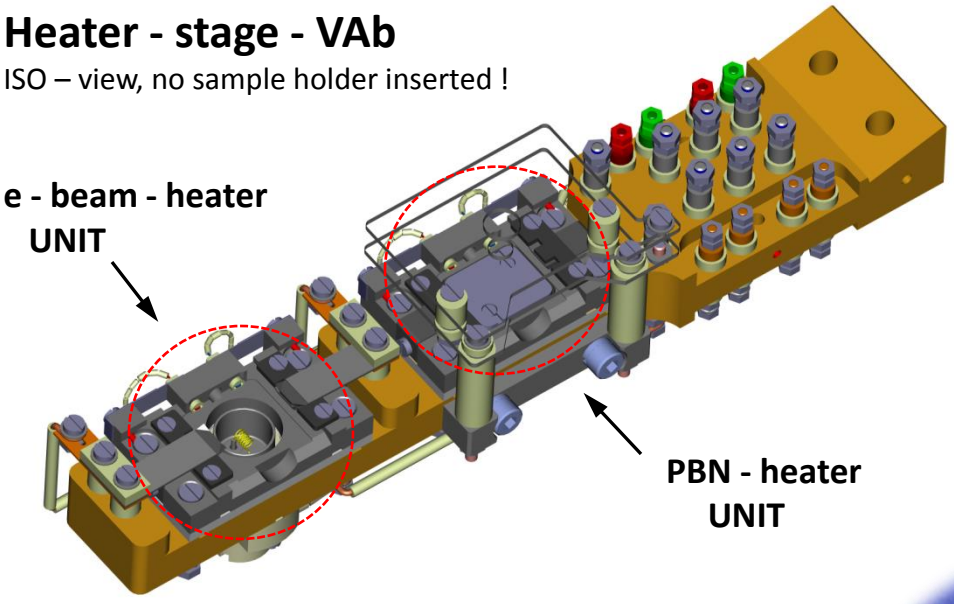
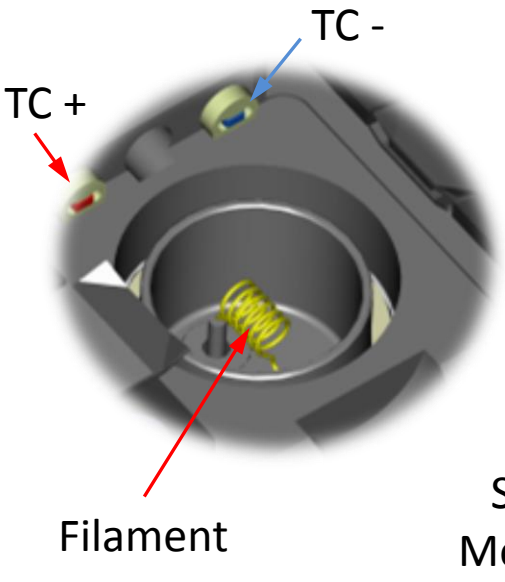
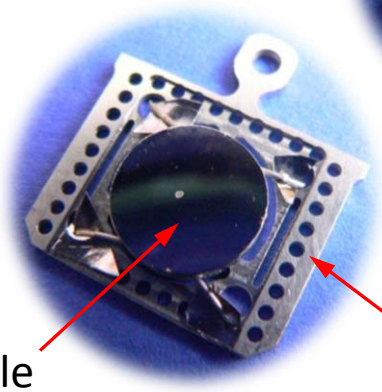
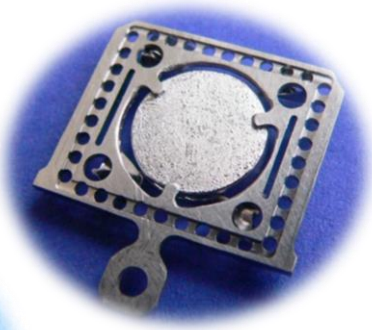
Heater - stage - VAb

ISO – view, no sample holder inserted !









TESTSHEET Standard Sampleplate Mo-crystal

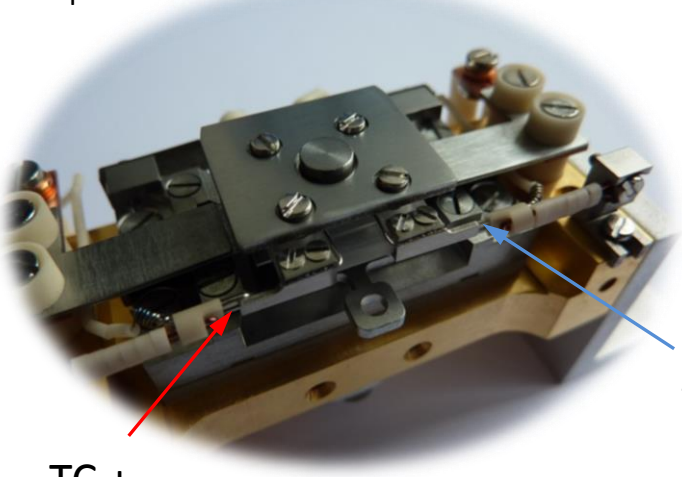
- Universal Manipulator Sample Stage
  (Test with e-beam-unit for standard sampleplate)
- He/LN2 Cryostat HVK-St (Vab-Anlagenbau GmbH)

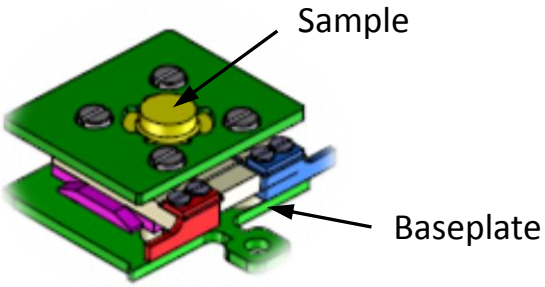
Filament Dia 0.2mm W99/Thoriumoxid1			filament	Pyrometer Sample	TC Typ K Baseplate
I (A)	**U** (V)	**I** (mA)	**HV** (V)	**T** °C	**T** °C
3.5	2.7	25	-1200	1950	1000

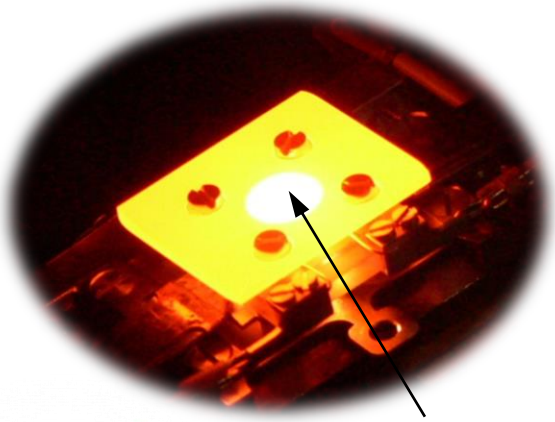
Heater - stage - VAb

Sample holder **SH-TC-IEB-11** is inserted!

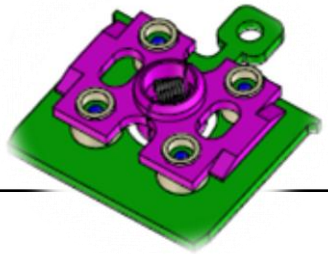
This sample holder design requires an additional TC spring contact to measure the accurate sample temperature!







Sample holder: **SH-TC-IEB-11**
a compact **e** – beam - modul
is integrated !



Filament
Dia 0.15mm
W 99%
Thoriumoxid 1%

I (A)	U (V)	I (mA)	Filament HV (V)	Sample T °C	Baseplate T °C	Coolhead T °C	P Chamber mbar
0	0	0	0	-142	-151	-169	4 x 10 -10
2.2	3.04	20.7	-300	243	20	-168	4 x 10 -10
2.3	3.28	46.2	-300	620	137	-167	4 x 10 -10
2.2	3.03	54.3	-400	871	216	-164	1.4 x 10 -9
2.1	2.85	55.7	-600	953	261	-163	7.3 x 10 -9
2.05	2.72	60.0	-800	1128	325	-162	1.6 x 10 -8
2.18	2.71	48.2	-950	1228	396	-160	1.4 x 10 -8

Recommended power supply for the **e-beam**-heater

HV Power Supply

- 1.5KV / 60mA

Filament Power Supply

10V / 5A

IMPORTANT !

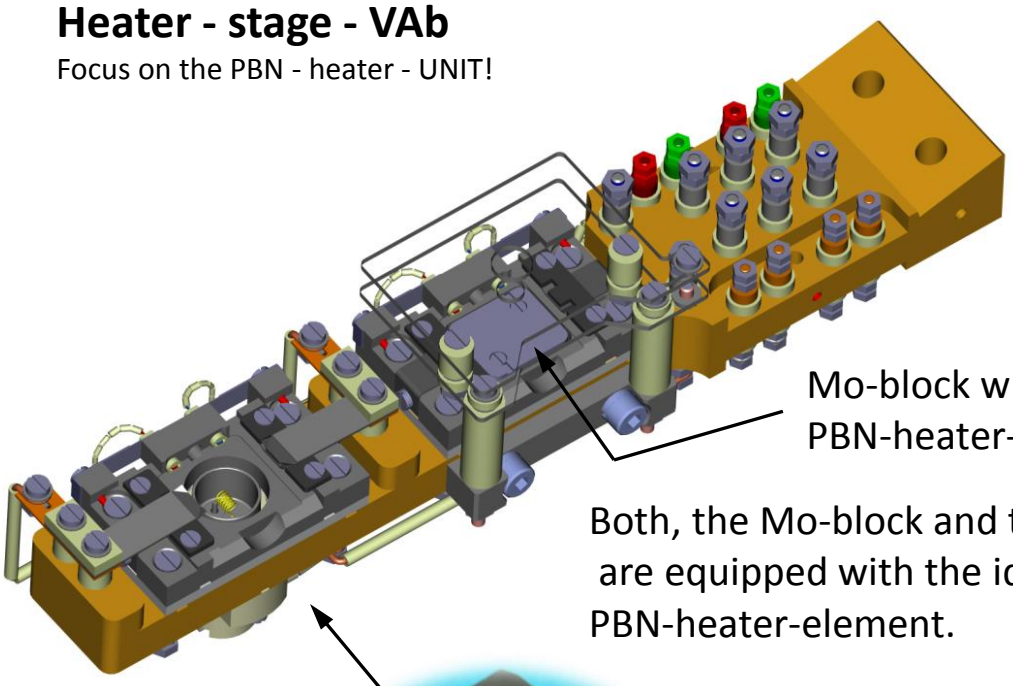
The withstand voltage must fit to the HV power supply (-1.5 KV)
Higher isolation of the output and/or the mains input: For special applications (e.g. the operation at a high voltage platform)
-> filament is set to –> **HV** Level !

Recommended SUPPLIER for a customer specific power supply.
FuG Elektronik GmbH
Am Eschengrund 11
83135 Schechen

Telephone: +49 8039 40077-0
Telefax: +49 8039 40077-99
E-mail: info@fug-elektronik.de

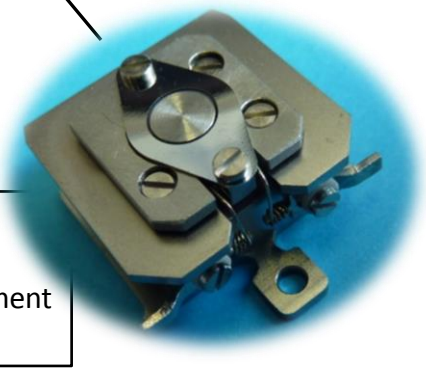
Heater - stage - VAb

Focus on the PBN - heater - UNIT!



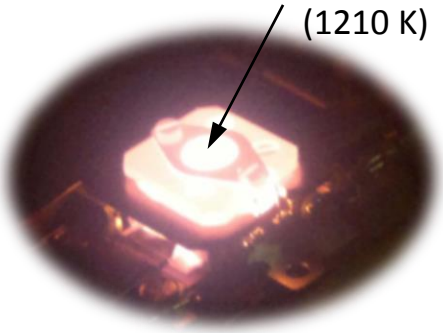
Mo-block with integrated PBN-heater-element.

Both, the Mo-block and the SH-PBN-05 are equipped with the identical PBN-heater-element.



Sample holder:
SH-PBN-05
a PBN-heater-element
is integrated !

Sample
(1210 K)



I (A)	U (V)	T (K)	p (mbar)
0	0	296	1,3e-10
0,2	1,38	311	1,35e-10
0,4	2,58	366	1,4e-10
0,6	3,75	450	3,08e-9
0,8	4,2	525	1,7e-8
1,0	4,68	630	6e-8
1,2	5,27	702	1e-7
1,4	5,74	785	1e-7
1,7	6,42	900	1e-7
2,0	7,09	1008	8e-8
2,2	7,62	1064	3e-8
2,4	8,22	1110	5,5e-8
2,6	8,8	1158	3e-8
2,95	9,93	1216-1210	8e-8

INFO

PBN-heater-element

Resistance at room temperature!

R_T : 8 - 10 Ohm

$P_{max.}$: 30 W

Recommended power supply for the **PBN**-heater

Low Voltage Power Supply

10V / 5A