

ABSTRACT

DESIGN OF LIQUID SMOKE'S DEVICE

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Consumption of plastics in our daily lives has increased over the last three decades. Trash that has been burned not provide benefits. Burning of waste in general can damage the ozone layer, pollution of the environment, as well as the spread of the disease around the region. This research was conducted in order to change the plastic waste in landfills (tpa) into something more valuable crude oil that is liquid pyrolysis process. It needs to be made an instrument of change waste into liquid smoke (liquid smoke generation tool). With overall dimensions of 250cm x 200cm x 60cm. Details device of liquid smoke is as follows: the combustion tube tubular to cover the top of the cone is using the main ingredient of steel, with dimensions (diameter: 38.1 cm, height: 50 cm), drum cooling tubular using raw materials oil drums former 200 liters made from iron plate, with dimensions (diameter: 58.5 cm, height: 89 cm), the condenser which is shaped like a pipeline, accompanied with a grating made of aluminum, with dimension a (length: 49 cm, width: 35 cm, thickness: 4 cm), b (length: 42 cm, width: 26 cm, thickness: 2 cm), water pump (length: 25 cm, width: 20 cm, height: 36 cm), compressor (length: 22 cm width: 12 cm, height: 26 cm), the base of the combustion tube, shaped table legs, using material brackets the dimensions (length: 100 cm, width: 44 cm, height: 12 cm), the base drum cooler, shaped like arrangement of thick beams, with a wooden base, the dimensions (length: 77 cm, width: 49 cm, height: 21 cm). The investment cost device of liquid smoke is rp 4,150,700.00. Break even point (BEP) is a white plastic bag 24.559 units, BEP black plastic bag was 24.722 units, while BEP packing water bottles of 600 ml is 25.027 units. Results obtained from the design of liquid smoke to feed weighing 500 grams and heated for 30 minutes, ie: white plastic bag or converted to produce 250 grams of 50%. Black plastic bag to produce 225 grams or converted 45% and bottle packing water to produce 190 grams or converted 38%.

Keywords: Tool-producing liquid smoke, liquid crude oil, Break Event Point, investment costs.