

## Lampiran

### 1. Hasil perhitungan pada module tugas akhir

#### a. Perhitungan akurasi respon saklar *ultrasound*

##### 1) Akurasi

$$\begin{aligned} \text{Persentase (\%)} &= \left( \frac{\text{jumlah percobaan} - \text{hasil kegagalan}}{\text{jumlah percobaan}} \right) \times 100\% \\ &= \left( \frac{20-0}{20} \right) \times 100\% \\ &= 100\% \end{aligned}$$

#### b. Perhitungan tekanan 25 mmHg-28 mmHg

$$\begin{aligned} 1) \text{ Rata - Rata Modul} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{27+28+27+28+28+28+28+27+28+28+27+27+26+26}{20} = 26,85 \text{ mmHg} \end{aligned}$$

$$\begin{aligned} 2) \text{ Rata - Rata Kalibrator} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{28+30+28,5+29+29,5+29+30+29+30+30,5+29+28,5}{20} = 28,4 \text{ mmHg} \end{aligned}$$

##### 3) Koreksi

$$\begin{aligned} \text{Koreksi} &= (\text{nilai terukur} - \text{nilai yang dikehendaki}) \\ &= (26,85 - 28,4) \\ &= -1,57 \text{ mmHg} \end{aligned}$$

#### c. Perhitungan tekanan 100 mmHg-105 mmHg

$$\begin{aligned} 1) \text{ Rata - Rata Modul} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{100+100+102+101+103+100+100+104+105+104+104}{20} = 102,5 \text{ mmHg} \end{aligned}$$

$$2) \text{ Rata - Rata Kalibrator} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{100,5+99,5+103,5+100,5+104+102,5+102+105,5+105+105,5+106+106,5+105+103+102+102,5+104,5+105+104,5+104}{20} = 104 \text{ mmHg}$$

3) Koreksi

$$\begin{aligned} \text{Koreksi} &= (\text{nilai terukur} - \text{nilai yang dikehendaki}) \\ &= (102,5 - 104) \\ &= -1,5 \text{ mmHg} \end{aligned}$$

d. Perhitungan tekanan 200 mmHg-205 mmHg

$$\begin{aligned} 1) \text{ Rata - Rata Modul} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{201+200+202+202+203+203+203+203+204+203+203+204+203+203+205+205+205+203+203}{20} = 203,15 \text{ mmHg} \end{aligned}$$

$$\begin{aligned} 2) \text{ Rata - Rata Kalibrator} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{202,5+201,5+202,5+202+206+202+202+206,5+203+202+203,5+204,5+203,5+203,5+206+204+206+206,5+205+203,5}{20} = 203,8 \text{ mmHg} \end{aligned}$$

3) Koreksi

$$\begin{aligned} \text{Koreksi} &= (\text{nilai terukur} - \text{nilai yang dikehendaki}) \\ &= (203,15 - 203,8) \\ &= -0,65 \text{ mmHg} \end{aligned}$$

e. Perhitungan tekanan 300 mmHg-305 mmHg

$$\begin{aligned} 1) \text{ Rata - Rata Modul} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{302+301+301+303+301+305+304+300+301+300+301+304+305+303+302+300+303+305+303+302}{20} = 302,3 \text{ mmHg} \end{aligned}$$

$$\begin{aligned} 2) \text{ Rata - Rata Kalibrator} &= \frac{\text{Jumlah nilai data}}{\text{Banyak data}} \\ &= \frac{303+302+301+304+301,5+305+305+301+301,5+300,5+301,5+305,5+306,5+304,5+303+301,5+305,5+306,5+305,5+303,5}{20} = 303 \text{ mmHg} \end{aligned}$$

3) Koreksi

$$\begin{aligned} \text{Koreksi} &= (\text{nilai terukur} - \text{nilai yang dikehendaki}) \\ &= (302,3 - 303) \\ &= -0,7 \text{ mmHg} \end{aligned}$$

## f. Perhitungan tekanan 400 mmHg-405 mmHg

$$1) \text{ Rata - Rata Modul} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{400+401+401+401+401+401+401+401+400+400+402+403+403+404+403+403+403+403+403+402}{20} = 401,8 \text{ mmHg}$$

$$2) \text{ Rata - Rata Kalibrator} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{400+401+400,5+400,5+401,5+401+400,5+400,5+400,5+400,5+402,5+402,5+403+403,5+403+403,5+403+403+403,5+402,5}{20} = 402 \text{ mmHg}$$

## 3) Koreksi

$$\begin{aligned} \text{Koreksi} &= (\text{nilai terukur} - \text{nilai yang dikehendaki}) \\ &= (401,8 - 402) \\ &= -0,2 \text{ mmHg} \end{aligned}$$

## g. Perhitungan tekanan 500 mmHg-505 mmHg

$$1) \text{ Rata - Rata Modul} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{503+504+503+502+501+501+501+502+502+502+503+501+505+503+504+505+504+503+502+500}{20} = 502,55 \text{ mmHg}$$

$$2) \text{ Rata - Rata Kalibrator} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{503,5+505+503+502,5+501,5+502+501,5+501,5+502,5+502+503,5+501,5+505,5+503,5+504,5+506+505+503+502,5+500}{20} = 503,25 \text{ mmHg}$$

## 3) Koreksi

$$\begin{aligned} \text{Koreksi} &= (\text{nilai terukur} - \text{nilai yang dikehendaki}) \\ &= (502,55 - 503,25) \\ &= -0,7 \text{ mmHg} \end{aligned}$$

## h. Perhitungan tekanan 562 mmHg-563 mmHg

$$1) \text{ Rata - Rata Modul} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{563+562+562+562+563+562+563+562+562+563+562+562}{+563+562+562+563+562+562+563+562} = 562.35 \text{ mmHg}$$

$$2) \text{ Rata – Rata Kalibrator} = \frac{\text{Jumlah nilai data}}{\text{Banyak data}}$$

$$\frac{565+564,5+564,5+564,5+565+564,5+564,5+565+564,5+565+564,5}{+564,5+565+564,5+564,5+565+564,5+565+564,5+564,5+565} = 565 \text{ mmHg}$$

3) Koreksi

Koreksi= (nilai terukur – nilai yang dikehendaki)

$$= (562.35 - 565)$$

$$= -2,65 \text{ mmHg}$$

## 2. SOP Penggunaan Alat

- 1) Nyalakan alat dengan menekan switch ke keadaan *on*
- 2) Atur valve untuk pengaturan tekanan
- 3) Untuk menyalakan alat halangi sensor *ultrasound* sebagai saklar (20 cm dari alat)
- 4) Untuk mengembalikan alat ke posisi *standby* halangi kembali sensor *ultrasound*
- 5) Lakukan penyedotan cairan
- 6) Jika cairan yang tertampung pada alat penuh lepaskan penampung cairan dan buang cairan dengan cara melepaskan tutup terlebih dahulu
- 7) Ketika proses selesai matikan alat dengan membalikkan switch ke keadaan *off*.