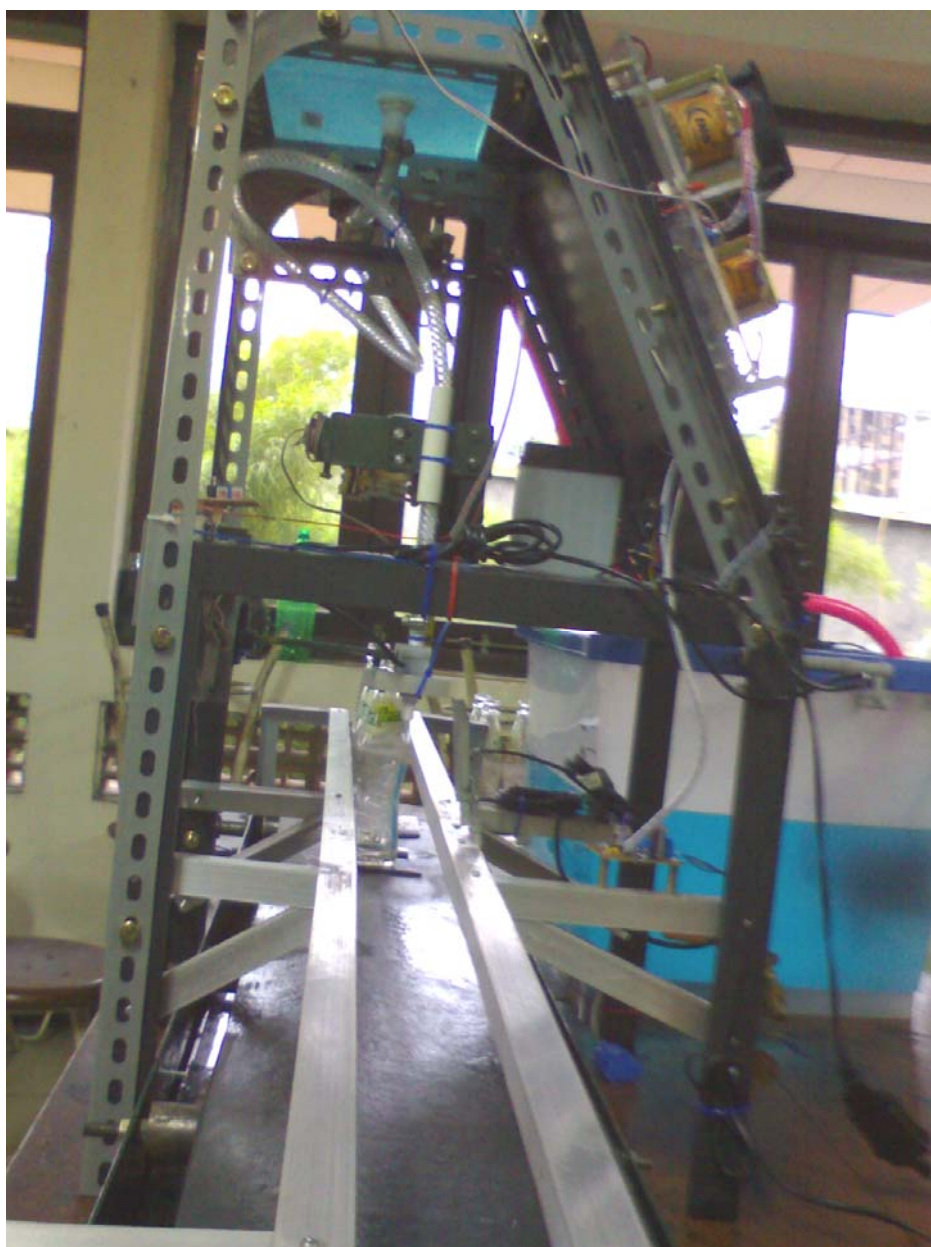
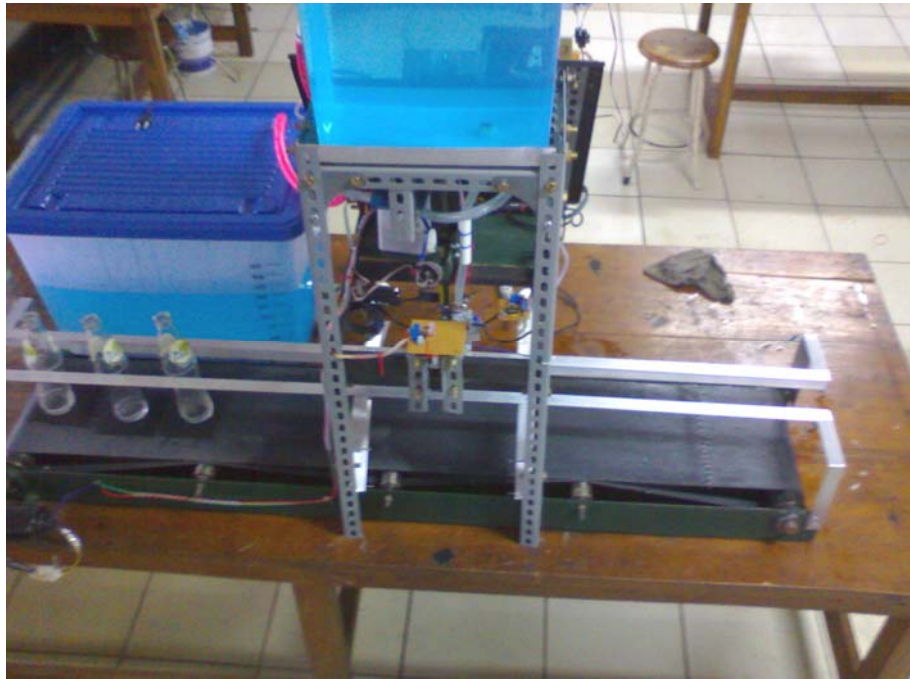
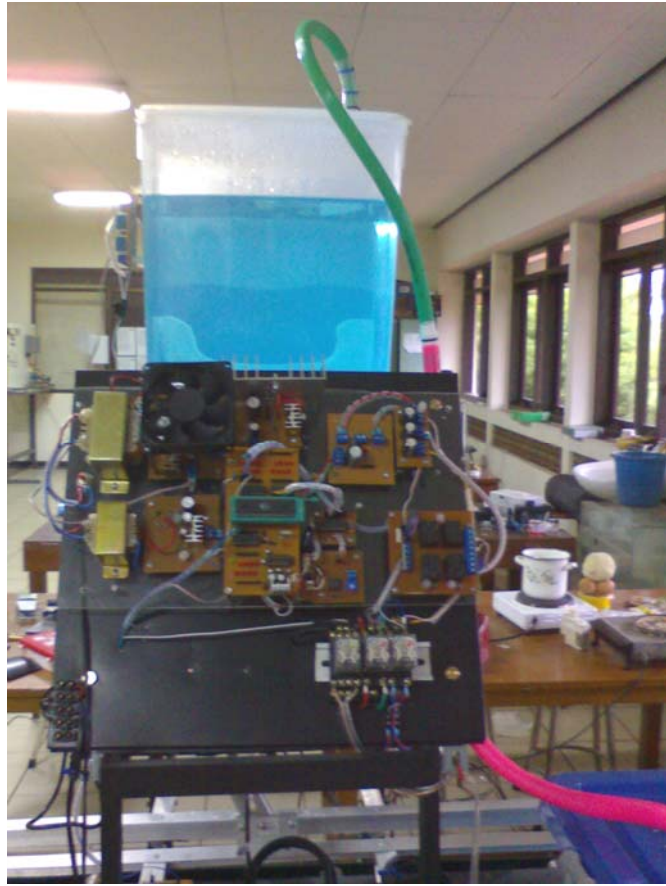


LAMPIRAN A

FOTO ALAT





LAMPIRAN B

PERANGKAT LUNAK

\$mod51

```
#####  
#####          WATER FILLING MACHINE #####  
#####          #####  
#####
```

```
#####  
;          I/O MAPPING  
#####
```

```
;+++++++PARAMETER+++++++
```

```
KONSTANTA_ADC      EQU 20
```

```
;+++++++ INPUT ++++++
```

```
ADC                EQU P2  
SENSOR_BOTOL      EQU P1.0  
LIMIT_SW_PENGISI_BAWAH  EQU P1.1  
LIMIT_SW_PENGISI_ATAS  EQU P1.2
```

```
;+++++++OUTPUT+++++++
```

```
MOTOR_CONVEYER    EQU P0.0  
MOTOR_PENGISI_BAWAH  EQU P0.1  
MOTOR_PENGISI_ATAS  EQU P0.2  
VALVE_PENGISI     EQU P0.3
```

```
#####  
;          PROGRAM UTAMA  
#####
```

```
MAIN:      LCALL    INIT  
           LCALL    CONVEYER_JALAN  
           LCALL    PENGISI_TURUN  
           LCALL    ISI  
           LCALL    PENGISI_NAIK  
           LJMP    MAIN
```

```
#####  
;          ROUTINE  
#####
```

```
INIT:      MOV SP,#30H  
           MOV P0,#00H
```

```
MOV P1,#00H
MOV P2,#0FFH
RET
```

```
CONVEYER_JALAN: JNB SENSOR_BOTOL, ADA_BOTOL
                SETBMOTOR_CONVEYER
ADA_BOTOL: CLR MOTOR_CONVEYER
                RET
```

```
PENGISI_TURUN: SETB MOTOR_PENGISI_BAWAH
                CLR MOTOR_PENGISI_ATAS
                JB LIMIT_SW_PENGISI_BAWAH, TURUN_PENUH
TURUN_PENUH:  CLR MOTOR_PENGISI_ATAS
                CLR MOTOR_PENGISI_BAWAH
                RET
```

```
PENGISI_NAIK:  SETB MOTOR_PENGISI_ATAS
                CLR MOTOR_PENGISI_BAWAH
                JB LIMIT_SW_PENGISI_ATAS, NAIK_PENUH
                LJMP PENGISI_NAIK
NAIK_PENUH:    CLR MOTOR_PENGISI_ATAS
                CLR MOTOR_PENGISI_BAWAH
                RET
```

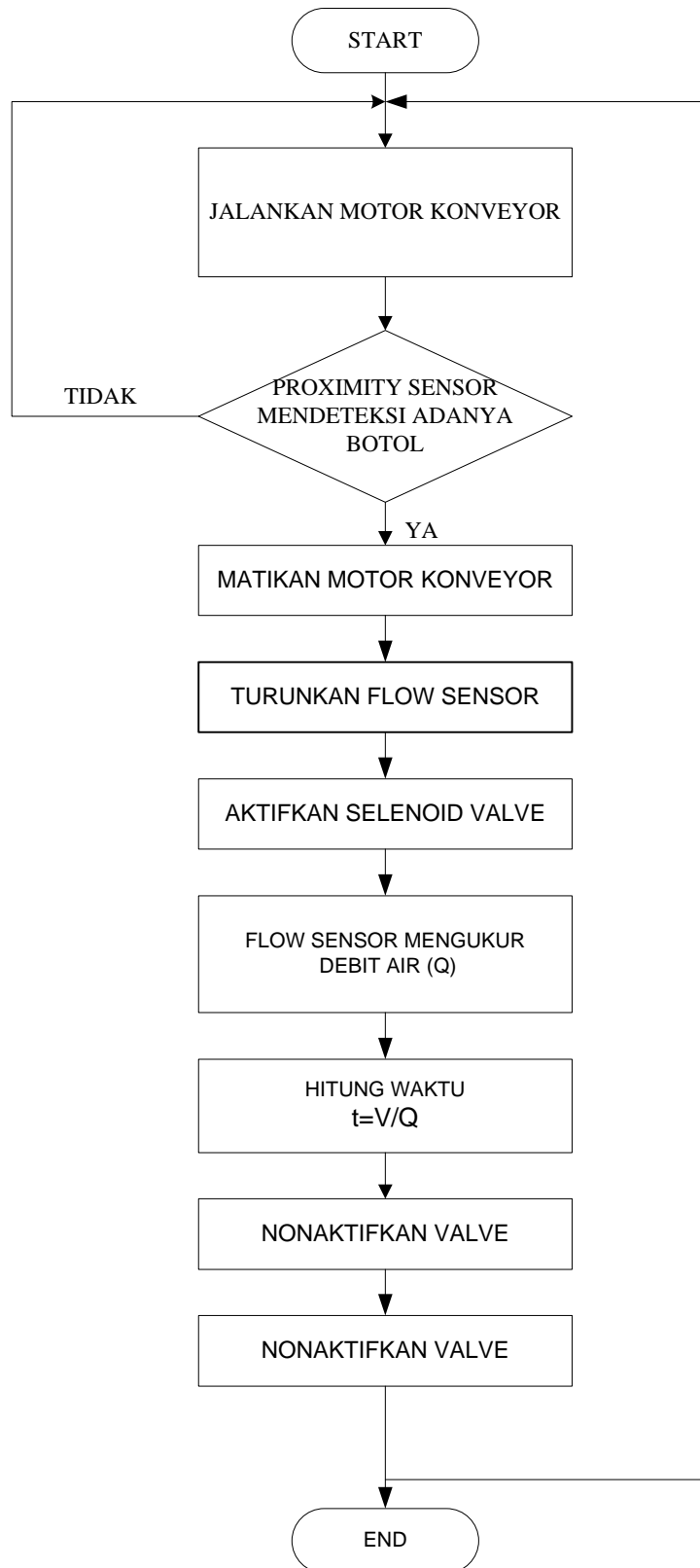
```
ISI:           CLR CY
                SETB VALVE_PENGISI
                LCALL  AMBIL_ADC
                LCALL  DELAY
                CLR VALVE_PENGISI
                RET
```

```
AMBIL_ADC:     MOV A, ADC
                MOV R0, A
                MOV A, #0FFH
                SUBB A, R0
                RET
```

```
DELAY:         MOV R5, A
LDR6:          MOV R6, KONSTANTA_ADC ; KONSTANTA_ADCx
                0.5MILI DETIK
LDR7:          MOV R7, #250 ; 0.5 MILI DETIK
                DJNZ R7, $
                DJNZ R6, LDR7
                DJNZ R5, LDR6
                RET
```

```
END
```

FLOW CHART MCS51



LAMPIRAN C

DATA SHEET

