

LAMPIRAN

1. Perhitungan Besar Volume Gas

Diameter Gas Holder : 46 cm

Volume gas yang dihasilkan dihitung dari luas permukaan lingkaran pada bagian atas tabung dalam gas holder dikalikan dengan tinggi kenaikan gas yang dihasilkan.

- Hari ke-9 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 0,5 \text{ cm} = 830,53 \text{ cm}^3$$

- Hari ke-10 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 1 \text{ cm} = 1661,06 \text{ cm}^3$$

- Hari ke-11 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 1 \text{ cm} = 1661,06 \text{ cm}^3$$

- Hari ke-12 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 1,5 \text{ cm} = 2491,59 \text{ cm}^3$$

- Hari ke-13 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 1,8 \text{ cm} = 2989,908 \text{ cm}^3$$

- Hari ke-14 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 2,2 \text{ cm} = 3654,332 \text{ cm}^3$$

- Hari ke-15 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 3 \text{ cm} = 4983,18 \text{ cm}^3$$

- Hari ke-16 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 3,3 \text{ cm} = 5481,498 \text{ cm}^3$$

- Hari ke-17 :

$$V = 3,1429 \times 23^2 \text{ cm} \times 3,9 \text{ cm} = 6478,134 \text{ cm}^3$$

2. Perhitungan Nilai Kalor Biogas

- Hari ke-12 :

$$Q = \frac{m \times c \times \Delta T \times \rho}{V} = \frac{100 \text{ ml} \times 4200 \times 0,5^{\circ} \text{C} \times 0,998 \text{ g/ml}}{1000 \text{ ml}} = 209,58 \text{ Joule}$$

- Hari ke-13 :

$$Q = \frac{m \times c \times \Delta T \times \rho}{V} = \frac{100 \text{ ml} \times 4200 \times 0,5^{\circ} \text{C} \times 0,998 \text{ g/ml}}{1000 \text{ ml}} = 209,58 \text{ Joule}$$

- Hari ke-14 :

$$Q = \frac{m \times c \times \Delta T \times \rho}{V} = \frac{100 \text{ ml} \times 4200 \times 1^{\circ} \text{C} \times 0,998 \text{ g/ml}}{1000 \text{ ml}} = 419,16 \text{ Joule}$$

- Hari ke-15 :

$$Q = \frac{m \times c \times \Delta T \times \rho}{V} = \frac{100 \text{ ml} \times 4200 \times 1,5^{\circ} \text{C} \times 0,998 \text{ g/ml}}{1000 \text{ ml}} = 628,74 \text{ Joule}$$

- Hari ke-16 :

$$Q = \frac{m \times c \times \Delta T \times \rho}{V} = \frac{100 \text{ ml} \times 4200 \times 2^{\circ} \text{C} \times 0,998 \text{ g/ml}}{1000 \text{ ml}} = 838,32 \text{ Joule}$$

- Hari ke-17 :

$$Q = \frac{m \times c \times \Delta T \times \rho}{V} = \frac{100 \text{ ml} \times 4200 \times 2,5^{\circ} \text{C} \times 0,998 \text{ g/ml}}{1000 \text{ ml}} = 1047,9 \text{ Joule}$$

3. Dokumentasi selama percobaan



Gambar : Sekam Padi



Gambar : Pencampuran kotoran sapi



Gambar : Proses penghalusan sekam padi



Gambar : Analisa Nyala Api hari ke-9



Gambar : Analisa Nyala Api hari ke-17