

# VAPBOX 310

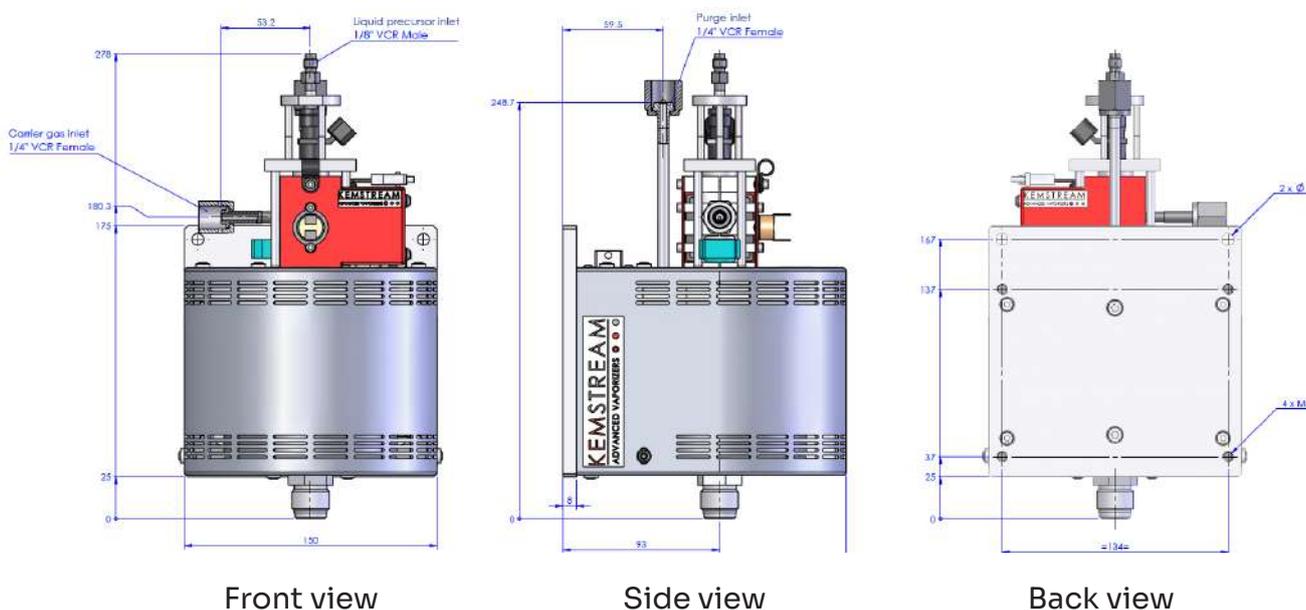
## High performance DLI CVD & ALD vaporizers

- Vaporizes pure liquid compounds and solid ones dissolved in a carrier liquid (organic solvent) up to 250°C.
- Is able to handle and vaporize most of solid and liquid compounds including low vapor pressure, thermally labile and viscous CVD and ALD precursors.
- Provides high and unmatched performances based on a pulsed injection of a mixture of liquid and carrier gas. That pulsed injection is performed by a proprietary Injection Head (atomizer) and allows a very fine atomization and thus flash vaporization of the liquid.
- Operates from vacuum to atmospheric pressure.
- Features an improved internal design with integrated baffle.
- Can also receive an internal droplet adsorber and integrated filter.
- Designed for ALD on large surfaces (batch ALD, ALD in deep trenches, spatial ALD, R2R CVD, Roll to roll CVD).
- Optional purge port on the top flange.



## Dimensions (mm)

Total weight is about 7.4 kg



Front view

Side view

Back view

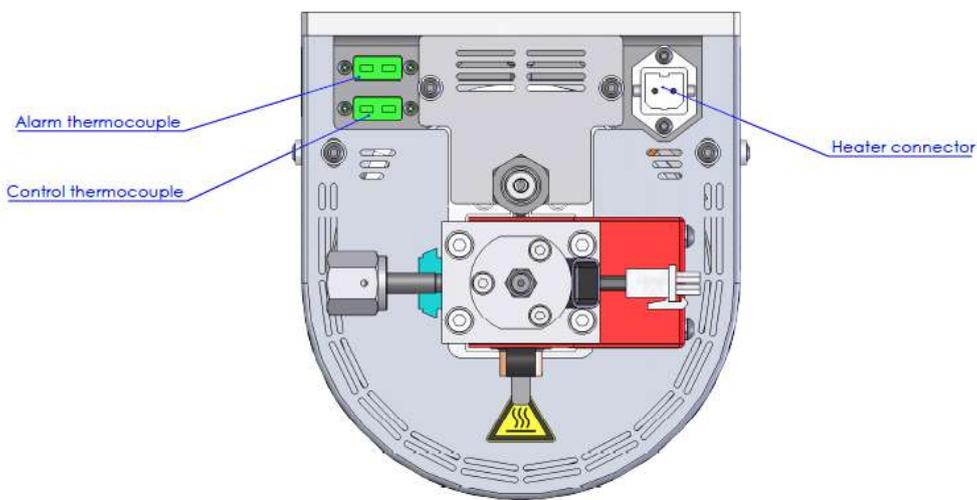
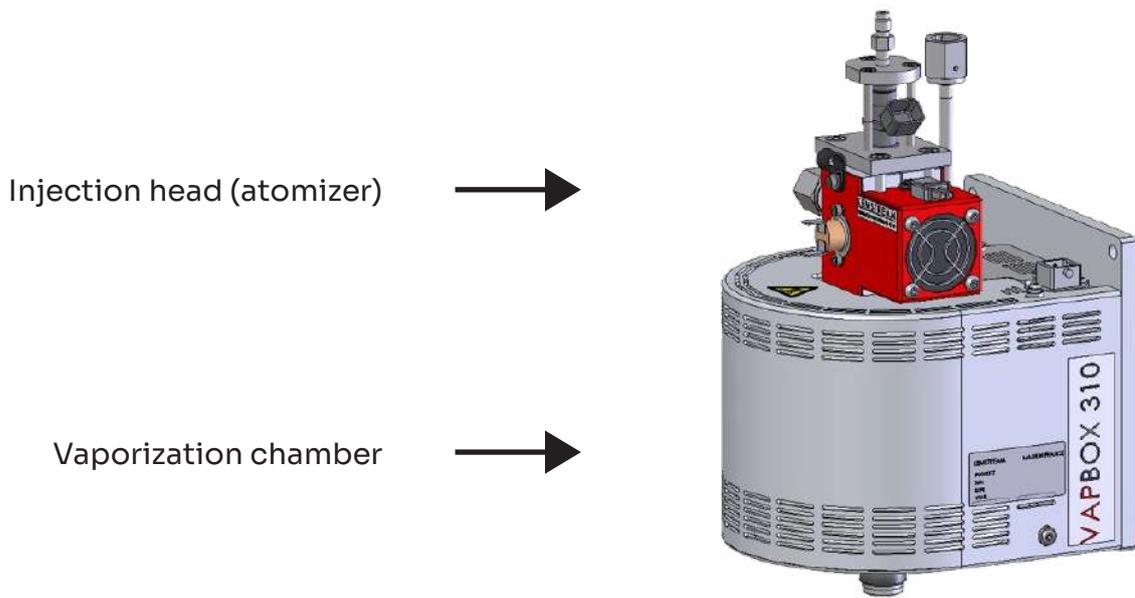
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## Details of VAPBOX 310



Top view

# VAPBOX 310

## High performance DLI CVD & ALD vaporizers

### Technical Specifications

#### Injection Head (liquid inlet)

- 1

#### ICU (Injection Control Unit)

- 110-230 VAC remote and rackable 19" 2U unit

#### Heating:

- 1 heating zone, up to 250°C, 400 W
- 2 K type thermocouples: 1 for control, 1 for alarm

#### Fittings:

- 1/8" compression type or 1/8" VCR male fitting for liquid inlet
- 1/4" VCR female fitting for carrier gas inlet
- 1/2" VCR male fitting for vapor outlet

#### Options:

- Optional 1/4" VCR female purge port on the top flange
- Optional internal droplet adsorber
- Optional integrated filter

#### Versions (heater):

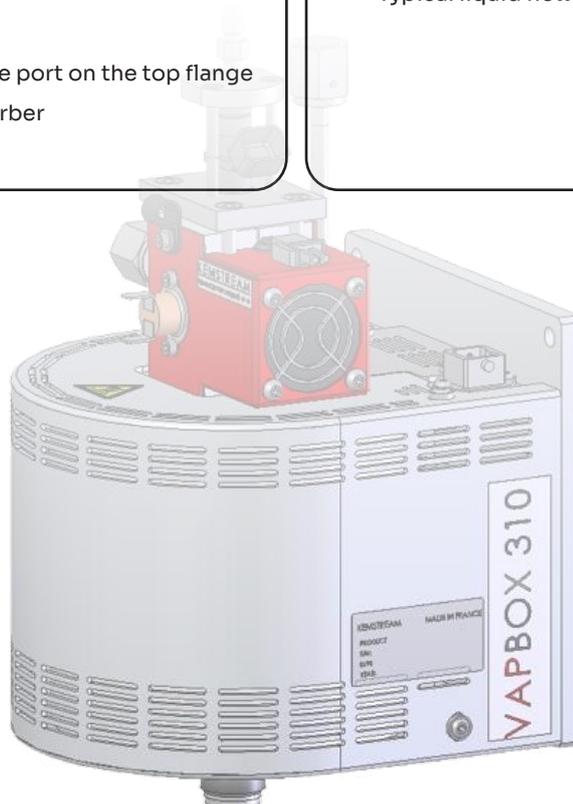
- 230 VAC version and 115 VAC version

#### Accessories:

- Liquid flow controlling kit including a Liquid Flow Meter (LFM)
- Liquid panel including a precursor tank and with an optional solvent tank (for rinsing purpose)
- Carrier gas panel including a carrier gas Mass Flow Meter (MFM)
- TCU (Temperature Control Unit): 19" remote and rackable 3U unit

#### Flows range:

- Typical carrier gas flow range = 120 to 7500 sccm
- Typical liquid flow range = 0.1 to 10 g/min



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### Ordering Information

#### Injection Head

Liquid Inlet Fitting	
HB4 - 069E	1/8" Swagelok
HB4 - 8E91	1/8" VCR male

Carrier Gas Inlet Fitting	
HB4 - 069E	1/4" VCR female horizontal
HB4 - 8E91	1/4" VCR female horizontal

#### Vaporization Chamber

	V31	HB	M8	V	F4	X	X	-	1A
<b>Voltage (for heating)</b>									
HB		230 VAC							
LB		115 VAC							
<b>Vapor outlet fitting</b>									
M8			1/2" VCR male (standard)						
<b>Vaporizer pressure (process P)</b>									
V				From 0 to 1.5 bara					
A				Above 1.5 bara					
<b>Optional supplementary gas port</b>									
F4					1/4" VCR female				
XX					None				
<b>Optional internal droplet adsorber</b>									
A									Type A adsorber
X									No adsorber
<b>Optional vapor outlet filter</b>									
A									Type A filter
X									No filter