



## **Tri-Air Developments Press Release – Non-Thermal Plasma Cell**

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### **Tri-Air Developments develops new efficient Non-Thermal Plasma cell**

Tri-Air Developments Limited announces the further improvement of a key component of its patented Plasmalyser technology. Tri-Air has developed a new, efficient non-thermal plasma cell. The invention improves the efficiency of the non-thermal plasma cell by increasing the time that air for treatment is retained within the plasma cell thus increasing the decontamination of the air by the non-thermal plasma element.

The invention achieves this increase in the retention of the air for treatment by the inclusion within the cell of a carefully designed air-flow guide, such as a spiral element within a tube. Tri-Air has found that the use of an air-flow guide which imparts rotation to the air increases the efficiency of the non-thermal plasma cell due to the centrifugal forces acting on particles contained within the air passing through the cell. This causes the particles to be forcibly deposited on surfaces of the cell.

Conventionally, attempts to increase the efficiency of the treatment of air within non-thermal plasma cells have involved the inclusion of packed dielectric material within such cells. This has resulted in an increase in the power required to force the air for treatment through the cell. Tri-Air has overcome this problem through the use of both surface coatings and the shapes of air flow guides designed to minimise any increase in back pressure resulting from a decrease in the speed of air flow through the non-thermal plasma cell caused by the inclusion of the guide within the cell.

Through a combination of these features, Tri-Air estimates that it can achieve a 50 per cent increase in the time air is retained within non-thermal plasma elements whilst minimising the increase in back pressure resulting from the inclusion of an air flow guide within the cell. As described earlier, improved treatment efficiency is also achieved through an increased deposition of any particulates within the air through the action of centrifugal forces. Tri-Air has filed patent applications to protect this invention.

This invention has applications wherever non-thermal plasma cells are used, for example in air cleaning; dealing with environmental pollution; cleaning diesel exhausts; water treatment and many other industrial processes. Tri-Air Developments will focus on its use within Tri-Air's patented Plasmalyser Air Purification technology.

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