



Systems  
Development

# System Design and Development

In theory all CVD systems are similar and have common core components, however over 35 years, we have found the practical implementation of these systems to bring a wide range of challenges. According to the system size, materials used and the required product, the practical implementation of high quality systems has led to a wide range of engineering solutions.

ATL develops, designs & builds all types of CVD system. These range in size from 50mm diameter experimental tube furnaces to production furnaces 2m in diameter. ATL has partners around the world with whom it builds systems. The longest standing partner, IHI Bernex are a worldwide coating specialist company with its HQ in Olten, Switzerland.

ATL specialises in production CVD systems in 2 main areas:

1. High Temperature, low pressure (HT-LP) systems for production of ceramic coatings and ceramic matrix composite materials (CMCs).
2. IVA & CVA branded systems for aluminising of nickel superalloy turbine components.

**Model : HT1414**

**Coating zone size : 350 x 350mm**

**Required Space : 5m x 3m x 4m**

**Temperature Range : 900 - 1600°C**

\*\*\*\*\* or 2200°C

**Pressure Range : 5-100 mBar**

**Coatings ;**

$\text{TaCl}_5 + \text{CH}_4 \rightarrow \text{TaC} + \text{HCl}$

$\text{BCl}_3 + \text{CH}_4 \rightarrow \text{B}_{13}\text{C}_2 + \text{HCl}$

$\text{CH}_4 \rightarrow \text{C} + \text{H}_2$

$\text{SiCl}_4 + \text{NH}_3 \rightarrow \text{Si}_3\text{N}_4 + \text{HCl}$

$\text{BCl}_3 + \text{NH}_3 \rightarrow \text{BN} + \text{HCl}$



**Model :** Aluvap 440

**Coating zone size :** 750 x 1000mm

**Required Space :** 12 x 8 x 6m

**Temperature Range :** 900 - 1160°C

**Pressure Range :** 50-300 mBar

**Coatings ;**

$\text{AlCl}_3 + \text{Ni} \rightarrow \text{NiAl} + \text{AlCl}_3$



**Model :** HT5394BL

**Coating zone size :** 1350 x 2100mm

**Required Space :** 8m x 7m x 9m

(Plus Height above for loading)

**Temperature Range :** 900 - 1600°C

**Pressure Range :** 1-100 mBar

**Coatings ;**

$\text{CH}_4 \rightarrow \text{C} + \text{H}_2$

$\text{CH}_3\text{SiCl}_3 \rightarrow \text{SiC} + \text{HCl}$



Learn more about our approach at [www.cvd.co.uk](http://www.cvd.co.uk)

# Solutions developed for multiple industries



Aerospace



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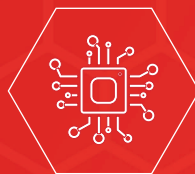
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