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Aviation Security Specialist

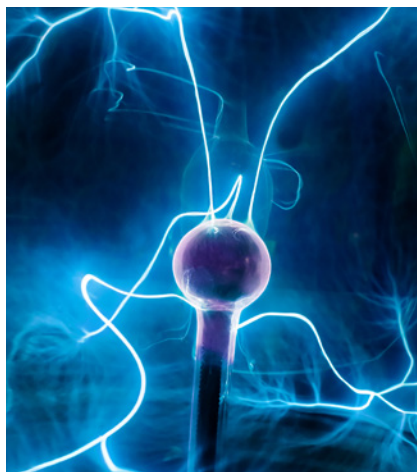
Custom spark source connector assembly.

Our client provides Explosives Detection and Drugs Trace Detection solutions for security applications. They commissioned Martec to design a custom spark source assembly with extremely precise spark gap clearances between the carefully-profiled pin tips and their housing to ensure a consistent spark energy content.

Martec expertise:

- Custom design
- Match existing interface
- Advanced production and sealing
- Non-destructive testing
- Design team support
- Material selection and compatibility





‘Our engineers reported that the resulting products are some of the “coolest bits of technology that they have worked on” and they are truly a “design win”. On the whole the quality of the product far exceeded our expectations – the levels of finish are exceptional and met all of our design criteria. Martec is an excellent partner.’

Engineering Director

MANUFACTURING CHALLENGES

Our client used to manually rework and realign ports on their prototype designs. This time round they decided to commission Martec to design and create a custom connector assembly that could be installed with little or no intervention. This level of precision was much higher than anything we had attempted before, and we knew the tooling design would be critical to achieving the accuracy in the pin alignment.

DESIGNED

We worked through several design iterations before finally achieving the specified clearance. We also worked with our client’s engineers to develop a novel surface coating that has enhanced the durability of the spark source. Once the connector was finished, we placed it in custom packaging to ensure the critical clearances were maintained until the moment the clients were ready to assemble their prototype.

Our client was so impressed with our solution that they have asked Martec to work with them in developing the connectors for their next generation of products.

TESTED

- Hermeticity of the assembly
- Pin alignment
- Pin erosion during operation
- Material compatibility

DELIVERED

Material	Shell/contact - Custom materials to suit application
Finish	Pin contacts plated to suit application
Leakage	Hermetic