SITE PREPARATION FOR TG 30-1

1. Construction Of Ash Pit & Cooling Water Re-circulating tank

The ash pit (see Picture 1, labeled A & B), as the name suggest, is for collecting the ash, char & charcoal from the reactor. The ash pit, if the site permits, should have an internal dimension of about 1.82m X 0.76m X 1.0m (LXBXD), which will allow for the accumulation of ash and char for at least 24 hours. This ash pit design will allow both floating the sinking discharges to be collected in the ash pit. A combined ash pit with cooling water re-circulating tank is shown in picture 1. But if site space is a constraint, you can separate the cooling water re-circulating tank from the ash pit and locate it to a distant further away from the gasifier location. A cooling water re-circulating tank can also be in the form of a pond as long as there is a strainer to prevent the ingress of solid particle & mud into the gasifier cooling system. The recommended cooling water capacity for the TG 30-1 is about 14.5 m^3. If the site permits, the tank should be as large as possible and have a large cooling surface to provide maximum natural cooling for the raw water. The return cooling water from the ash pit and the cooling water pump suction point should be located as far away from each other as possible to prevent direct sucking of the returned water. A wall as shown in picture 1 can be constructed to divide the tank into three sections or more sections, and allowing the water to flow from one section to the other by mean of holes near the bottom of the dividing wall.

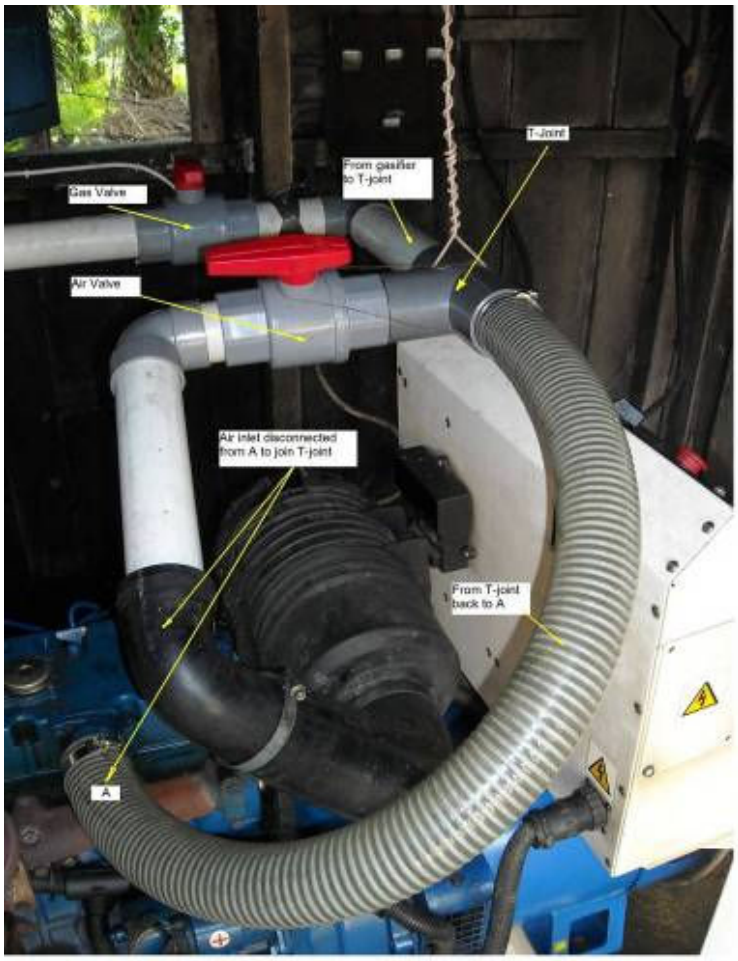
Picture 1

Section A : Ash pit with re-enforced wire mesh or perforated plated to filter floating char.
Section B : Ash pit for collecting sunken char or charcoal.
Section C to G: Cooling water re-circulating tank 1 to 5.

Note: Please refer to detailed layout drawing for construction of the cooling water tank.

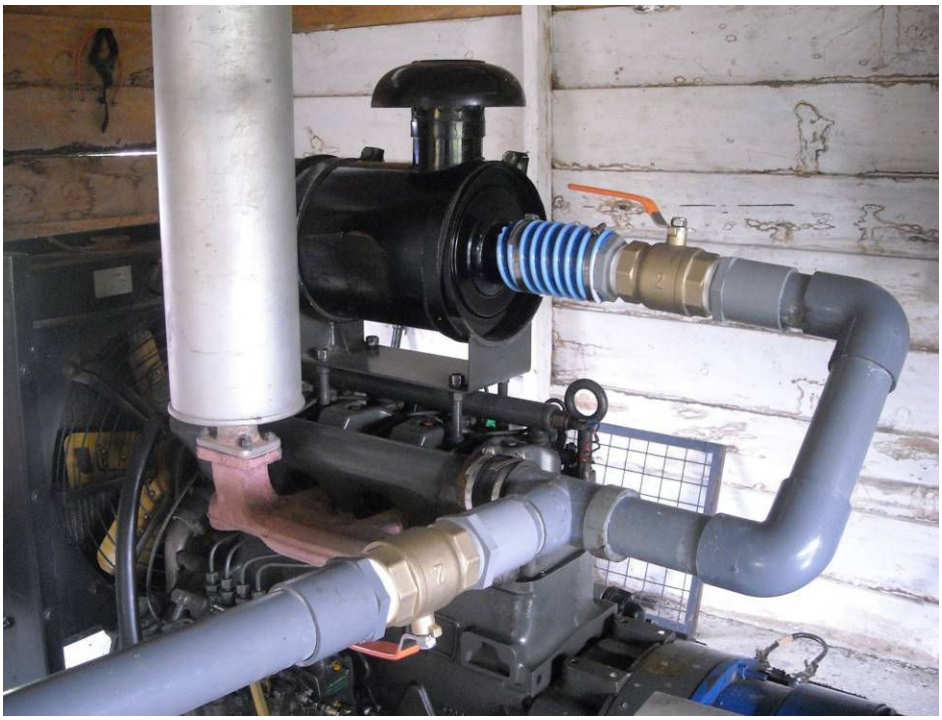
2. Material Required At Site.

a. Water pump minimum capacity 60 litres/min
b. Non return valve
c. Pump strainer
d. PVC pipes and the related connectors, bend/elbows & valves (or hose & clips) to connect to our 25mm (1" bsp) diameter cooling water inlet at the gasifier cooler and the outlet of the cooling water by-pass valve.
*e. 1 X **Internal Diameter** 50mm (2") **brass ball / flange ? butterfly valve** (for gas inlet)*
*f. 1 X **brass gate valve with internal diameter** equivalent to the engine air inlet pipe or diameter 50mm (2"), whichever is bigger (reducer or expender will be required if the engine air inlet pipe diameter is different from the stamdard 50 mm diameter).*
g. 1 to 1.5 metre of flexible hose & clips (with diameter equivalent to the engine air inlet pipe or diameter 50mm, whichever is bigger) if you are connecting as per Picture 2 or
h. PVC joints and connectors if you are connecting as per Picture 3 & 4.
i. PVC T-Joint, pipes & connector with diameter equivalent to the engine air inlet pipe or diameter 50mm (2"), whichever is bigger.
j. PVC pipe glue & pipe sealing tape.
k. 3" PVC pipe plus a 45 degree elbow for the cooling water discharge.
l. A can of grease / gasket sealant.



Picture 2

Picture 3



Picture 4

We strongly recommend using brass ball valve & brass gate valve instead of PVC values as the PVC valves tends to be a bit sticky after some time. Also, brass gate valve can give a higher degree of accuracy when calibrating the air fuel ratio thus leading to higher fuel saving. Please do not hesitate to contact us if you require more info. Thank you.