

# CARBON EFFUSION CELL

## EBC



The CreaTec carbon effusion cell EBC is used for carbon doping in MBE.

A pyrolytic graphite rod is heated by electron bombardment to a maximum temperature of 2000 °C to evaporate elemental high purity carbon.

The design prevents any ionized species leaving the source. The flux regulation is achieved by adjusting the emission current.

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"A compact electron beam evaporator for carbon doping in solid source molecular beam epitaxy."

### Technical Data

#### Standard :

Type . . . . .	EBC
Heating system . . . . .	Electron beam bombardment
Temperature range . . . . .	200 °C ... 2200 °C
Current stability . . . . .	10 <sup>-5</sup> of the maximum emission current
Max. outgas temp. . . . .	2300 °C
Max. power . . . . .	750 W
Max. current . . . . .	1 A
Bakeout temperature . . . . .	250 °C
Conditioning . . . . .	Heated to maximum temperature
Shipping . . . . .	Stainless steel container with valve

#### Custom:

Flange size . . . . .	CF 40 / CF 63, as specified
Max. outer diameter . . . . .	38 mm/ 63mm/ 100mm, as specified
Length . . . . .	As specified

Thermocouple type . . . . . Type C / WRe 5%-26%

#### Options :

Integrated Shutter . . . . .	Optional
Water cooling . . . . .	Optional
Other dimensions . . . . .	As specified

The carbon flux is shown for heating powers between 120 W and 735 W. It can be varied over three orders of magnitude.

