

MBE Systems

MBE Components

Substrate Manipulation

Effusion Cells

Source Clusters

Doping Cells

Valved Sources

VACS

VACS-2000

VGCS

VCS

VSCS

VCCS

AKS

HGS

VSS

VTCC

E-Beam Evaporators

Organic Evaporators

Gas Sources

Shutter Accessories

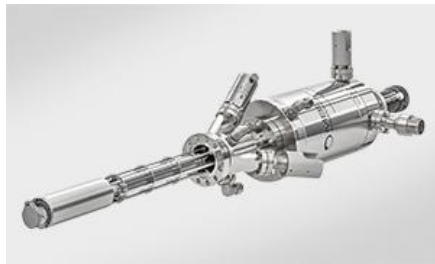
Equipment

Thin Film / CIGS / CZTS / CdTe

Simulation

VTCC

Valved Thermal Cracker Cell



VTCC 40-130-54-KS with integrated cooling shroud and shutter on DN40CF (O.D. 2.75") flange

- Full PBN solution for corrosive materials like Te, Sb, Se, As, Zn and Mg
- DN40CF (O.D. 2.75") mounting flange compatible with all MBE systems
- Thermal cracking up to 1300°C
- 130 cm³ PBN reservoir
- Excellent thermal isolation between low temperature reservoir and hot cracking zone
- Integrated water cooling for cracker stage
- Integrated rotary shutter (optional)

The Valved Thermal Cracker Cell VTCC is a full PBN valved cell with a water cooled cracker stage. The compact design of the cell allows its implementation on the space-saving DN40CF (O.D. 2.75") flange.

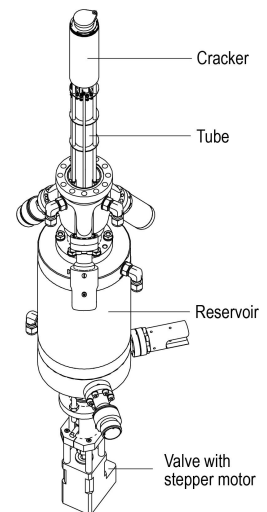
It features a crucible size of 130 cm³ which is sufficient for most R&D applications.

The reservoir heater of the VTCC is designed to perform fast and precise ramps in the temperature range from 100°C to 650°C.

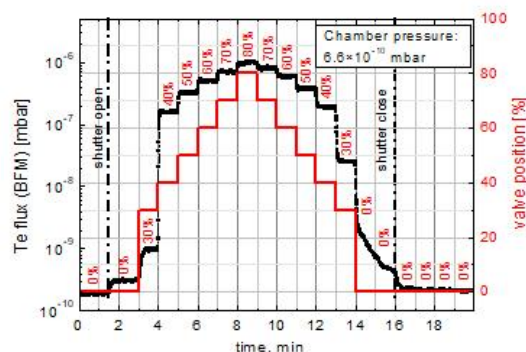
Three independent heating zones for reservoir, valve and cracker allow flexible adjustment of the cell operating conditions.

This, in combination with the full PBN construction of the valve, reservoir and cracker, enables a wide variety of the VTCC applications with the numerous high vapor pressure evaporation materials.

The crucible and cracker zones are shrouded by water cooling, minimizing the thermal load on the chamber.



VTCC zones



The VTCC characteristics figure shows the example of the valve calibration, performed with Te. The valve demonstrates wide dynamic range, allowing precise flux adjustments in the % range of the maximal material flux.

The flux is reduced by about 5000 times when the PBN valve is closed. The VTCC may be equipped with the optional integrated shutter, with can be used to reduce the material flux even further.

The VTCC has excellent thermal insulation between the low temperature reservoir and the hot cracking stage.

Product	CF flange	Nominal capacity [cm ³]	Lip diameter [mm]	Cooling	Shutter *	UHV dimensions *** [mm]/[mm]	max. Power / Current [W]/[A]	Power supply		Crucible Product code
								Product code	Product code	
VTCC	40 -	130 -	54 -	K	S-	L287D36	Reservoir 400/8 Valve 100/5 Cracker 150/8	PS 60-10 PS 36-12 PS 36-12	PBN 130-54	

* rotary shutter possible on same flange

*** UHV length L=287 mm

Product code:

e.g. **VTCC 40-130-54-KS-L287D36**

is a Valved Thermal Cracker Cell on DN40CF-flange for an 130 cm³ crucible (lip Ø 54 mm), with integrated water cooling shroud, shutter, PBN crucible, in-vacuum length 287 mm and outer diameter 36 mm.