



Compact Universal Orbital Cutter CERN, Didier Lombard

The Compact Universal Orbital Cutter works much like an electrical can opener at home. However, it has the ability to cut pipes of different diameters and materials.

What does it do?

This orbital cutting machine has been designed for inspection and repairs of awkwardly located pipes in tight or hazardous spaces. The machine cuts a broad range of pipes of different diameters (from 100 to 1200mm) and materials.

How does it work?

The cutter uses a chain for clamping onto the pipe mechanically and to move around the pipe for a straight cut. Once mounted on a pipe, the cutter operates without manual assistance, making it possible to cut pipes which present health hazards, such as radioactively contaminated pipes.

Is there an analogy or metaphor you can use to help describe this simply?

The Compact Universal Orbital Cutter works much like an electrical can opener at home. But rather than rotating the can, the cutter moves around the can and cuts it.

Unique characteristics

The turning compact design enables it to operate in spaces that are otherwise not suitable for most cutting machines.

Once mounted it operates autonomously.

Originally designed to be used for:

Inspection and repairs at the Large Hadron Collider.

Questions related to this technology

How can be the design changed, so cutting non-round objects as well?

What are some more common applications of the Cutter like oil and gas industry?

How about usage in aerospace?

References

CERN. Compact Universal Orbital Cutter. Retrieved November 17, 2018, from <https://kt.cern/technologies/compact-universal-orbital-cutter>

CERN. The compact universal orbital cutter: a tool for industrial piping needs. Retrieved November 17, 2018, from <https://kt.cern/success-stories/compact-universal-orbital-cutter-tool-industrial-piping-needs>