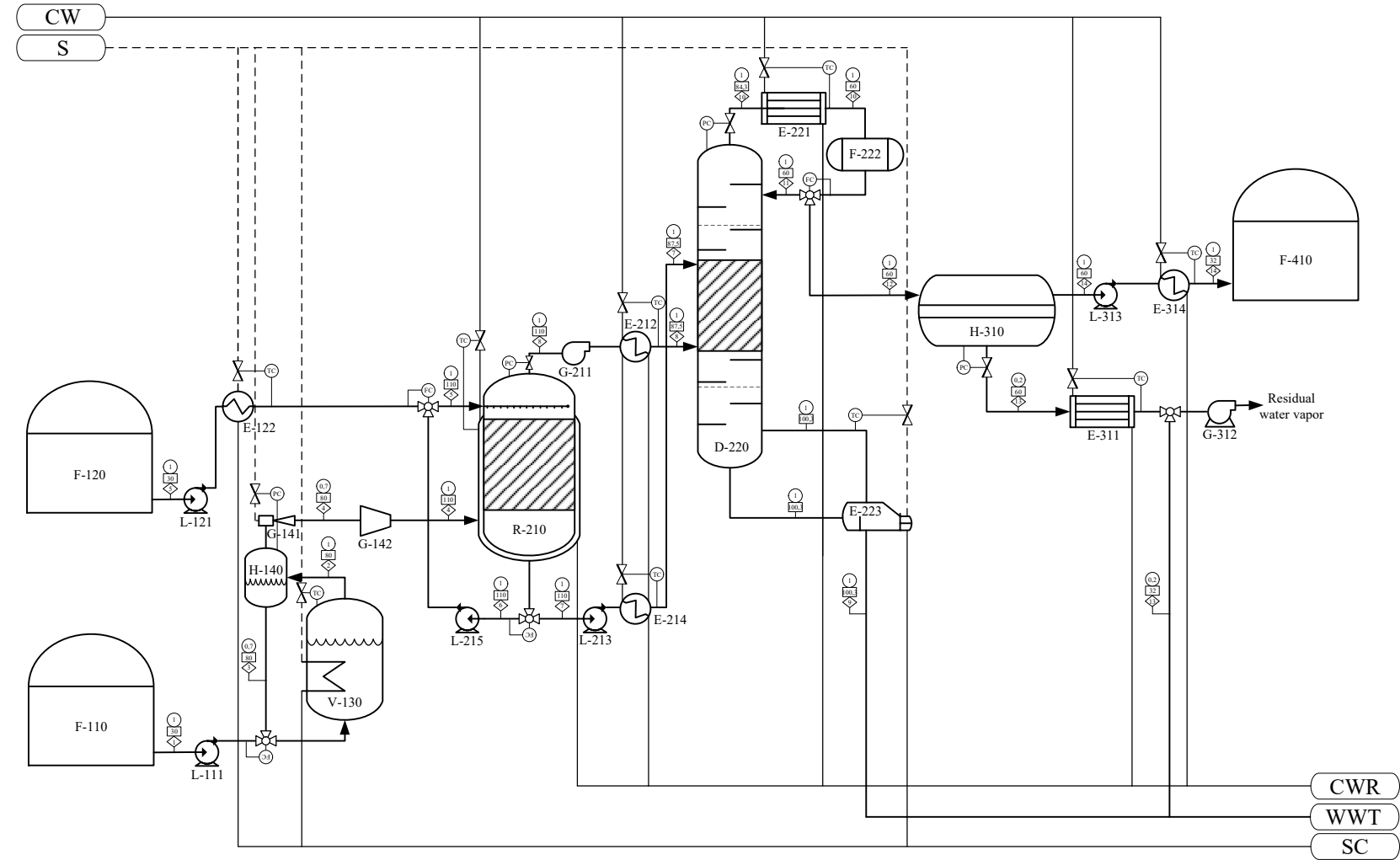


**FLOWSHEET PRA RANCANGAN PABRIK**  
**ETIL ASETAT DARI ETIL ALKOHOL DAN ASAM ASETAT DENGAN PROSES ESTERIFIKASI**



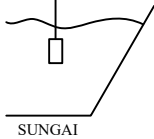
| KETERANGAN |                       |     |                       |
|------------|-----------------------|-----|-----------------------|
|            | Tekanan (atm)         | PW  | Process Water         |
|            |                       | CW  | Cooling Water         |
|            | Temperatur (°C)       | S   | Steam                 |
|            |                       | SW  | Steam Condensate      |
|            | Aliran Massa (kg/jam) | CWR | Cooling Water Return  |
|            |                       | WWT | Waste Water Treatment |

| NO. | KODE ALAT | NAMA ALAT                       |
|-----|-----------|---------------------------------|
| 1.  | F-110     | TANGKI PENYIMPANAN ETIL ALKOHOL |
| 2.  | L-111     | POMPA-1                         |
| 3.  | F-120     | TANGKI PENYIMPANAN ASAM ASETAT  |
| 4.  | L-121     | POMPA-2                         |
| 5.  | E-122     | HEATER-1                        |
| 6.  | V-130     | VAPORIZER                       |
| 7.  | H-140     | FLASH DRUM                      |
| 8.  | G-141     | JET EJECTOR                     |
| 9.  | G-142     | COMPRESSOR                      |
| 10. | R-210     | REAKTOR                         |
| 11. | G-211     | BLOWER                          |
| 12. | E-212     | COOLER-1                        |
| 13. | L-213     | POMPA-3                         |
| 14. | E-214     | COOLER-2                        |
| 15. | L-215     | POMPA-4                         |
| 16. | D-220     | REACTIVE DISTILLATION           |
| 17. | E-221     | KONDENSOR MENARA DISTILASI      |
| 18. | F-222     | ACCUMULATOR                     |
| 19. | E-223     | REBOILER DISTILASI              |
| 20. | H-310     | MEMBRAN PERVAPORASI             |
| 21. | E-311     | KONDENSOR                       |
| 22. | G-312     | POMPA VAKUM                     |
| 23. | L-313     | POMPA-5                         |
| 24. | E-314     | COOLER-3                        |
| 25. | F-410     | TANGKI PENYIMPANAN ETIL ASETAT  |

| Komponen                                          | Aliran Massa No. (kg/jam) |           |          |           |           |           |          |           |           |            |           |           |           |           |
|---------------------------------------------------|---------------------------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|
|                                                   | 1                         | 2         | 3        | 4         | 5         | 6         | 7        | 8         | 9         | 10         | 11        | 12        | 13        | 14        |
| C <sub>2</sub> H <sub>5</sub> OH <sub>l</sub>     | 3962,1919                 |           | 990,5480 |           |           |           |          |           |           |            |           |           |           |           |
| H <sub>2</sub> O <sub>l</sub>                     | 3,9662                    |           | 0,9915   |           | 10,5356   | 4,9579    | 0,6197   |           | 1172,5717 |            | 302,6083  | 390,8572  | 390,7468  | 0,1105    |
| C <sub>2</sub> H <sub>5</sub> OH <sub>g</sub>     |                           | 3963,1834 |          | 3962,1919 |           |           |          | 158,4877  |           |            |           |           |           |           |
| H <sub>2</sub> O <sub>g</sub>                     |                           | 994,5141  |          | 3,9662    |           |           |          | 1500,8521 |           | 693,4656   |           |           |           |           |
| CH <sub>3</sub> COOH <sub>l</sub>                 |                           |           |          |           | 5267,8145 | 2478,9715 | 309,8714 |           | 103,2905  |            |           |           |           |           |
| CH <sub>3</sub> COOC <sub>2</sub> H <sub>5g</sub> |                           |           |          |           |           |           |          | 7274,6772 |           | 13444,6413 |           |           |           |           |
| CH <sub>3</sub> COOC <sub>2</sub> H <sub>5l</sub> |                           |           |          |           |           |           |          |           |           | 5866,8526  | 7577,7886 | 2,1415    | 7575,6471 |           |
| Total                                             | 3966,1580                 | 4957,6975 | 991,5395 | 3966,1580 | 5278,3501 | 2483,9295 | 310,4912 | 8934,0170 | 1275,8622 | 14138,1068 | 6169,4610 | 7968,6459 | 392,8883  | 7575,7576 |

|                                                                                                        |                                                                                                                          |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Digambar oleh :                                                                                        | Putri Arysanti Yulia S (21031010128)                                                                                     |
| Dosen Pembimbing :                                                                                     |                                                                                                                          |
| Ir. Ely Kumiaty, MT.                                                                                   |                                                                                                                          |
| FLWSHEET PRA RANCANGAN PABRIK ETIL ASETAT DARI ETIL ALKOHOL DAN ASAM ASETAT DENGAN PROSES ESTERIFIKASI |                                                                                                                          |
|                                                                                                        | PROGRAM STUDI TEKNIK KIMIA<br>FAKULTAS TEKNIK DAN SAINS<br>UNIVERSITAS PEMBANGUNAN NASIONAL "VETERAN" JAWA TIMUR<br>2025 |

## UNIT PENGOLAHAN AIR



|                       |                                                                                       |
|-----------------------|---------------------------------------------------------------------------------------|
| Digambar oleh :       | Putri Arysanti Yulia S (21031010128)                                                  |
| Dosen Pembimbing :    |  |
| Ir. Ely Kurniati, MT. |                                                                                       |

FLWSHEET UNIT PENGOLAHAN AIR  
PRA RANCANGAN PABRIK ETIL ASETAT DARI ETIL  
ALKOHOL DAN ASAM ASETAT DENGAN PROSES  
ESTERIFIKASI

