



## TOTAL DROSS MANAGEMENT SOLUTIONS

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# FACT-SHEET

## How does TARDIS Generation II work?

TARDIS works using a number of fundamental principles for quick dross cooling and extinguishing.

Firstly, applied high pressures to the dross, expels residual oxygen content from the porous skimmed dross texture.

The same applied pressure combined with a cooled press head casting, causes the heat to transfer from the dross to the press head casting at a rapid rate, this in turn forces any small particles of liquid Aluminium to migrate towards the cooling source where they combine together to make larger plates of now solid Aluminium.

These larger areas of solid Aluminium are present throughout the pressed dross skull and particularly on the outside of the dross skull where they form a skin of solid Aluminium. This skin seals the skull not allowing any external oxygen to penetrate to any areas still hot, causing them to re-ignite or burn.

When the pressing cycle is complete (typically between 5 and 15 minutes depending upon the type of dross), the skull can be removed from the machine, allowed to cool a little longer (typically 1-2 hours) then placed directly into a bin for collection, meanwhile, there is continual air cooling of the press head which reduces the temperature of the press head casting ready for the next pressing.

When re-melting the pressed dross skulls to recover the Aluminium, because the quantity of small (sub 1mm) particles of Aluminium present has been greatly reduced, there is less to be burnt away or turned into oxide by the furnace burners of the Rotary Furnace during the re-melt process.

The result is greater Aluminium recoveries with less fume and dust Pollution and for every kilo of Aluminium recovered converts into process and energy costs saved.