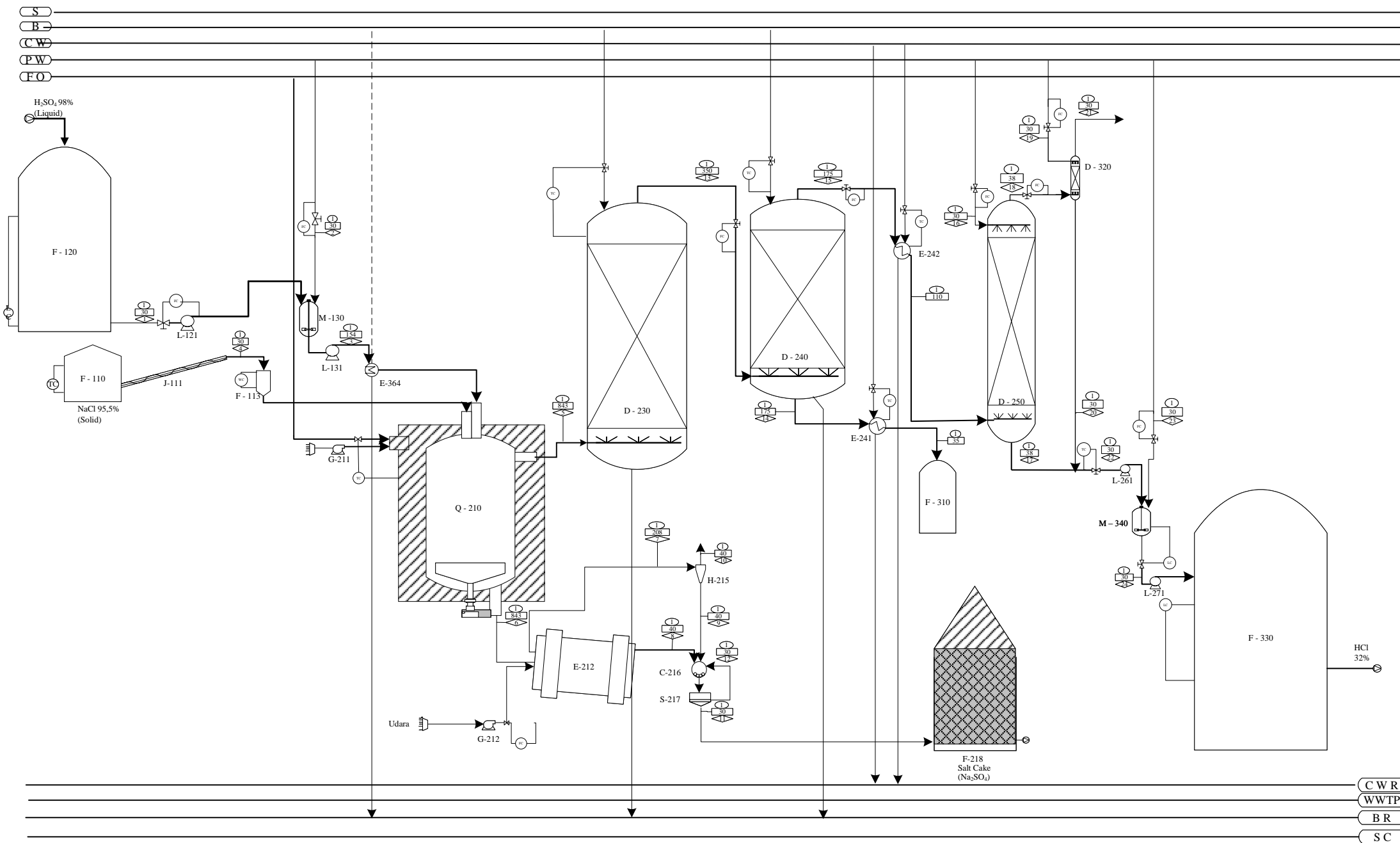


PRA RENCANA PABRIK ASAM KLORIDA DARI ASAM SULFAT DAN NATRIUM KLORIDA DENGAN PROSES SINTERING



Keterangan:

| | |
|--|-------------------------------|
| | TEMPERATUR ; °C |
| | ALIRAN MASSA ; Kg/Jam |
| | TEKANAN ; atm |
| | COOLING WATER |
| | COOLING WATER RETURN |
| | PROCESS WATER |
| | WASTE WATER TREATMENT PROCESS |
| | BRINE |
| | BRINE RETURN |
| | STEAM |
| | STEAM CONDENSAT |
| | FUEL OIL |

| No. | NAMA ALAT | KODE ALAT |
|-----|--|-----------|
| 1 | GUDANG PENYIMPANAN GARAM | F-110 |
| 2 | SCREW CONVEYOR | J-111 |
| 3 | HOPPER | F-113 |
| 4 | TANGKI PENYIMPANAN H ₂ SO ₄ | F-120 |
| 5 | POMPA-1 | L-121 |
| 6 | TANGKI PENGECER H ₂ SO ₄ | M-130 |
| 7 | POMPA-2 | L-131 |
| 8 | PREHEATER | E-364 |
| 9 | BLOWER-1 | G-211 |
| 10 | MANHEIM FURNACE | Q-210 |
| 11 | BLOWER-2 | G-212 |
| 12 | ROTARY COOLER | E-212 |
| 13 | CYCLONE | H-215 |
| 14 | BALL MILL | C-216 |
| 15 | SCREEN | S-217 |
| 16 | GUDANG PENYIMPANAN Na ₂ SO ₄ | F-218 |
| 17 | SILICA TOWER | D-230 |
| 18 | COKE TOWER | D-240 |
| 19 | COOLER-1 | E-241 |
| 20 | COOLER-2 | E-242 |
| 21 | TANGKI PENAMPUNG H ₂ SO ₄ | F-310 |
| 22 | ABSORBER | D-250 |
| 23 | SCRUBBER | D-320 |
| 24 | POMPA-3 | L-261 |
| 25 | TANGKI PENGENCEL HCL | M-340 |
| 26 | POMPA-4 | L-271 |
| 27 | TANGKI PENAMPUNG HCL 32% | F-330 |

| Nomor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|--------|----------|-----------|----------|-----------|---------|-----------|---------|------------|---------|---------|----------|--------|-----------|------------|
| H ₂ SO ₄ | 5884.0909 | | 5884.0909 | | | | | | | | | | | | 374.442 | | | 129.690167 | | | 1.2969 | | | |
| H ₂ O | 117.6818 | 1573.9848 | 1691.6667 | 204.6389 | 1994.5557 | | | | | | | | | 1994.5557 | | 1925.7806 | 6514.54 | 8440.3182 | | 75.9798 | 75.9798 | | 6171.9648 | 8466.4038 |
| NaCl | | | 6516.5900 | | | 130.3318 | | 129.0285 | 1.3033 | 0.0130 | 1.2903 | 129.0415 | 6.4521 | | | | | | | | | | | |
| Na ₂ SO ₄ | | | | | | 7750.8433 | | 7673.335 | 77.5084 | 0.7751 | 76.7333 | 7674.1100 | 383.7055 | | | | | | | | | | | |
| HCl | | | | | 3984.5885 | | | | | | | | | 3984.5885 | | 3984.588 | | 3944.74258 | 39.8459 | | 39.4474 | 0.3985 | | 3984.1900 |
| CaSO ₄ | | | | 41.74634 | | 41.7463 | | 41.3289 | 0.4175 | 0.0042 | 0.4133 | 41.3331 | 2.0667 | | | | | | | | | | | |
| MgSO ₄ | | | | 39.15425 | | 39.1542 | | 38.7627 | 0.3915 | 0.0039 | 0.3876 | 38.7666 | 1.9383 | | | | | | | | | | | |
| MgCl ₂ | | | | 19.16785 | | 19.1678 | | 18.9762 | 0.1917 | 0.0019 | 0.1898 | 18.9781 | 0.9489 | | | | | | | | | | | |
| SO ₃ | | | | | 436.66723 | | | | | | | | | 436.6672 | | 131.0002 | | | | 1.3100 | | 0.0131 | | |
| Udara | | | | | | | 34462.1079 | | 8479.4149 | | 79.8124 | | | | | | | | | | | | | |
| | 6001.7727 | 1573.9848 | 7575.7576 | 6821.2974 | 6415.8114 | 7981.2435 | 34462.1079 | 7901.4311 | 8559.2273 | 0.7981 | 158.8267 | 7902.2292 | 395.1115 | 6415.8114 | 374.442 | 6041.3693 | 6514.54 | 12514.7509 | 41.1559 | 75.9798 | 116.7241 | 0.4116 | 6171.9648 | 12450.5938 |

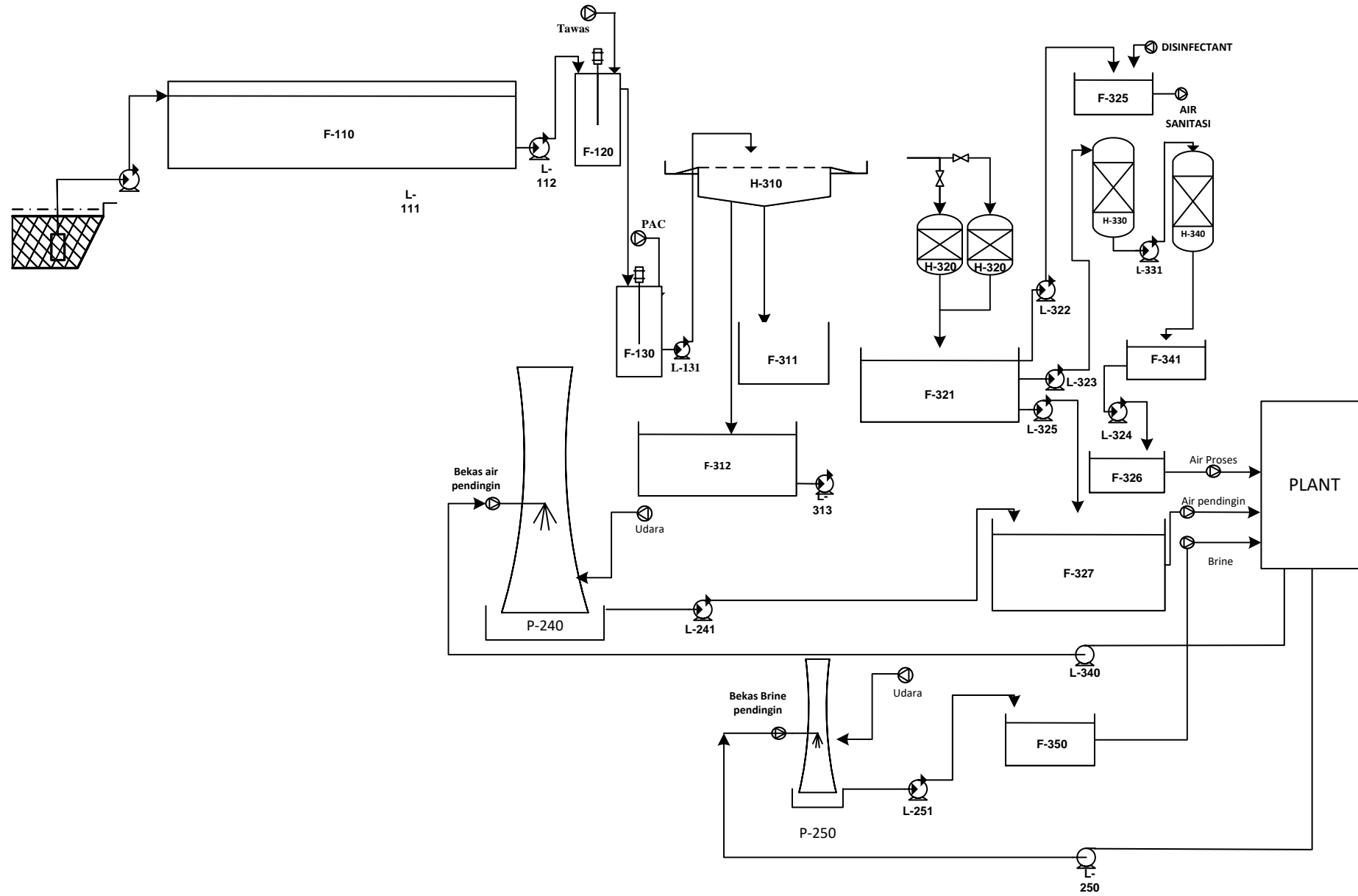
DIGAMBAR OLEH : MIFTACHUL JANNAH

NPM : 19031010069

DOSEN PEMBIMBING : Dr. T. Ir. Susilowati, MT

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FLOWSHEET UTILITAS PRA RENCANA PABRIK ASAM KLORIDA DARI ASAM SULFAT DAN NATRIUM KLORIDA DENGAN PROSES SINTERING SKALA 1 : 400



| No. | NAMA ALAT | KODE |
|-----|---------------------------|---------|
| 1 | POMPA - 1 | L - 111 |
| 2 | BAK PENAMPUNG AIR SUNGAI | F - 110 |
| 3 | POMPA - 2 | L - 112 |
| 4 | TANGKI KOAGULASI | F - 120 |
| 5 | TANGKI FLOKULASI | F - 130 |
| 6 | POMPA - 3 | L - 131 |
| 7 | CLARIFIER | H - 310 |
| 8 | BAK PENAMPUNG FLOK | F - 311 |
| 9 | BAK AIR SETENGAH BERSIH | F - 312 |
| 10 | POMPA - 4 | L - 313 |
| 11 | SAND FILTER | H - 320 |
| 12 | BAK PENAMPUNG AIR BERSIH | L - 321 |
| 13 | POMPA - 5 | L - 322 |
| 14 | BAK AIR SANITASI | F - 325 |
| 15 | POMPA - 6 | L - 323 |
| 16 | TANGKI KATION EXCHANGER | H - 330 |
| 17 | POMPA - 7 | L - 331 |
| 18 | TANGKI ANION EXCHANGER | H - 340 |
| 19 | TANGKI AIR DEMINERALISASI | F - 341 |
| 20 | POMPA - 8 | L - 324 |
| 21 | BAK AIR PROSES | F - 326 |
| 22 | POMPA - 9 | L - 325 |
| 23 | BAK AIR PENDINGIN | F - 327 |
| 24 | POMPA - 10 | L - 340 |
| 25 | COOLING TOWER | P - 240 |
| 26 | POMPA - 11 | L - 241 |
| 27 | COOLING TOWER BRINE | P - 250 |
| 28 | POMPA - 12 | L - 251 |
| 29 | POMPA - 13 | L - 250 |

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