

# ATOMIC HYDROGEN SOURCE HCL



The CreaTec atomic hydrogen source HCL is used as a thermal cracker of hydrogen. Atomic hydrogen allows cleaning of substrates like GaAs, InP, etc. at low temperatures and is used for surfactant growth.

The hydrogen gas (H<sub>2</sub>) flows through a molybdenum tube to a hot tungsten filament which is located at the end of this tube. It can be heated to a temperature of up to 2500 °C to achieve an excellent cracking efficiency of the hydrogen gas.

By using a precision valve, hydrogen pressure can be directly adjusted. With a mass flow controller, mounted between the hydrogen bottle and the leak valve, the pressure control can be made extremely accurate.

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Title: Uniform multiatomic step arrays formed by atomic hydrogen assisted molecular beam epitaxy on GaAs (331) substrates.

## Technical Data

### Standard :

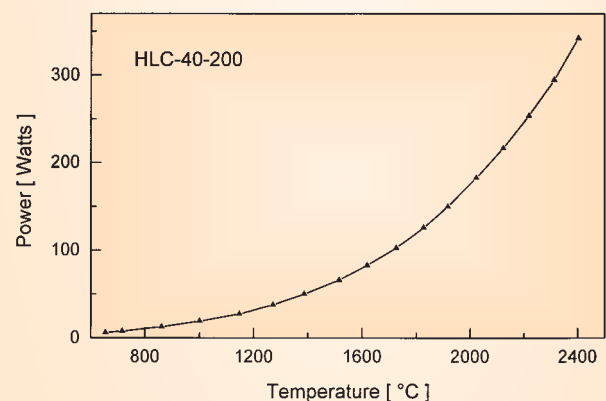
Type . . . . .	HLC
Heating system . . . . .	Radiation heating
Temperature range . . . . .	200 °C - 2500 °C
Temperature stability . . . . .	≤ 1 K depending on the PID controller
Max. outgas temp . . . . .	2500 °C
Max. power . . . . .	280 W
Max. current . . . . .	25 A
Water cooling . . . . .	Integrated
Bakeout temperature . . . . .	250 °C
Conditioning . . . . .	Heated to maximum temperature with and without crucible
Shipping . . . . .	Stainless steel container with valve

### Custom :

Flange size . . . . .	CF 40 / CF 63
Max. outer diameter . . . . .	38 mm
Length . . . . .	As specified
Thermocouple type . . . . .	Type C / WRe 5%-26%

### Options :

Other dimensions . . . . .	As specified
Molybdenum version . . . . .	Optional
Wolfram version . . . . .	Optional



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