K-Cell Series

Putting ourselves in users' place, we provide each of our K-Cells with unique design to meet different materials.

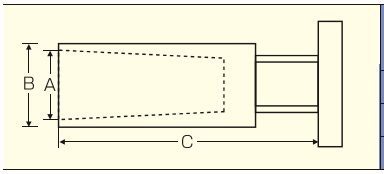
Standard-Type K-Cell (THKC Series)

Features

- Compatible type that allows installation on MBE system of other manufacturer.
- Uses materials with consideration for low impurity and degas
- High temperature degas processing by vacuum baking furnace
- Easy replacement and maintenance for consumable parts such as a thermocouple, crucible, and reflector

Specifications

- Maximum heating temperature : 1300℃
- Heater : Top heat type
- Crucible material : PBN
- Crucible capacity : 10 to 40cc



Model	Crucible size (mm×cc)	A (mm)	B (mm)	C (mm)	Mounting flange	
					without shutter	with shutter
THKC-1300	φ13×10	φ13	30	>250	>ICF70	>ICF114
THKC-1900	φ19×25	φ19	35	>280	>ICF70	>ICF114
THKC-2500	φ25×40	φ25	38	>280	>ICF70	>ICF114

High-Temperature K-Cell (THKC-1300HI / THKC-1900HI)

Features (In addition to the features of the standard-type K-Cell described above)

- Achieves a low degas feature.
- Maintains the vacuum of 10^{-8}Pa when heated to 1500℃ with no evaporation material loaded (Measured in the ultra high vacuum chamber of EpiQuest)
- Enables accurate flux measurement due to low degas thereby achieving highly pure growth. (Excellent control of flux by EB gun)
- Can be used as an evaporation source for high melting point materials (e.g. Metal epitaxial, oxide superconductor)

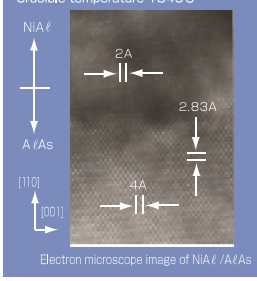
Specifications

- Maximum heating temperature : 1500℃
- Heater : Top heat type
- Crucible material : Alumina (4N Al_2O_3) (Others, Crucible material can be selected according to charging material)
- Crucible capacity : 10 or 25cc

Sample of data (High-Temperature K-Cell)

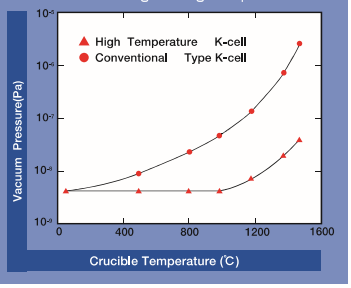
Data offered by courtesy of Kwansei Gakuin University. J. Appl. Phys. 69(4), 15 February 1991 2196-2200

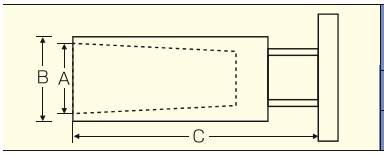
Sample using the high-temperature K-Cell as the Ni beam source
Crucible temperature 1340℃



Electron microscope image of NiAℓ /AℓAs

Characteristics of degas of high-temperature K-Cell





Model	Crucible size (mm×cc)	A (mm)	B (mm)	C (mm)	Mounting flange	
					without shutter	with shutter
THKC-1300-H1	φ13×10	φ13	30	>250	>ICF70	>ICF114
THKC-1900-H1	φ19×25	φ19	35	>280	>ICF70	>ICF114