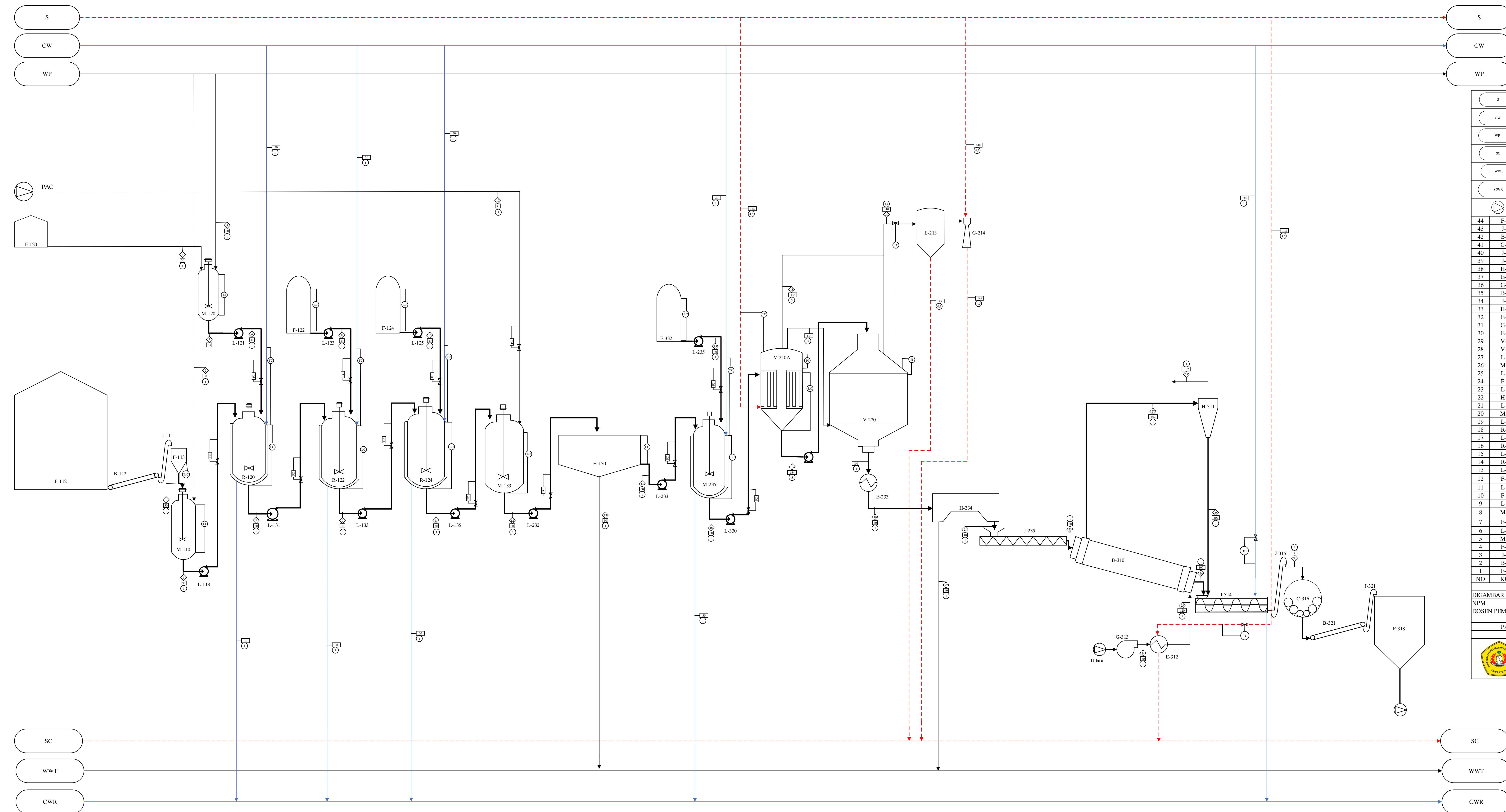
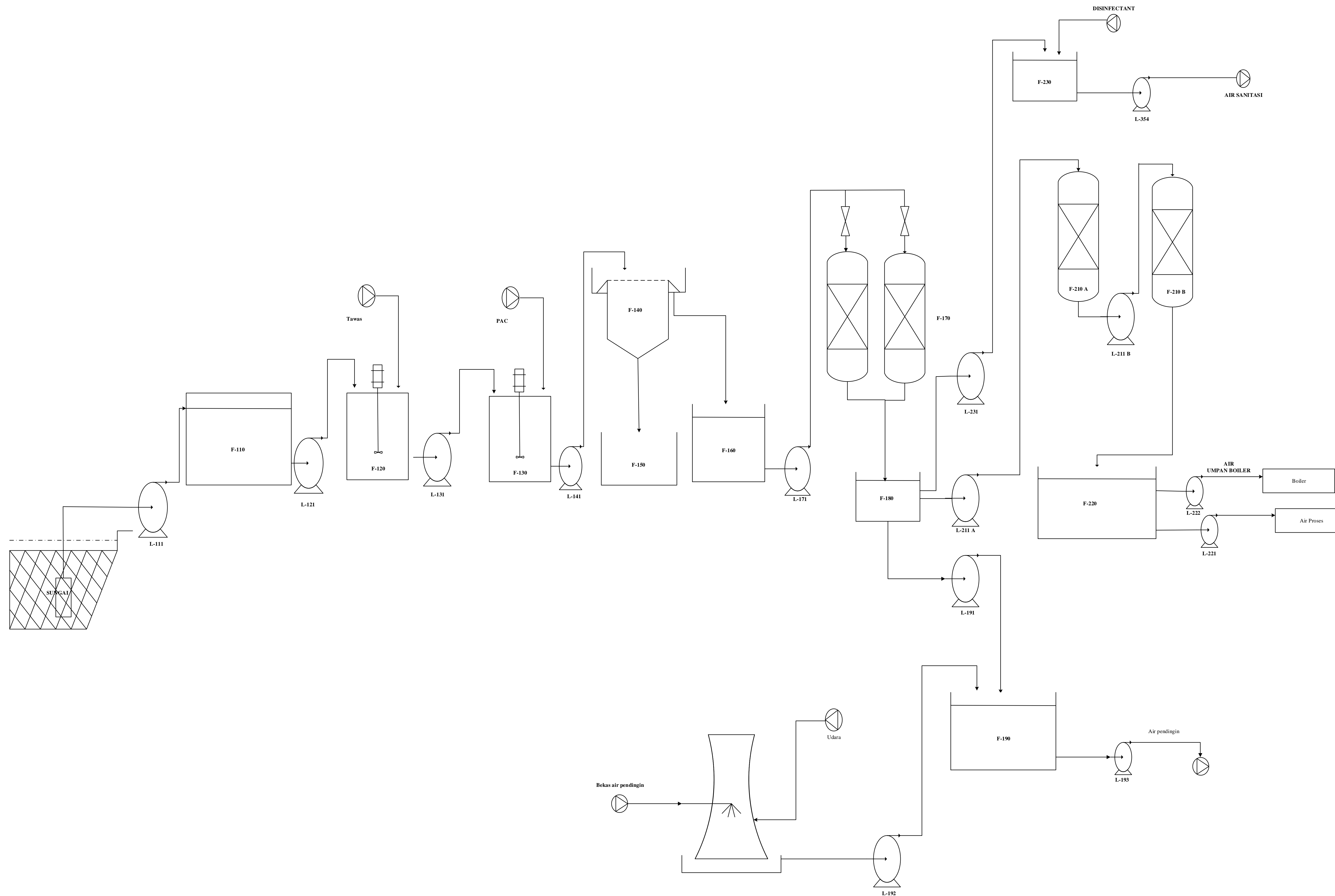


PRA RENCANA PABRIK GARAM INDUSTRI DARI GARAM RAKYAT DENGAN ALAT VACUUM PAN CRYSTALLIZATION



s	Steam	
cw	Cooling Water	
wp	Water Process	
sc	Steam Kondesat	
wwt	Waste Water Treatment	
cwr	Cooling Water Return	
(Symbol)	Produk / Feed	
44	F-328 Silo	
43	J-321 Bucket Elevator III	
42	B-312 Belt Conveyor II	
41	C-316 Ball Mill	
40	J-315 Bucket Elevator II	
39	J-314 Cooling Conveyor	
38	H-311 Cyclone	
37	E-312 Air Preheater	
36	G-313 Blower	
35	B-310 Rotary Dryer	
34	J-235 Screw Conveyor	
33	H-234 Centrifuge	
32	E-233 Cooler	
31	G-214 Steam Jet Ejector	
30	E-213 Barometric Condenser	
29	V-220 Vacuum Pan Crystallizer	
28	V-210 Evaporator	
27	L-330 Pompa XI	
26	M-235 Tangki Netralisasi	
25	L-235 Pompa X	
24	F-332 Tangki Penampung HCl	
23	L-233 Pompa IX	
22	H-130 Thickener	
21	L-232 Pompa VIII	
20	M-133 Tangki Flokulator	
19	L-135 Pompa VII	
18	R-124 Reaktor III	
17	L-133 Pompa VI	
16	R-122 Reaktor II	
15	L-131 Pompa V	
14	R-120 Reaktor I	
13	L-125 Pompa IV	
12	F-124 Tangki Penampung BaCl ₂	
11	L-123 Pompa III	
10	F-122 Tangki Penampung NaOH	
9	L-121 Pompa II	
8	M-120 Tangki Pelarutan Na ₂ CO ₃	
7	F-120 Tangki Penampung Na ₂ CO ₃	
6	L-113 Pompa I	
5	M-110 Tangki Pelarutan Garam	
4	F-113 Hopper Garam	
3	J-111 Bucket Elevator I	
2	B-112 Belt Conveyor	
1	F-112 Gudang Garam Rakyat	
NO	KODE	NAMA ALAT
Mengetahui		
DIGAMBAR	:	Putri Septiana Aji Sasmita
NPM	:	19031010044
DOSEN PEMBIMBING	:	Ir Nurul Wafiq Triana, M.T
FLOWSHEET		
PABRIK GARAM INDUSTRI DARI GARAM RAKYAT DENGAN ALAT VACUUM PAN CRYSTALLIZER		
PROGRAM STUDI TEKNIK KIMIA		
FAKULTAS TEKNIK		
UNIVERSITAS PEMBANGUNAN NASIONAL "VETERAN" JAWA TIMUR		
2024		

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	25	26	27	28	29	30	31	32	
NaCl	13.953,293		13.953,293	0,037		0,037	13.953,331		14.238,223		14.531,979		14.531,979	290,640	14.241,340		14.267,695	14.267,695	24.813,137	19.023,593	9.511,796	12.627,623	1.640,072	12.627,623		12.501,347	126,276	1.263	125,013	12.626,360	12.626,360		
H ₂ O ₀₁	1.294,603	37.482,251	38.776,854	0,186	26,546	26,732	39.066,918	418,694	39.485,612	348,838	39.834,451		39.834,451	796,689	39.037,762	34,944	39.080,831	14.267,695	24.813,137	19.023,593	9.511,796	237,795	4.518,103	237,795		12.514	225,281	223,028	2,253	14,767	14,767		
MgSO ₄	260,499		260,499				260,499																										
MgCl ₂	232,081		232,081				232,081																										
CaSO ₄	47,364		47,364				49,545																										
Na ₂ CO ₃				36,916		36,916																											
Na ₂ SO ₄				0,074		0,074																											
CaCO ₃							34,826		34,826		34,826		34,826	34,826																			
NaOH								386,487			18,404		18,404	18,404	0,368	18,036																	
Mg(OH) ₂									268,487		268,487		268,487	268,487																			
BaCl ₂										523,258																							
BaSO ₄									586,331		586,331		586,331	586,331																			
HCl																16,444																	
N ₂																									2.142,096	2.142,096		2.142,096	2.142,096				
O ₂																									569,418	569,418		569,418	569,418				
PAC												6,981	6,981	6,981																			
TOTAL	15.787,841	37.482,251	53.270,092	37,213	26,546	63,759	53.597,200	805,181	54.402,382	872,096	55.274,478	6,981	55.281,459	1.984,322	53.297,137	51,389	53.348,526	28.535,389	24.813,137	19.023,593	9.511,796	12.865,418	6.158,175	12.865,418	2.711,514	2.711,514	12.513,861	3.063,071	2.935,805	127,266	12.641,127	12.641,127	



27	L-232	Pompa Air Sanitasi
26	F-230	Bak Sanitasi
25	L-231	Pompa Bak Sanitasi
24	L-222	Pompa Air Proses
23	L-221	Pompa Air Umpan Boiler
22	F-220	Bak Penampungan Air Bersih
21	F-210B	Tangki Anion Exchanger
20	L-211B	Pompa Tangki Anion Exchanger
19	F-210A	Tangki Kation Exchanger
18	L-211A	Pompa Tangki Kation Exchanger
17	P-200	Cooling Tower
16	L-193	Pompa Air Pendingin
15	L-192	Pompa Bekas Air Pendingin
14	F-190	Bak Air Pendingin
13	L-191	Pompa Bak Air Pendingin
12	F-180	Bak Penampung Sand Filter
11	F-170	Tangki Sand Filter
10	L-171	Pompa Tangki Sand Filter
9	F-160	Bak Penampung Air Bersih
8	F-150	Bak Penampung Flok
7	F-140	Tangki Clarifier
6	F-130	Tangki Flokulasi
5	L-131	Pompa Tangki Flokulasi
4	F-120	Tangki Koagulasi
3	L-121	Pompa Tangki Koagulasi
2	F-110	Bak Penampung Air Sungai
1	L-111	Pompa Bak Penampungan Air Sungai
NO	KODE	NAMA ALAT
DIGAMBAR	:	Putri Septiara Aji Sasmita
NPM	:	19031010044
DOSEN PEMBIMBING	:	Ir Nurul Widji Triana, M.T
Mengetahui		
FLOWSHEET UTILITAS		
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ALAT VACUUM PAN CRYSTALLIZER		
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