

## DAFTAR GAMBAR

|   |    |
|---|----|
| Gambar I.1 <i>Flowchart</i> pencucian dan pengisian galon CV. Barokah Abadi.....  | 3  |
| Gambar 1.2 OPC proses pencucian galon di CV. Barokah Abadi.....                   | 4  |
| Gambar II.1 Elemen Dasar dalam Sistem Otomasi (Groover, 2001).....                | 8  |
| Gambar II.2 Sistem Kontrol <i>Closed Loop</i> (Groover, 2001). ....               | 9  |
| Gambar II.3 Sistem Kontrol <i>Open Loop</i> (Groover, 2001).....                  | 10 |
| Gambar II.4 Arsitektur PLC.....   | 12 |
| Gambar II.5 Contoh <i>ladder diagram</i> (CX-Programmer).....                     | 14 |
| Gambar II.6 <i>Limit Switch</i> .....   | 15 |
| Gambar II.7. <i>Photoelectric Sensor</i> .....                                    | 17 |
| Gambar II.8 <i>Miniatur Circuit Breaker</i> (MCB) .....                           | 18 |
| Gambar II.9 <i>Magnetic Contactor</i> .....                                       | 18 |
| Gambar II.18 Rangka Motor Induksi .....   | 20 |
| Gambar II.19 Pompa Sentrifugal .....  | 22 |
| Gambar II.20 Komponen Utama Pompa Sentrifugal.....                                | 23 |
| Gambar III. 1 Model konseptual .....  | 31 |
| Gambar III. 2 Model Sistematika.....  | 32 |
| Gambar III. 3 Model Sistematika (lanjutan) .....                                  | 33 |
| Gambar IV.1 Skema pencucian galon di CV. Barokah Abadi.....                       | 37 |
| Gambar IV.2 Proyeksi Tiga Pandangan Desain Alat Pencucian Galon .....             | 40 |
| Gambar IV.3 Desain Komponen Perangkat Pembersih.....                              | 41 |
| Gambar IV.4 Potongan Bawah Alat Pencucian Galon .....                             | 42 |
| Gambar IV.5 <i>Flowchart</i> Skenario Proses Alat Pencucian Galon .....           | 44 |
| Gambar IV.5 <i>Flowchart</i> Skenario Proses Alat Pencucian Galon (lanjutan)..... | 45 |
| Gambar IV.6 <i>Transfer Script</i> Program dari Laptop ke PLC .....               | 50 |

|   |    |
|---|----|
| Gambar IV.7 Desain Simulasi Program PLC .....         | 51 |
| Gambar V.1 Alat Pencucian Galon Otomatis .....        | 53 |
| Gambar V.2 Program <i>Emergency</i> .....             | 54 |
| Gambar V.3 Program Saklar .....                       | 54 |
| Gambar V.4 Program Sensor .....                       | 54 |
| Gambar V.5 Program Motor .....                        | 55 |
| Gambar V.6 Program Pompa Air .....                    | 55 |
| Gambar V.7 Program <i>Snow Wash</i> .....             | 56 |
| Gambar V.8 <i>Delay</i> pompa air bekerja.....        | 56 |
| Gambar V.9 Program <i>delay</i> motor bekerja .....   | 57 |
| Gambar V.10 Waktu pra pencucian .....                 | 57 |
| Gambar V.11 Program waktu pencucian .....             | 57 |
| Gambar V.12 Program waktu pembilasan .....            | 58 |
| Gambar V.13 Program <i>delay</i> motor berhenti ..... | 58 |
| Gambar V.14 Hasil Simulasi Alat Pencucian Galon ..... | 59 |
| Gambar V.15 Hasil Perbandingan Waktu .....            | 62 |