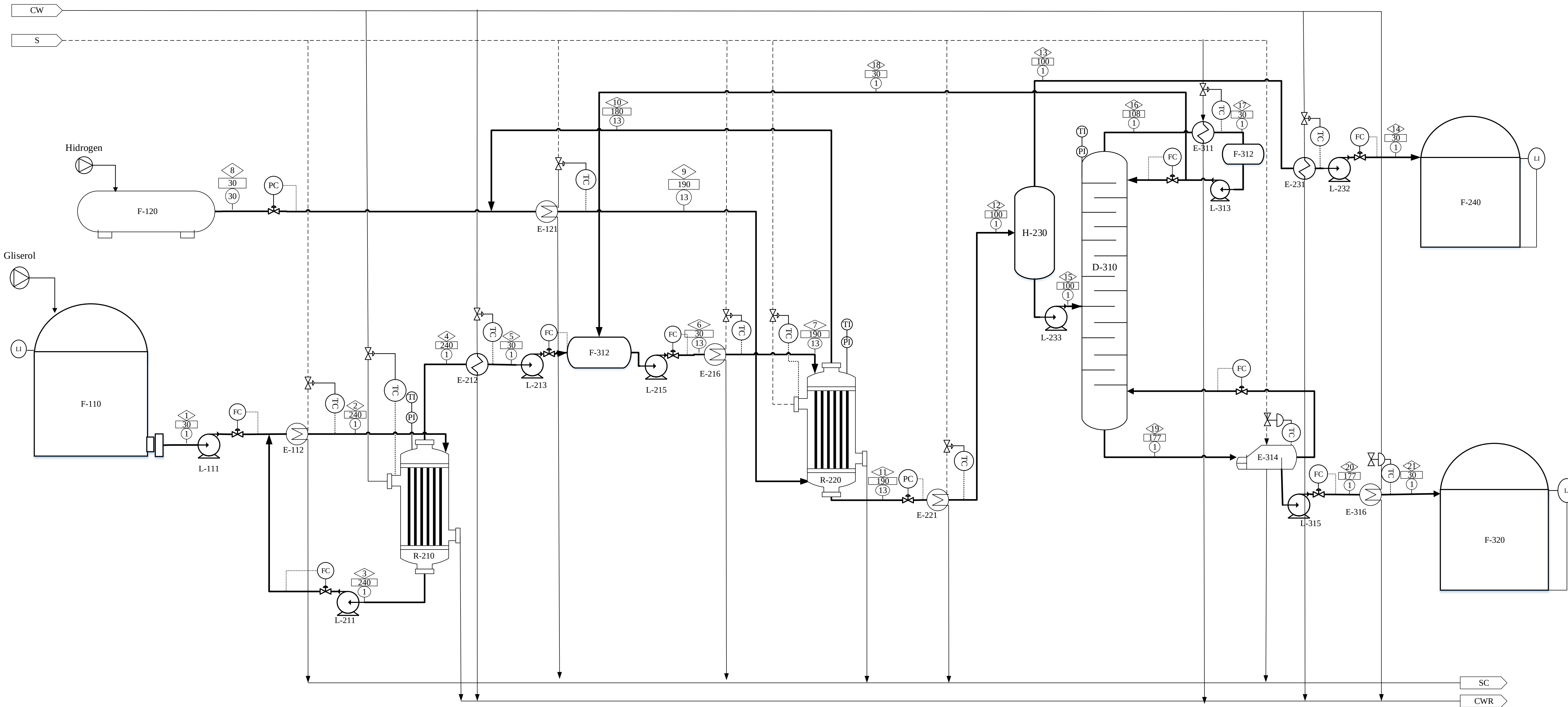


PRA RANCANGAN PABRIK PROPILEN GLIKOL DARI GLISEROL DENGAN PROSES ACETHOL PATHWAY HIDROGENASI



| Keterangan: |                      |  |                 |
|-------------|----------------------|--|-----------------|
|             | Cooling Water        |  | Tekanan (atm)   |
|             | Cooling Water Return |  | Temperatur (°C) |
|             | Steam                |  | Nomor Aliran    |
|             | Steam Condensate     |  |                 |

| NO | KODE ALAT | NAMA ALAT                    |
|----|-----------|------------------------------|
| 1  | F-110     | Tangki Penyimpanan Gliserol  |
| 2  | L-111     | Pompa-1                      |
| 3  | E-112     | Heater-1                     |
| 4  | F-120     | Tangki Penyimpanan Hidrogen  |
| 5  | E-121     | Heater-2                     |
| 6  | R-210     | Reaktor Dehidrasi            |
| 7  | L-211     | Pompa-2                      |
| 8  | E-212     | Kondensor-1                  |
| 9  | L-213     | Pompa-3                      |
| 10 | F-214     | Tangki Penampungan Sementara |
| 11 | L-215     | Pompa-4                      |
| 12 | E-216     | Heater-3                     |
| 13 | R-220     | Reaktor Hidrogenasi          |
| 14 | E-221     | Cooler-1                     |
| 15 | H-230     | Flash Drum                   |
| 16 | E-231     | Kondensor-2                  |
| 17 | L-232     | Pompa-5                      |
| 18 | L-233     | Pompa-6                      |
| 19 | F-240     | Tangki Penampungan Limbah    |
| 20 | D-310     | Menara Distilasi-1           |
| 21 | E-311     | Kondensor-3                  |
| 22 | F-312     | Akumulator                   |
| 23 | L-313     | Pompa-7                      |
| 24 | E-314     | Reboiler                     |
| 25 | E-315     | Pompa-8                      |
| 26 | L-316     | Cooler-2                     |
| 27 | F-320     | Tangki Penyimpanan Produk    |

Flowsheet Pra Rancangan Pabrik Propilen Glikol Dari Gliserol dan Hidrogen dengan Proses Acethol Pathway Hidrogenasi

Disusun oleh: Daniel Ferrari Telaumbanua (21031010251)

Dosen Pembimbing:

|                                                                                                                             |                                                              |
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| Nomor                                        | Aliran Massa (kg/jam) |          |          |          |          |          |          |          |          |          |          |          |          |          |          |         |        |        |          |          |          |
|----------------------------------------------|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|--------|--------|----------|----------|----------|
| Komponen                                     | 1                     | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       | 11       | 12       | 13       | 14       | 15       | 16      | 17     | 18     | 19       | 20       | 21       |
| C <sub>3</sub> H <sub>8</sub> O <sub>3</sub> | 9277.864              | 10308.74 | 1030.874 |          |          |          |          |          |          |          |          |          |          |          |          |         |        |        |          |          |          |
| C <sub>3</sub> H <sub>8</sub> O <sub>2</sub> |                       |          |          |          |          | 15.18188 | 15.18188 |          |          |          | 7606.013 | 7606.013 | 15.07359 | 15.07359 | 7590.939 | 15.18   | 15.18  | 15.18  | 7,575.76 | 7,575.76 | 7,575.76 |
| C <sub>3</sub> H <sub>6</sub> O <sub>2</sub> |                       |          |          | 7463.396 | 7463.396 | 7778.662 | 7778.662 |          |          |          | 388.9331 | 388.9331 | 73.06156 | 73.06156 | 315.8715 | 315.24  | 315.24 | 315.24 | 0.63     | 0.63     | 0.63     |
| H <sub>2</sub> O                             | 31.01927              | 31.01927 |          | 1845.487 | 1845.487 | 1855.601 | 1855.601 |          |          |          | 1855.601 | 1855.601 | 1845.505 | 1845.505 | 10.09635 | 10.10   | 10.10  | 10.10  |          |          |          |
| H <sub>2</sub>                               |                       |          |          |          |          |          |          | 201.1028 | 211.687  | 10.58436 |          |          |          |          |          |         |        |        |          |          |          |
| CH <sub>4</sub>                              |                       |          |          |          |          |          |          | 0.021169 | 0.063    | 0.041522 |          |          |          |          |          |         |        |        |          |          |          |
| Total                                        | 9308.883              | 10339.76 | 1030.874 | 9308.883 | 9308.883 | 9649.445 | 9649.445 | 201.1239 | 211.7498 | 10.62588 | 9850.547 | 9850.547 | 1933.64  | 1933.64  | 7916.907 | 340.518 | 340.5  | 340.5  | 7576.4   | 7576.4   | 7576.4   |