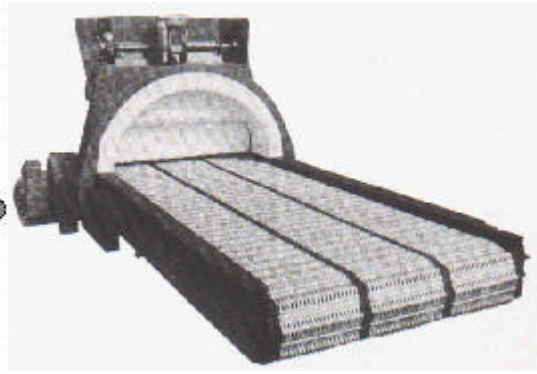
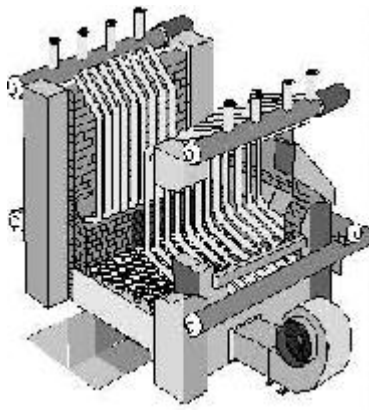


COMPARISON BETWEEN FLUIDIZED BED AND CHAIN STOKER



		Hamada Fluidized Bed Combustion	Travelling Chaingrate
Coal Specification	Coal Size	0~10 mm	15 ~50 mm
	Coal Price	Cheaper (\pm 23 %)	More expensive
	Ash Content	No Requirement, can use adaro enviro coal with 1 % ash content	5 ~ 15 % Chain Grate need at least 5% ash content to protect chain from over heating
	Volatile	No Requirement	20 ~ 30 %
Combustion System	Furnace Temperature	Below 1000 °C	1300 - 1400 °C
	SO _x Problem ?	With Inject CaCO ₃ can use coal with high sulfur content	Must avoid using Coal with high sulfur content
	NO _x Problem ?	No, because low temperature at the furnace	Yes, Because high temperature at the furnace
	Ash Melting Problem ?	No, Because the combustion temperature below ash melting point.	Yes, Because the combustion temperature is above coal ash melting point (Indonesian coal is young coal with 1100° ~ 1200° C melting ash temperature). Melting ash will stick to the chain and Boiler tube, difficult to clean and oiler efficiency become low.
	Can Mixed with other Solid	Yes, Because fuel that still can be burn will remain inside silica sand	No, because chain grate need fuel with same size and condition
	Combustion Efficiency	Higher, because fuel can stay long inside the silica sand bed until totally finish combustion	Lower, because bigger coal can not finish burning up to the rear of chain grate and will fall down to ash disposal and fine coal will fly and carried away by the induced draft without burning