LIGHTFOOT DEFENCE
MILITARY REFRIGERATION SOLUTIONS SINCE 1885

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Non-Technical Summary of Application Operation.

Lightfoot Defence Limited have built a machine that will reclaim waste R245fa refrigerant back to virgin quality so it can be re-used instead of being disposed of by incineration.

The machine is situated in a workshop and operated by 1 person. The machines envelope of operation is within a $2m^3$ area and it weighs 500kg.

Waste R245fa is received from a company from a dedicate batch of receiver cylinders and inputted to the machine. It gets cleaned by a coarse refrigerant filter/drier system. The cleaned and dried R245fa then flows into a tank inside the machine where it is heated so it will boil off.

The vapour is then collected and passed on to be condensed back to a liquid and then stored in a second tank. When there is enough liquid in the second tank the liquid is then drawn through a fine filter and outputted into a stainless-steel cylinder that is part of a dedicated batch.

The stainless-steel cylinder contents are tested at a third-party laboratory premises for quality and purity. Once it has passed the quality and purity test it is sent back to the company that provided the waste R245fa in the first place.

The machine is CE marked and has been built to the appropriate standards required. There is a regular maintenance and monitoring program to keep the machine operating at peak condition.

At no point in the machine processes is any R245fa released to atmosphere as either a vapour or a liquid.

Where any R245fa is rendered or deemed too dirty to reclaim, it is sent to a licenced waste disposal facility in a waste recovery cylinder for correct disposal. (This is not carried out at or by Lightfoot Defence Ltd).

Lightfoot Defence Ltd employs suitably qualified and experienced refrigeration engineers who work to industry best practises and regulations. It is certified by REFCOM to handle refrigerant to the F-Gas rules. It is an accredited ISO9000:2015 company for Quality Management Systems and audited by LRQA.