

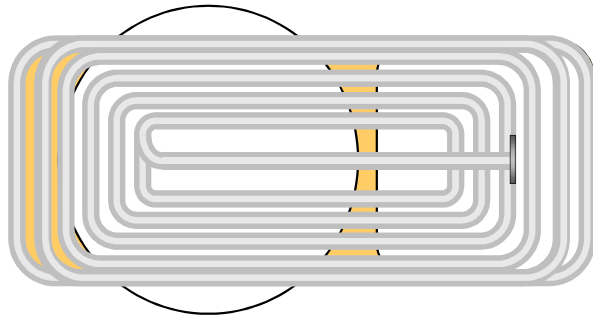
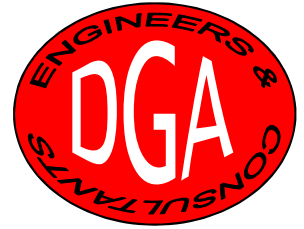
## **THERMAL OIL HEATER FOR USE WITH CHICKEN LITTER FUEL**

DGA have developed a biomass fired air heater design for use with Chicken Litter. If Chicken Litter is not available the plant can be operated on clean biomass

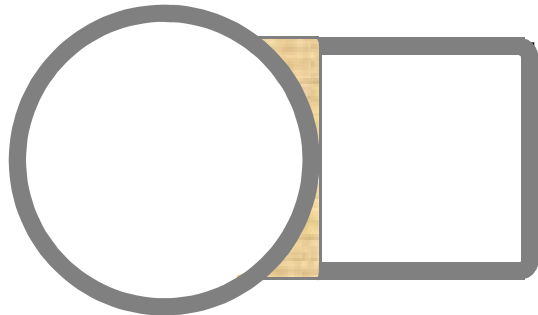
The device is aimed at the Rural Poultry Farmers looking for an economical method of producing small power for operating their farms.

The Organic Rankine Cycle expander is suited to small applications and the availability of low cost expanders makes this an economical package.

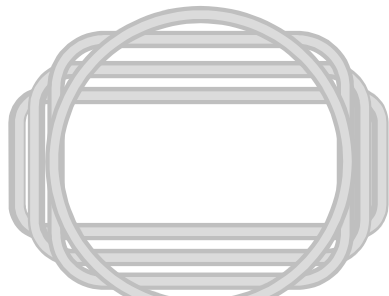
As the ORC system does not use pressurised equipment then no skills or operator tickets are required to operate them and it is quite feasible to install PLC controlled units that require minimum attendance



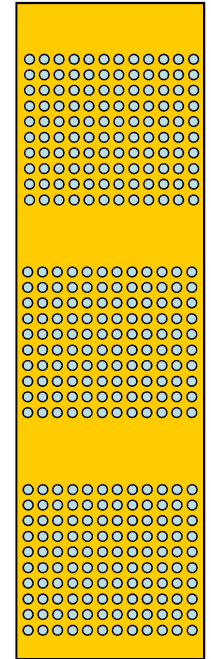
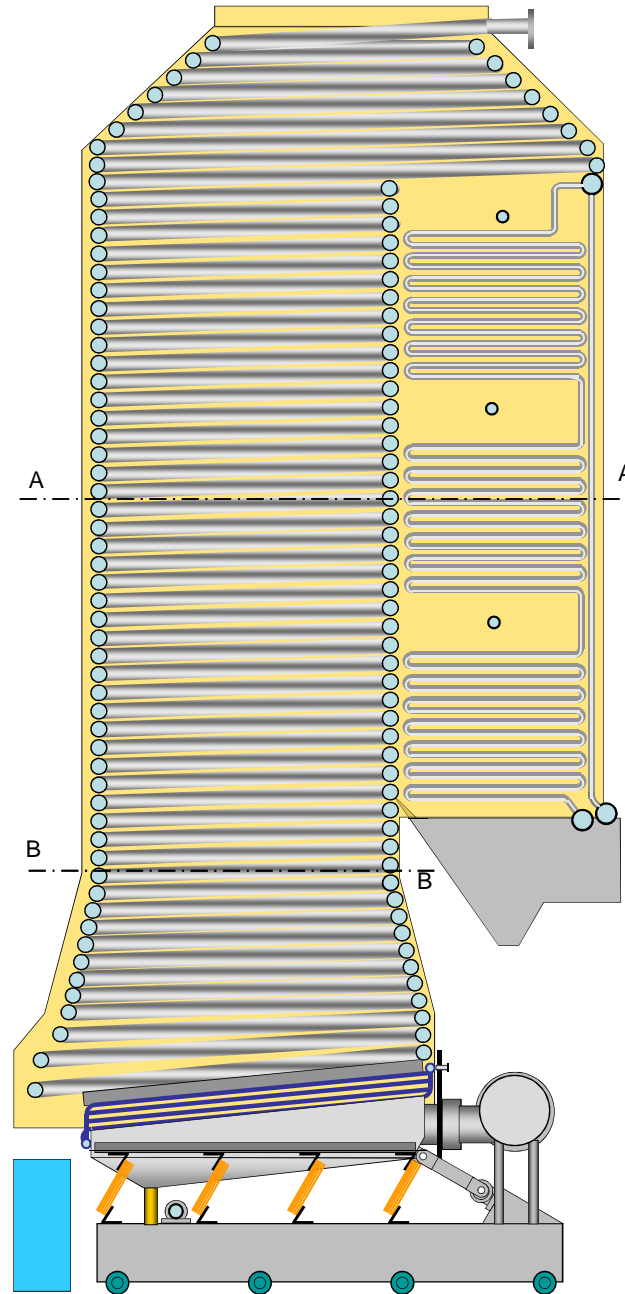
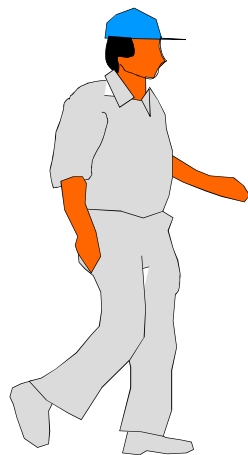
VIEW FROM TOP



SECTION AA

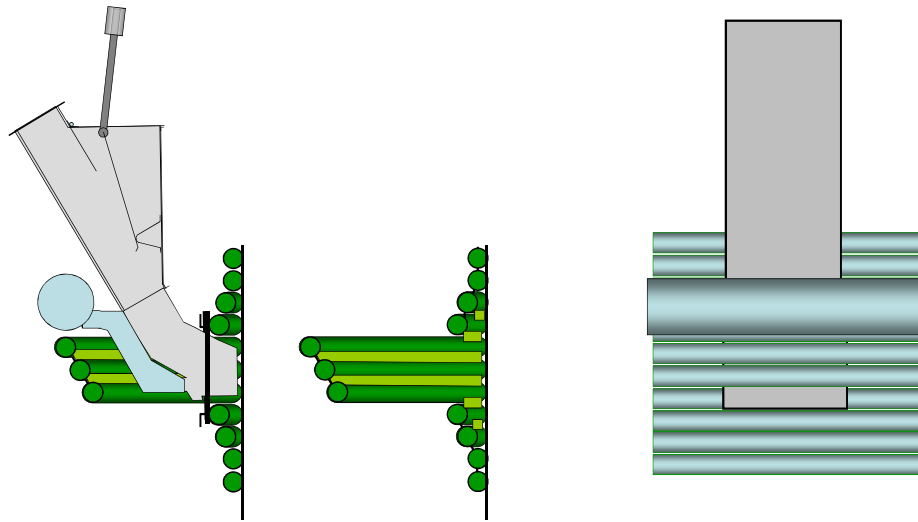


SECTION BB

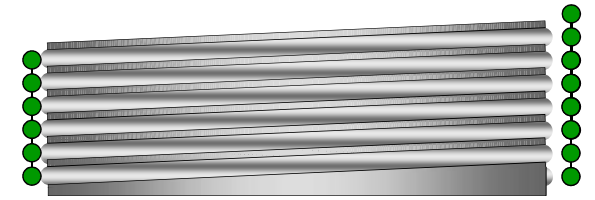


API USE A TWIN PIPE DESIGN AS ABOVE

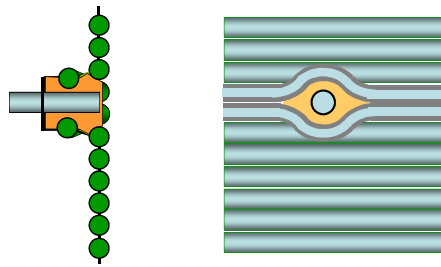
ARRANGEMENT OF 800 KW THERMAL BIOMASS FIRED OIL HEATER



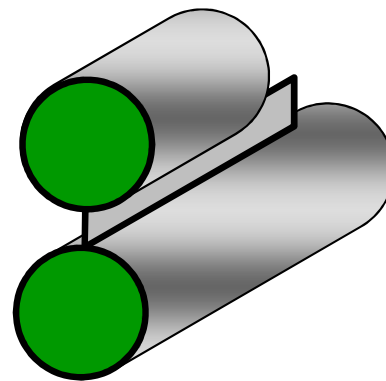
SPREADER STOKER INSTALLATION



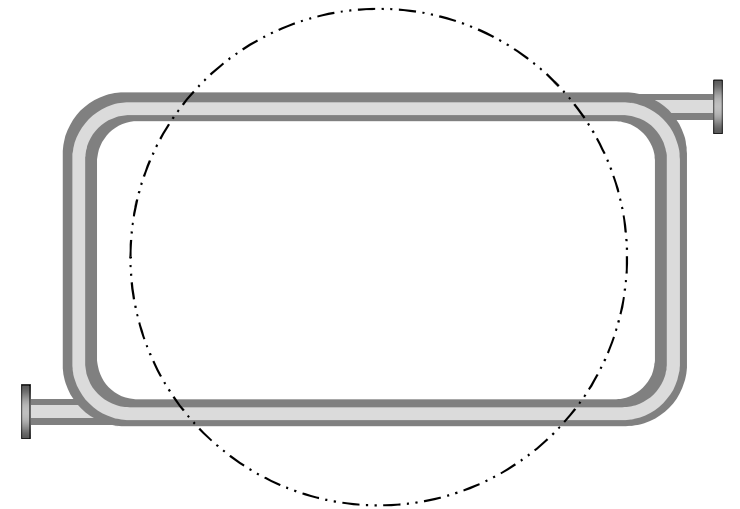
TWO PIPE DESIGN 63.5 OD



SA NOZZLES AND MINOR PENETRATIONS



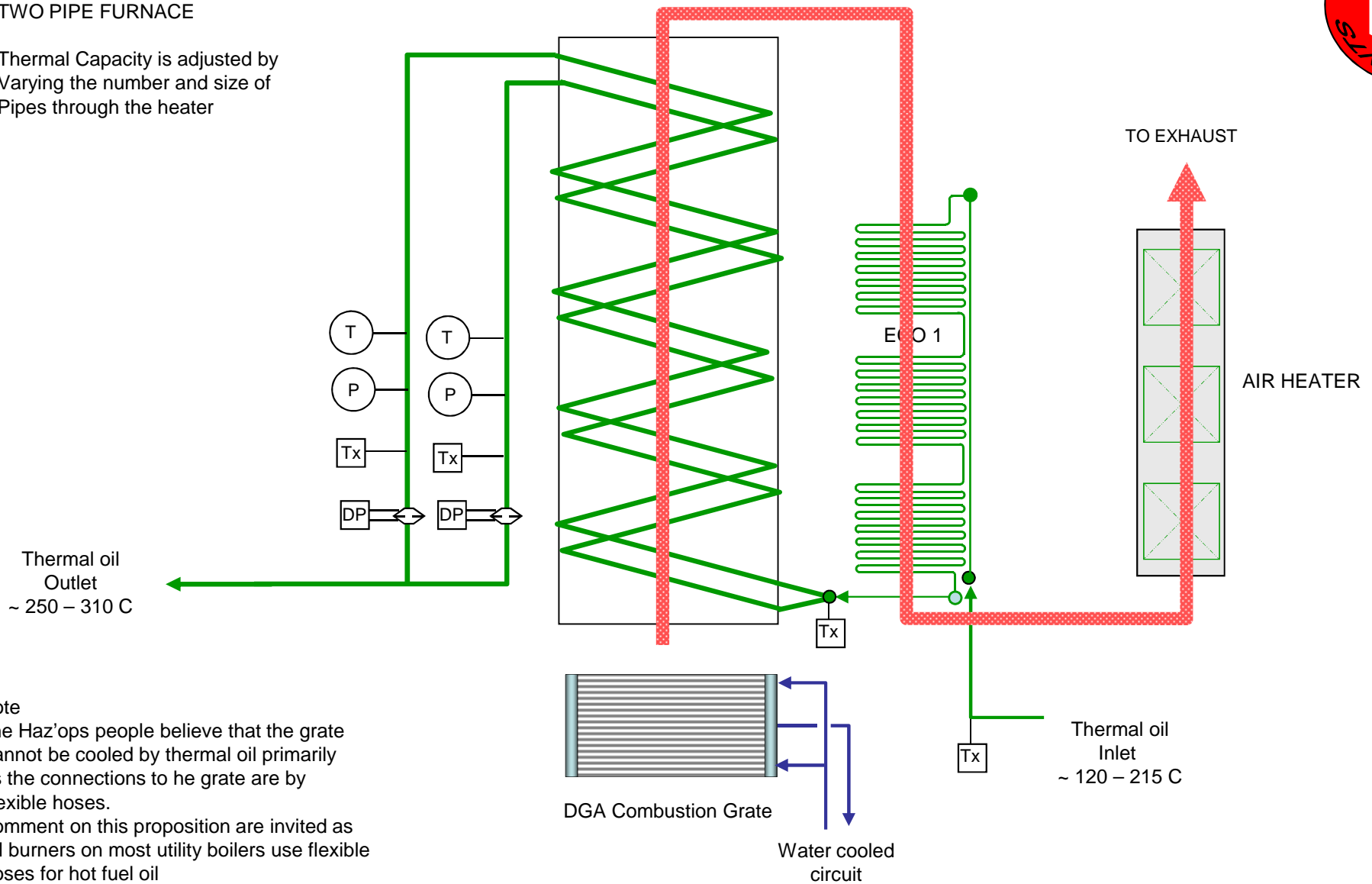
FURNACE DETAILS



ACCESS TO THE FURNACE IS BY WITHDRAWING THE GRATE

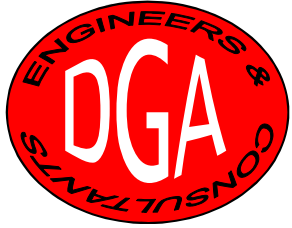
### TWO PIPE FURNACE

Thermal Capacity is adjusted by Varying the number and size of Pipes through the heater

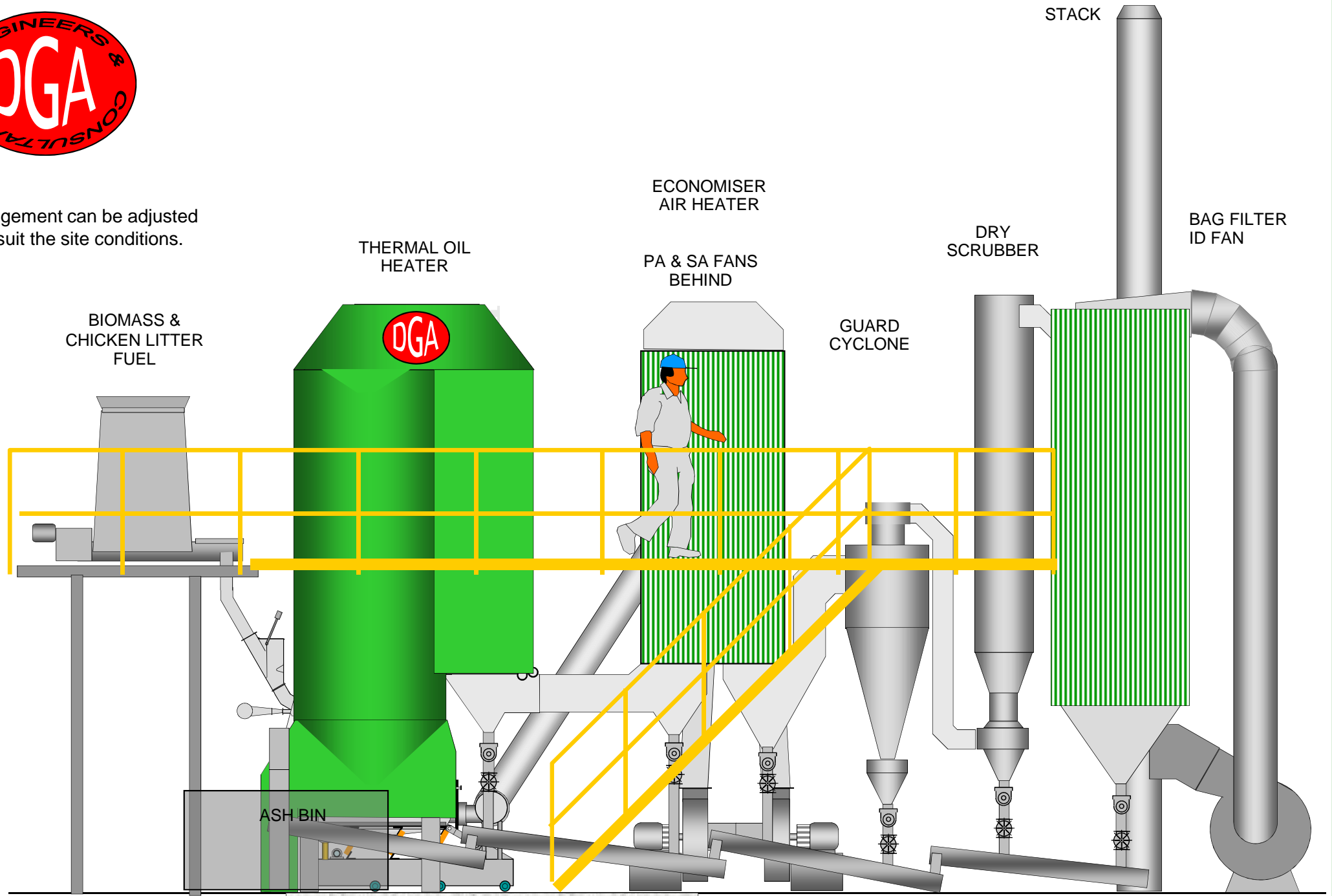


Note  
 The Haz'ops people believe that the grate Cannot be cooled by thermal oil primarily As the connections to he grate are by Flexible hoses.  
 Comment on this proposition are invited as Oil burners on most utility boilers use flexible Hoses for hot fuel oil

### DGA THERMAL OIL HEATER (ERK LICENCE)



Arrangement can be adjusted  
To suit the site conditions.



TYPICALELEVATION OF THE THERMAL OIL HEATER SHOWING ACCESS ETC