LAMPIRAN

1. Perhitungan

1.1 Perhitungan Viskositas

- Pengaruh suhu dengan viskositas

  $\frac{\mu x}{\mu o} = (\frac{T}{303})^{n}$

  Keterangan :

  μx = viskositas pada T (kg/ms)

  μo = viskositas awal (kg/ms)

  T = suhu percobaan (K)

  n = konstanta viskositas zat cair (didapat dari buku Mc. Cabe, apendix table 9)

  μo = 0,00272 kg/m.s

- Variabel Suhu (Teoritis)

  Suhu 20^0C

  $\frac{\mu x}{\mu o} = (\frac{T}{303})^{n}$

  $\frac{\mu x}{0{,}00272\,\frac{kg}{m.s}} = (\frac{293}{303})^{0{,}9}$

  μx = 0,002639 kg/m.s

  Suhu 30^0C

  $\frac{\mu x}{0{,}00272\,\frac{kg}{ms}} = (\frac{303}{303})^{0{,}9}$

  μx = 0,0072 kg/m.s

  Suhu 40^0C

  $\frac{\mu x}{0{,}00272\,\frac{kg}{ms}} = (\frac{313}{303})^{0{,}9}$

  µx = 0,002801 kg/m.s

  Suhu 50^0C

  $\frac{\mu x}{0{,}00272\,\frac{kg}{ms}} = (\frac{323}{303})^{0{,}9}$

  µx = 0,002881 kg/m.s

Suhu 60^{0}C

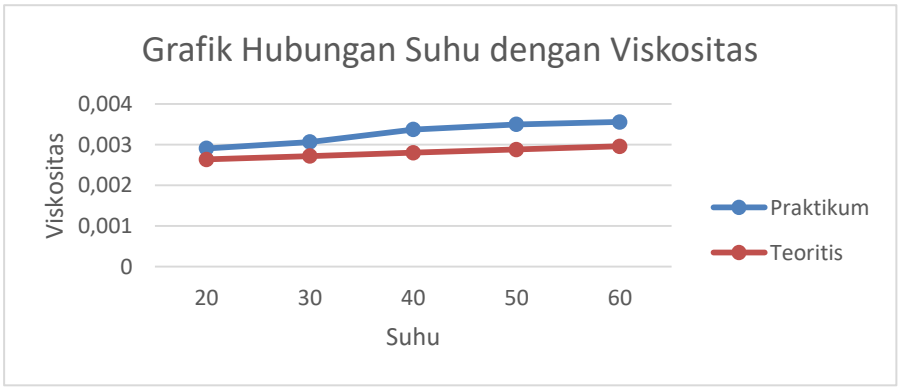
$$\frac{\mu x}{0{,}00272\,\frac{kg}{ms}} = \left(\frac{333}{303}\right)^{0{,}9}$$

μx = 0,002961 kg/ms

- Variabel Suhu (Percobaan)

Suhu	Densitas		To	tx	μo	μpraktik	μteoritis
	Sebelum	Sesudah					
20	1,052	1,0168	1,22	1,35	0,00272	0,002909	0,002639
30	1,052	1,0176	1,22	1,42	0,00272	0,003065	0,00272
40	1,052	1,0184	1,22	1,56	0,00272	0,003373	0,002801
50	1,052	1,0188	1,22	1,62	0,00272	0,003498	0,002881
60	,052	1,02	1,22	1,65	0,00272	0,003559	0,002961

Grafik hubungan suhu dengan viskositas



- Pengaruh waktu dengan viskositas
- Variabel waktu (teoritis)

  Perhitungan pengaruh waktu terhadap viskositas

$$\mu x = \frac{tx\,.\,dx}{to\,.\,do}\,.\,\mu o$$

Keterangan :

μx = viskositas akhir (kg/ms)

tx = waktu akhir

dx = densitas akhir (gr/ml)

μo = viskositas awal (kg/ms)

to = waktu awal

do = densitas awal (gr/ml)

Menit ke 15

$$\mu x = \frac{tx \,.\, dx}{to \,.\, do} \,.\, \mu o$$

$$\mu x = \frac{15 \,.\, 1{,}0168}{15 \;.\, 1{,}052} \,.\, 0{,}00272 \; kg/ms$$

μx = 0,002629 kg/ms

Menit ke 30

$$\mu x = \frac{30 \,.\, 1{,}0176}{15 \;.\, 1{,}052} \,.\, 0{,}00272 \; kg/ms$$

μx = 0,002631 kg/ms

Menit ke 45

$$\mu x = \frac{45 \,.\, 1{,}0184}{15 \;.\, 1{,}052} \,.\, 0{,}00272 \; kg/ms$$

μx = 0,002633

Menit ke 60

$$\mu x = \frac{60 \,.\, 1{,}0188}{15 \;.\, 1{,}052} \,.\, 0{,}00272 \; kg/ms$$

μx = 0,002634 kg/ms

Menit ke 75

$$\mu x = \frac{75 \,.\, 1{,}02}{15 \;.\, 1{,}052} \,.\, 0{,}00272 \; kg/ms$$

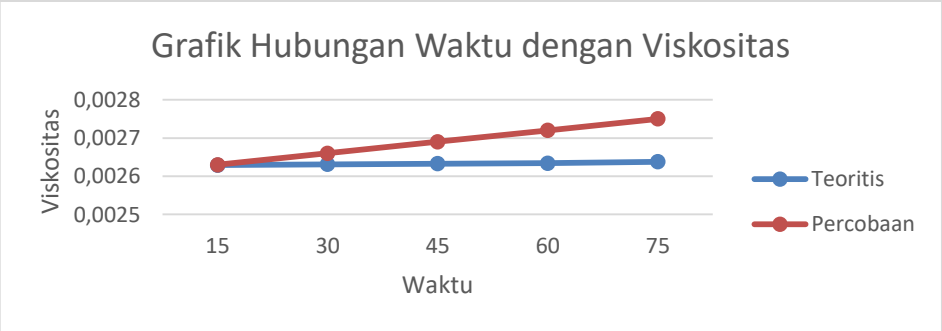
μx = 0,002638

Hasil Pengaruh Waktu Terhadap Viskositas

Waktu	Viskositas Praktikum (kg/ms)	Viskositas Teoritis (kg/ms)
15	0,00263	0,002629

30	0,00266	0,002631
45	0,00269	0,002633
60	0,00272	0,002634
75	0,00275	0,002637

Grafik Hubungan Waktu dengan Viskositas



2. Foto

Proses Running Alat Evaporator Vacuum

Hasil Evaporasi