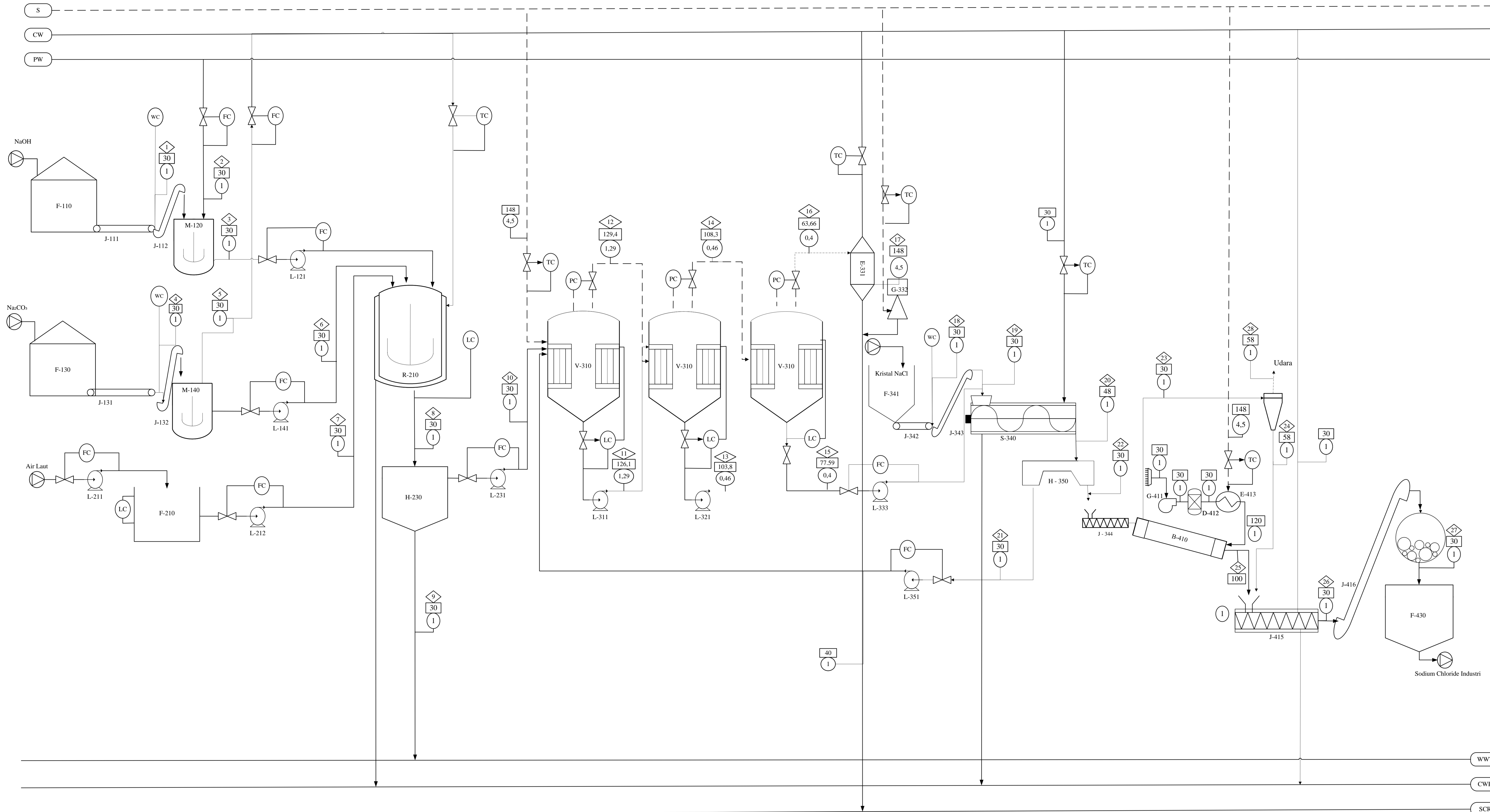


PRA RANCANGAN PABRIK SODIUM CHLORIDE INDUSTRI DARI AIR LAUT MENGGUNAKAN MULTIPLE EFFECT EVAPORATOR



Keterangan :

○	Tekanan (atm)	SCR	Steam Condensate Return
□	Temperatur (°C)	CW	Cooling Water
◇	Aliran Massa(kg/jam)	CWR	Cooling Water Return
S	Steam	PW	Process Water
(WWT) Waste Water Treatment			

NO	KODE ALAT	NAMA ALAT
1	F-110	GUDANG PENYIMPANAN NaOH
2	J-111	BELT CONVEYOR-1
3	J-112	BUCKET ELEVATOR-1
4	M-120	MIXER-1
5	L-121	POMPA-1
6	F-130	GUDANG PENYIMPANAN Na2CO3
7	J-131	BELT CONVEYOR-2
8	J-132	BUCKET ELEVATOR-2
9	M-140	MIXER-2
10	L-141	POMPA-2
11	L-211	POMPA-3
12	F-210	TANGKI PENYIMPANAN AIR LAUT
13	L-212	POMPA-4
14	R-220	REAKTOR
15	H-230	CLARIFIER
16	L-231	POMPA-5
17	V-310	EVAPORATOR-1
18	L-311	POMPA-6
19	V-320	EVAPORATOR-2
20	L-321	POMPA-7
21	V-330	EVAPORATOR-3
22	E-331	BAROMETRIC CONDENSOR
23	G-332	JET EJECTOR
24	L-333	POMPA-8
25	S-340	CRYSTALLIZER
26	F-341	HOPPER INTI KRISTAL NaCl
27	J-342	BELT CONVEYOR-3
28	J-343	BUCKET ELEVATOR-3
29	J-344	SCREW CONVEYOR
30	H-350	CENTRIFUGE
31	L-351	POMPA-10
32	B-410	ROTARY DRYER
33	G-411	FAN UDARA
34	D-412	MOLECULAR SIEVE
35	E-413	HEATER
36	H-414	CYCLONE
37	J-415	COOLING SCREW CONVEYOR
38	J-416	BUCKET ELEVATOR-3
39	C-420	BALL MILL
40	F-430	STORAGE TANK GARAM INDUSTRI

KOMPONEN	Aliran Massa (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			
MgCl ₂ (l)							25.609	0.427	0.009	0.418	0.816		0.816		0.816					0.816	0.397	0.041	0.00004	0.000040	0.041	0.041	0.041	0.0000004			
CaSO ₄ (l)							12.805	1.620	0.032	1.587	3.095		3.095		3.095					3.095	1.508	0.155	0.00015	0.000153	0.155	0.155	0.155	0.0000015			
NaCl (l)							4,580.876	4,611.791	92.236	4,519.555	4,531.778		4,531.778		4,531.778					26.241	12.223	1.312	0.00131	0.001299	1.311	1.312	1.312	0.0000131			
MgSO ₄ (l)							8.003	0.133	0.003	0.131	0.255		0.255		0.255					0.255	0.124	0.013	0.000013	0.000013	0.013	0.013	0.013	0.0000001			
H ₂ O (l)	0.583	30.366	30.949	0.119	35.127	35.246	155,431.280	155,497.475	3,109.949	152,387.525	106,003.079		55,359.258		4,715.437					4,715.437	4,259.374	235.772	229.44776		6.324	6.324	6.324	229.448			
NaOH (s)	28.568																														
Na ₂ CO ₃ (s)				11.749																											
NaOH (l)			28.568					2.293983	0.046	2.248	4.384		4.384		4.384					4.384	2.136	0.219	0.0002	0.00022	0.219	0.219	0.219	0.0000022			
Na ₂ CO ₃ (l)					11.749			2.886	0.058	2.828	5.515		5.515		5.515					5.515	2.687	0.276	0.0003	0.00027	0.275	0.276	0.276	0.0000028			
Impurities (s)							0.000010	0.000010	0.000007	0.000003																					
CaCO ₃ (s)							7.252	5.076597	2.175684	4.243		4.243		4.243						4.243	2.067	0.212	0.0002	0.00021	0.212	0.212	0.212	0.0000021			
Ca(OH) ₂ (s)							0.722	0.505566	0.216671	0.423		0.423		0.423						0.423	0.206	0.021	0.0000	0.00002	0.021	0.021	0.021	0.0000002			
MgCO ₃ (s)							0.943	0.660004	0.282859	0.552		0.552		0.552						0.552	0.269	0.028	0.0000	0.00003	0.028	0.028	0.028	0.0000003			
Mg(OH) ₂ (s)							18.583	13.008081	5.574892	10.871		10.871		10.871						10.871	5.296	0.544	0.0005	0.00054	0.543	0.544	0.544	0.0000054			
Na ₂ SO ₄ (l)							20.960	0.419193	20.540469	40.054		40.054		40.054						40.054	19.513	2.003	0.0020	0.00198	2.001	2.003	2.003	0.0000200			
NaCl (s)																															
H ₂ O (g)												50,643.821		50,643.821		50,643.821		50,643.821		50,643.821	1,807.658	1,807.658	6,313.194		6,313.194	6.315	6.251	6,306.880	6,313.131	6,313.131	0.063
TOTAL	29.151	30.366	59.518	11.867	35.127	46.994	160,058.573	160,165.085	3,222.002	156,943.083	110,605.063	50,643.821	59,961.242	50,643.821	9,317.422	50,643.821	50,643.821	1,807.658	1,807.658	11,125.079	4,305.801	6,553.789	6,794.507	6.256	6,318.022	6,324.278	6,324.278	6,324.278	6,788.251		

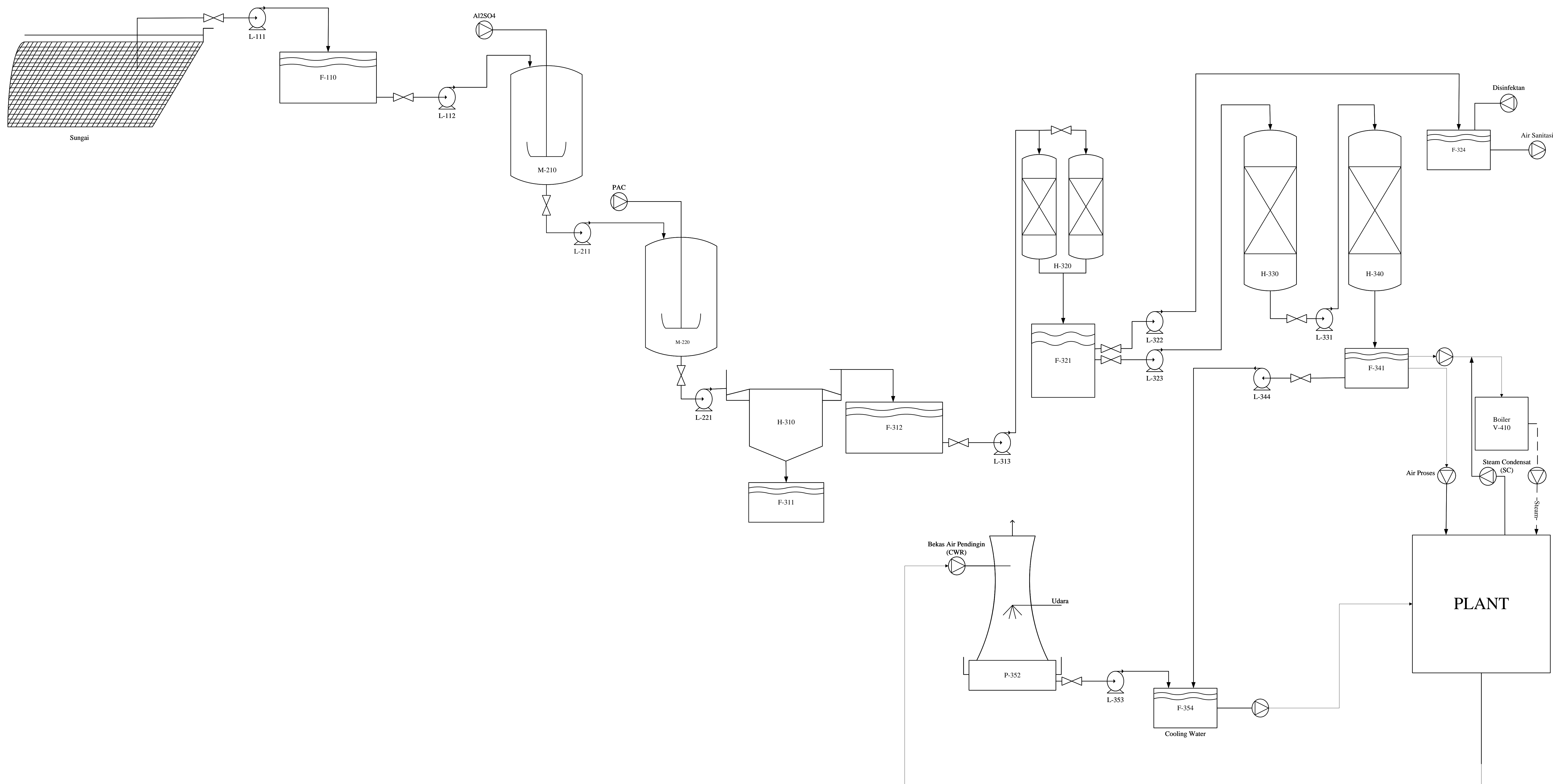
Digambar Oleh: Angeli Astrivia
 NPM: 20031010114
 Dosen Pembimbing: Ir. Ely Kurmiati, MT.
 NIP. 19641018 199203 2 001

Mengetahui

FLOWSHEET PRA RANCANGAN PABRIK SODIUM CHLORIDE INDUSTRI DARI AIR LAUT MENGGUNAKAN MULTIPLE EFFECT EVAPORATOR

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

FLWSHEET UTILITAS UNIT PENGOLAHAN AIR PRA RANCANGAN PABRIK SODIUM CHLORIDE INDUSTRI DARI AIR LAUT MENGGUNAKAN MULTIPLE EFFECT EVAPORATOR



NO	KODE ALAT	NAMA ALAT
1	F-110	BAK PENAMPUNG AIR SUNGAI
2	L-111	POMPA-1
3	L-112	POMPA-2
4	M-210	TANGKI KOAGULASI
5	L-211	POMPA-3
6	M-220	TANGKI FLOKULASI
7	L-221	POMPA-4
8	H-310	CLARIFIER
9	F-311	BAK PENAMPUNG FLOK
10	F-312	BAK PENAMPUNG AIR JERNIH CLARIFIER
11	L-313	POMPA-5
12	H-320	SAND FILTER
13	F-321	BAK PENAMPUNG AIR BERSIH SANDFILTER
14	L-322	POMPA-6
15	L-323	POMPA-7
16	H-330	TANGKI KATION EXCHANGER
17	L-331	POMPA-8
18	H-340	TANGKI ANION EXCHANGER
19	F-341	BAK PENAMPUNG AIR BERSIH
20	L-342	POMPA-9
21	L-343	POMPA-10
22	P-352	COOLING TOWER
23	F-354	BAK PENAMPUNG COOLING WATER
24	V-410	BOILER

Digambar Oleh	Angeli Astrivia	Mengetahui
NPM	20031010114	
Dosen Pembimbing	Ir. Ely Kurniati, MT. NIP. 19641018 199203 2 001	

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