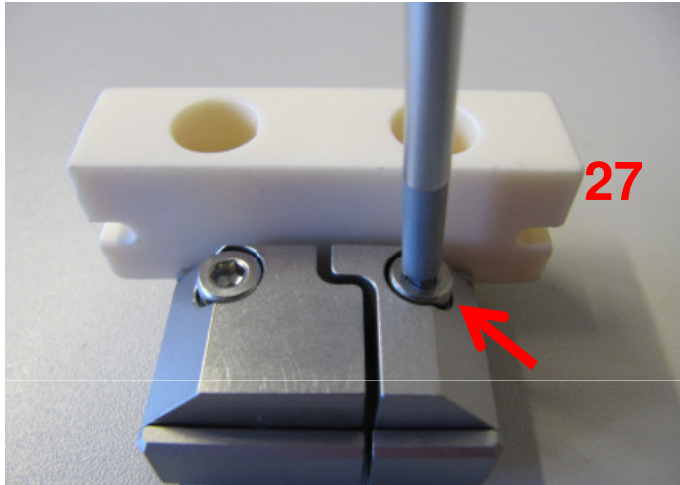
25) Tighten second screw using the supplied allen head screw driver.

26) Do not use a T-handle screw driver. You may damage the screw and the clamp by too much torque.

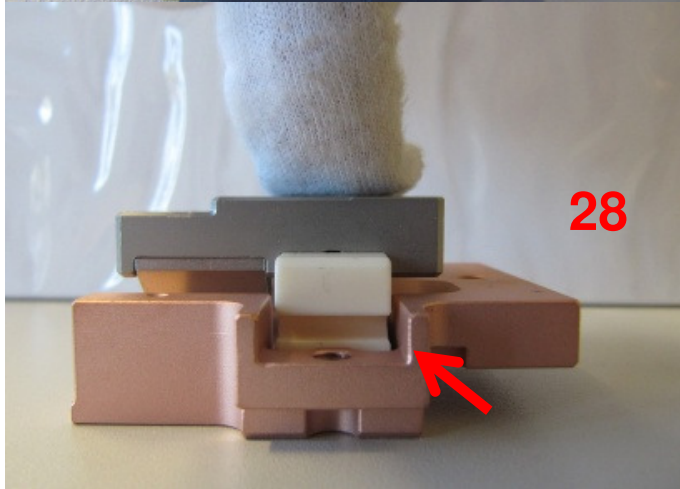


Instruction for Filament Change

e. Assembly



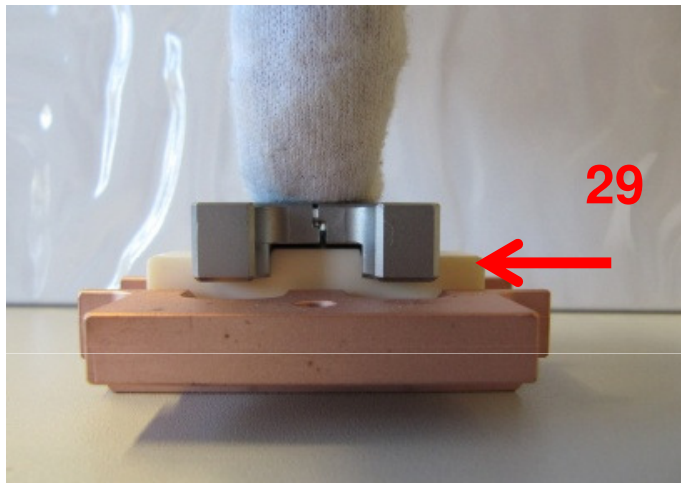
27) Tighten first screw.



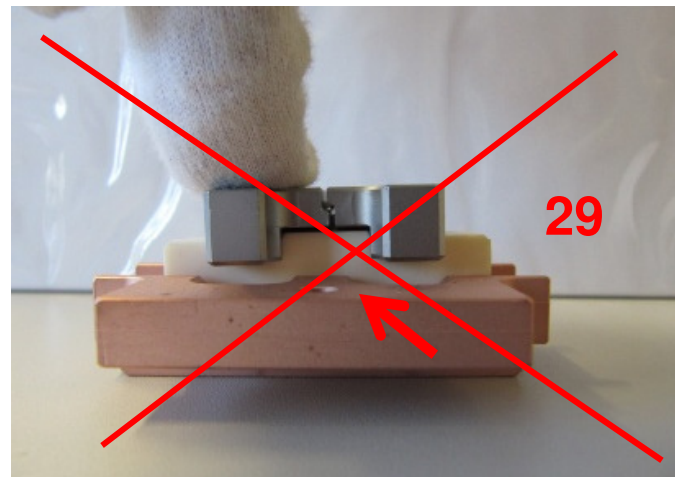
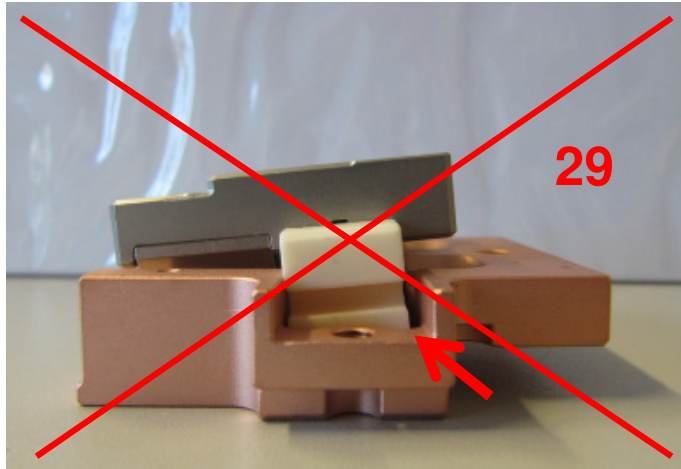
28) Place cathode block including the ceramic back into the anode block.

Instruction for Filament Change

e. Assembly

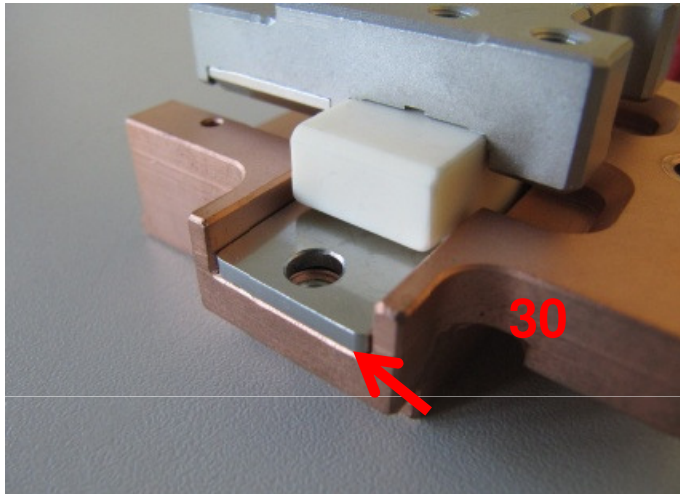


29) Check for proper fit of the parts.

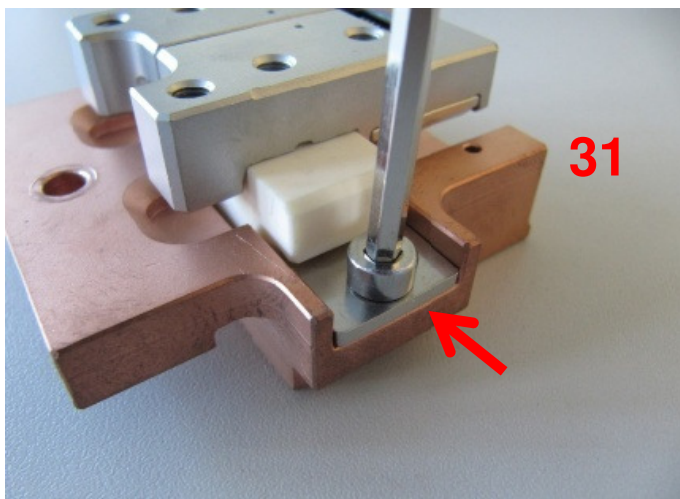


Instruction for Filament Change

e. Assembly



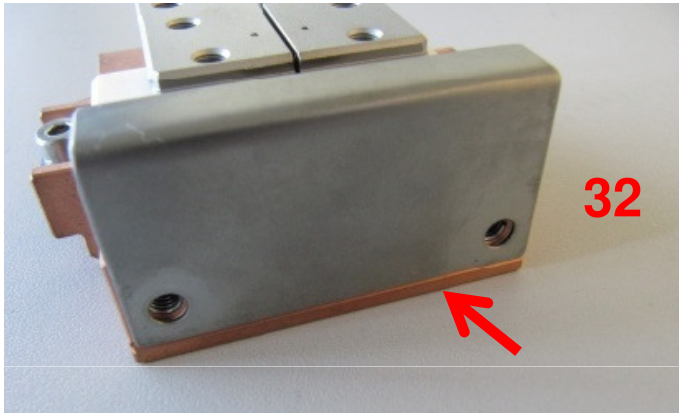
30) Place the brackets for the ceramic on both sides.



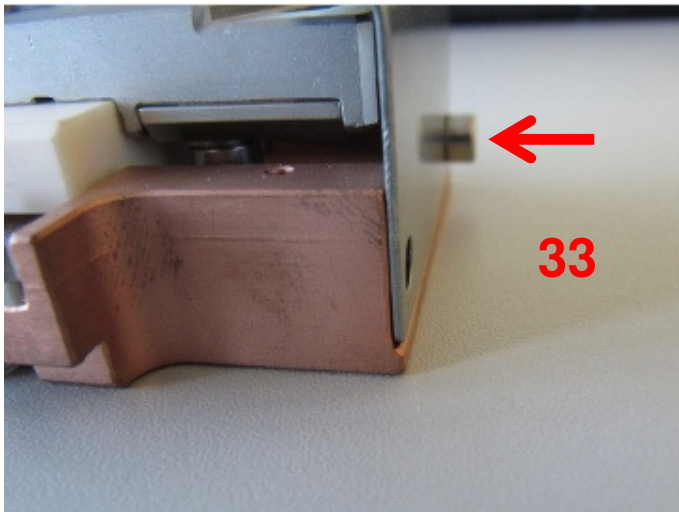
31) Put the screws back into the brackets and tighten them.

Instruction for Filament Change

e. Assembly



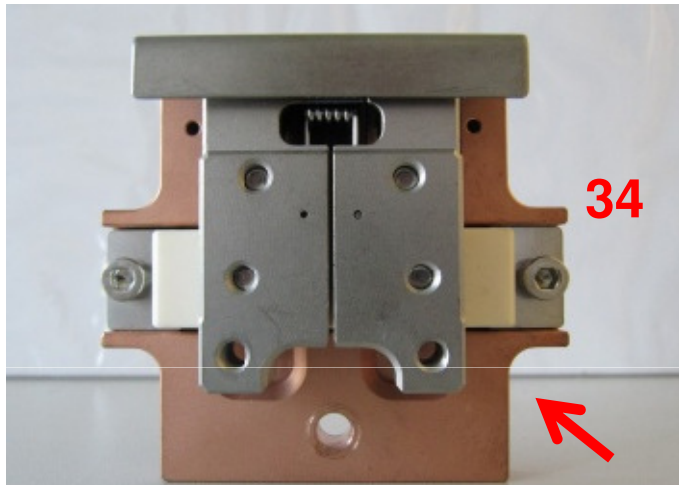
32) Place the anode shield on its position.



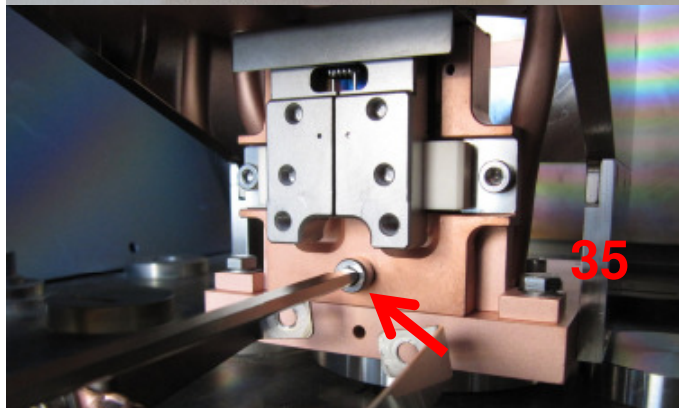
33) Place the screws on its position and tighten them

Instruction for Filament Change

e. Assembly



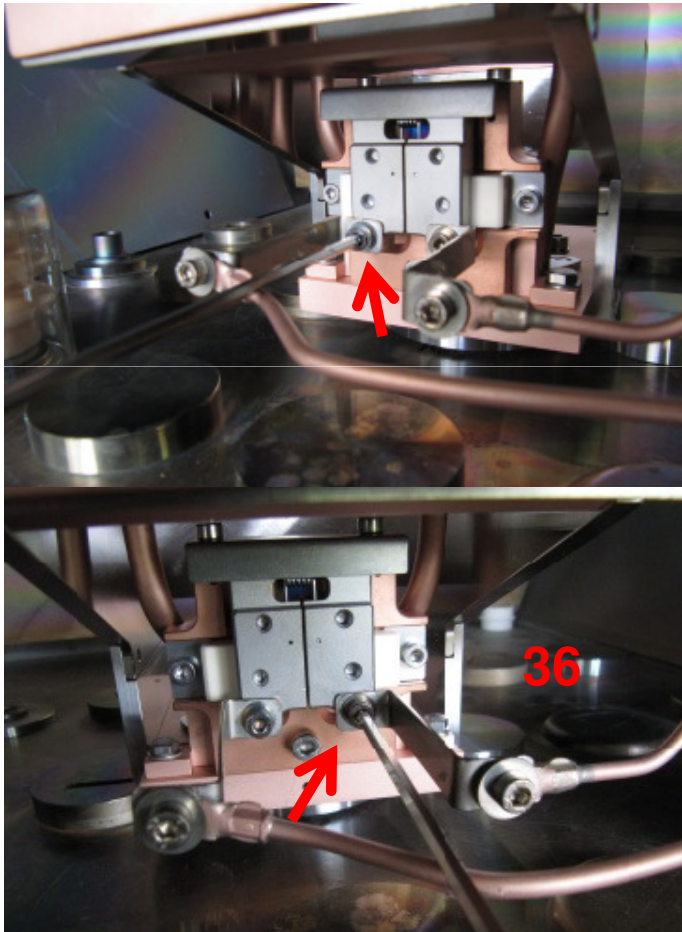
34) Filament block ready for mounting onto the evaporator.



35) Place the filament block onto the evaporator. Tighten the screw which holds the filament block.

Instruction for Filament Change

e. Assembly



35) Connect the high voltage extensions to the filament block

36) Connect the high voltage extensions to the filament block.

Instruction for Filament Change

f. Overview of parts of filament block

The filament block consists out of the following components:

<i>item</i>	<i>Description</i>	<i>Part number</i>
1	Plain washer	(Set of screws)
2	Base element	1-700311
3	Screws M4×10	(Set of screws)
4	Plain washer	(Set of screws)
5	Jaw, wide	1-700314
6	Jaw, narrow	1-700315
7	Lug	1-700316
8	Ceramic Insulator	1-700317
9	Cathode block, right	1-700313
10	Screw M4×10	(Set of screws)
11	Power supply connection distribution box	1-700711
12	Nut M4	(Set of screws)
13	Cathode block, left	1-700312
14	Filament	1-703009 (5 pieces)
15	Anode plate	1-700502
16	Screw set	1-703022

