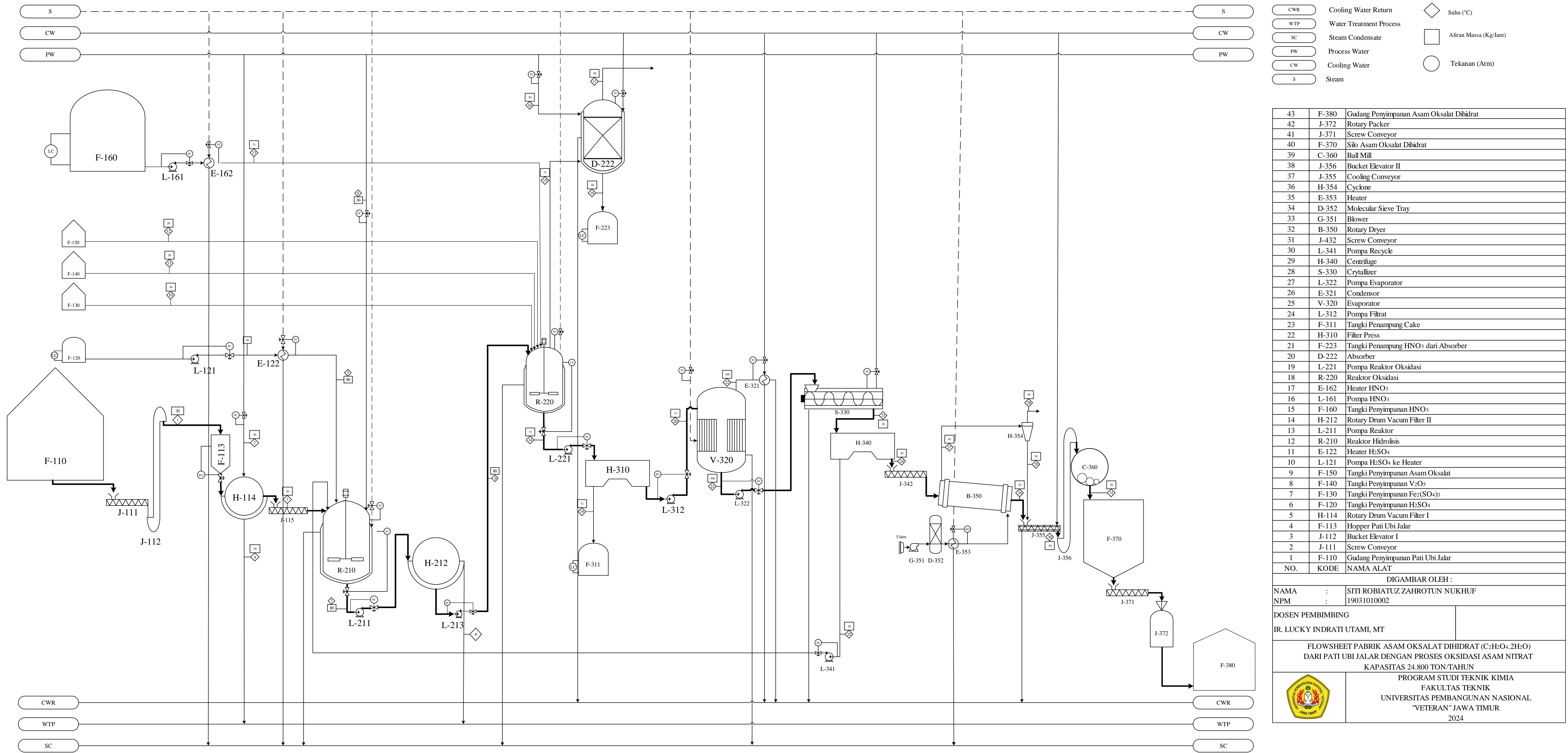


# PABRIK ASAM OKSALAT DIHIDRAT (C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>.2H<sub>2</sub>O) DARI PATI UBI JALAR DENGAN PROSES OKSIDASI ASAM NITRAT KAPASITAS 24.800 TON/TAHUN



CWR	Cooling Water Return	◇	Suhu (°C)
WTP	Water Treatment Process	□	Aliran Massa (Kg/Jam)
SC	Steam Condensate	○	Tekanan (Atm)
PW	Process Water		
CW	Cooling Water		
S	Steam		

43	F-380	Gudang Penyimpanan Asam Oksalat Dihidrat
42	J-372	Rotary Packer
41	J-371	Screw Conveyor
40	F-370	Silo Asam Oksalat Dihidrat
39	C-360	Ball Mill
38	J-356	Bucket Elevator II
37	J-355	Cooling Conveyor
36	H-354	Cyclone
35	E-353	Heater
34	D-352	Molecular Sieve Tray
33	G-351	Blower
32	B-350	Rotary Dryer
31	J-432	Screw Conveyor
30	L-341	Pompa Recycle
29	H-340	Centrifuge
28	S-330	Crytallizer
27	L-322	Pompa Evaporator
26	E-321	Condensor
25	V-320	Evaporator
24	L-312	Pompa Filtrat
23	F-311	Tangki Penampung Cake
22	H-310	Filter Press
21	F-223	Tangki Penampung HNO <sub>3</sub> dari Absorber
20	D-222	Absorber
19	L-221	Pompa Reaktor Oksidasi
18	R-220	Reaktor Oksidasi
17	E-162	Heater HNO <sub>3</sub>
16	L-161	Pompa HNO <sub>3</sub>
15	F-160	Tangki Penyimpanan HNO <sub>3</sub>
14	H-212	Rotary Drum Vacuum Filter II
13	L-211	Pompa Reaktor
12	R-210	Reaktor Hidrolisis
11	E-122	Heater H <sub>2</sub> SO <sub>4</sub>
10	L-121	Pompa H <sub>2</sub> SO <sub>4</sub> ke Heater
9	F-150	Tangki Penyimpanan Asam Oksalat
8	F-140	Tangki Penyimpanan V <sub>2</sub> O <sub>5</sub>
7	F-130	Tangki Penyimpanan Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>
6	F-120	Tangki Penyimpanan H <sub>2</sub> SO <sub>4</sub>
5	H-114	Rotary Drum Vacuum Filter I
4	F-113	Hopper Pati Ubi Jalar
3	J-112	Bucket Elevator I
2	J-111	Screw Conveyor
1	F-110	Gudang Penyimpanan Pati Ubi Jalar
NO.	KODE	NAMA ALAT

DIGAMBAR OLEH :

NAMA : SITI ROBIATUZ ZAHROTUN NUKHUF  
 NPM : 19031010002

DOSEN PEMBIMBING  
 IR. LUCKY INDRATI UTAMI, MT

FLOWSHEET PABRIK ASAM OKSALAT DIHIDRAT (C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>.2H<sub>2</sub>O)  
 DARI PATI UBI JALAR DENGAN PROSES OKSIDASI ASAM NITRAT  
 KAPASITAS 24.800 TON/TAHUN

PROGRAM STUDI TEKNIK KIMIA  
 FAKULTAS TEKNIK  
 UNIVERSITAS PEMBANGUNAN NASIONAL  
 "VETERAN" JAWA TIMUR  
 2024

Komponen	Aliran (kg/jam)																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
H <sub>2</sub> O	7.149	3381.909	338.906	3050.152		719.043	1009.069	20.181	988.888					2256.208		1267.321		849.105	45.124	2211.084	1186.954		1186.954	118.972	1067.982	3.094	115.878	115.878		3.094	3.094		
C <sub>6</sub> H <sub>10</sub> O <sub>5</sub>	3381.909		3381.909	0,000			1147.143	22.943	1124.201					1124.201					22.484	1101.717	1101.717		1101.717	55.086	1046.631	52.332	2.754	0,028	2.727	55,086	55,086		
Rendemen	685.517		13.710	671.806			13.710	0,274	13.436					13.436					0,269	13.167	13.167		13.167	0,658	12.509	0,625	0,033	0,008	0,033	0,691	0,691		
C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>							2483.073	49.661	2433.411					321.210					6.424	314.786	314.786		314.786	15.739	299.047	14.952	0,787	0,008	0,779	15,739	15,739		
Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>										2,241				2,241					2,241														
V <sub>2</sub> O <sub>5</sub>											0,022			0,022					0,022														
C <sub>2</sub> H <sub>2</sub> O <sub>4</sub>														3168.301					63,366	3104,935	3104,935												
C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> .2H <sub>2</sub> O(aq)																			0,448	21,962	21,962			62,099	3,105	58,994	2,950	0,155	0,002	0,154	3,105	3,105	
C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> .2H <sub>2</sub> O(s)												22,410		22,410										3064,798	3042,837		2890,695	152,142	1,521	150,620	3042,837	3042,837	
H <sub>2</sub> SO <sub>4</sub>					224,102		224,102	4,482	219,620					219,620						4,392	215,227	215,227		215,227	10,761	204,466	10,223	0,538	0,005	0,533	10,761	10,761	
HNO <sub>3</sub>													3992,060																				
N <sub>2</sub>															4237,812																		
O <sub>2</sub>															1126,507																		
NO															2112,201																		
NO <sub>2</sub>																																	
H <sub>2</sub> O (uap)																																	
Total	4074,575	3381,909	3734,525	3721,958	224,102	719,043	4877,097	97,542	4779,555	2,241	0,022	22,410	3992,060	7127,650	7476,520	1267,321	4988,348	3776,615	144,771	6982,878	5958,749		1024,130		5958,749	3247,158	2689,629	2974,871	272,287	117,450	154,845	3131,313	3131,313