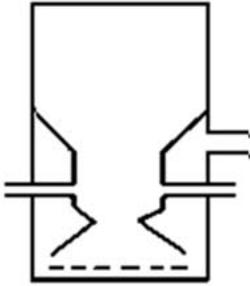
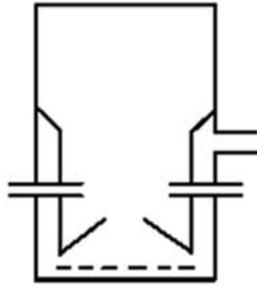


Downdraft Gasifier Types

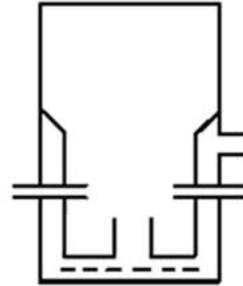
Nozzle and Constriction Closed Top Designs (aka: Imbert type)



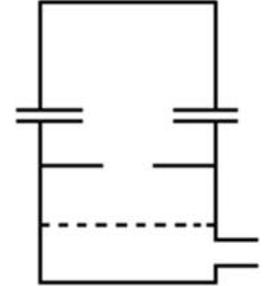
Imbert Hourglass
(double throat)



Inverted V Hearth
(Sweedish origin)



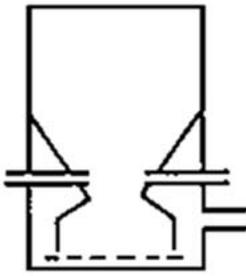
Straight Reduction Tube



Constriction Plate

Air Inlet Variations

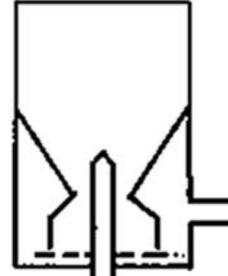
(shown with Imbert Hourglass single throat type)



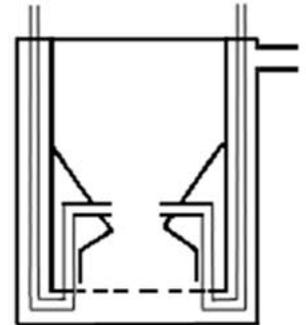
Side Inlets



Central Inlet
(down from top)



Central Inlet
(up from bottom)

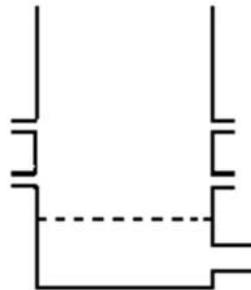


J tube
(air preheating)

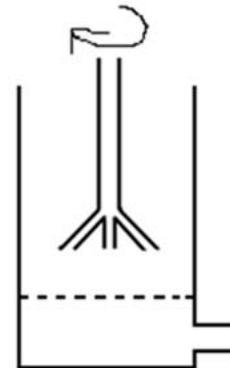
Open Core Designs



Stratified Downdraft
(Tom Reed, FEMA)



Multi-point Air Injection
(Mukunda, CPC)



Buck Rogers