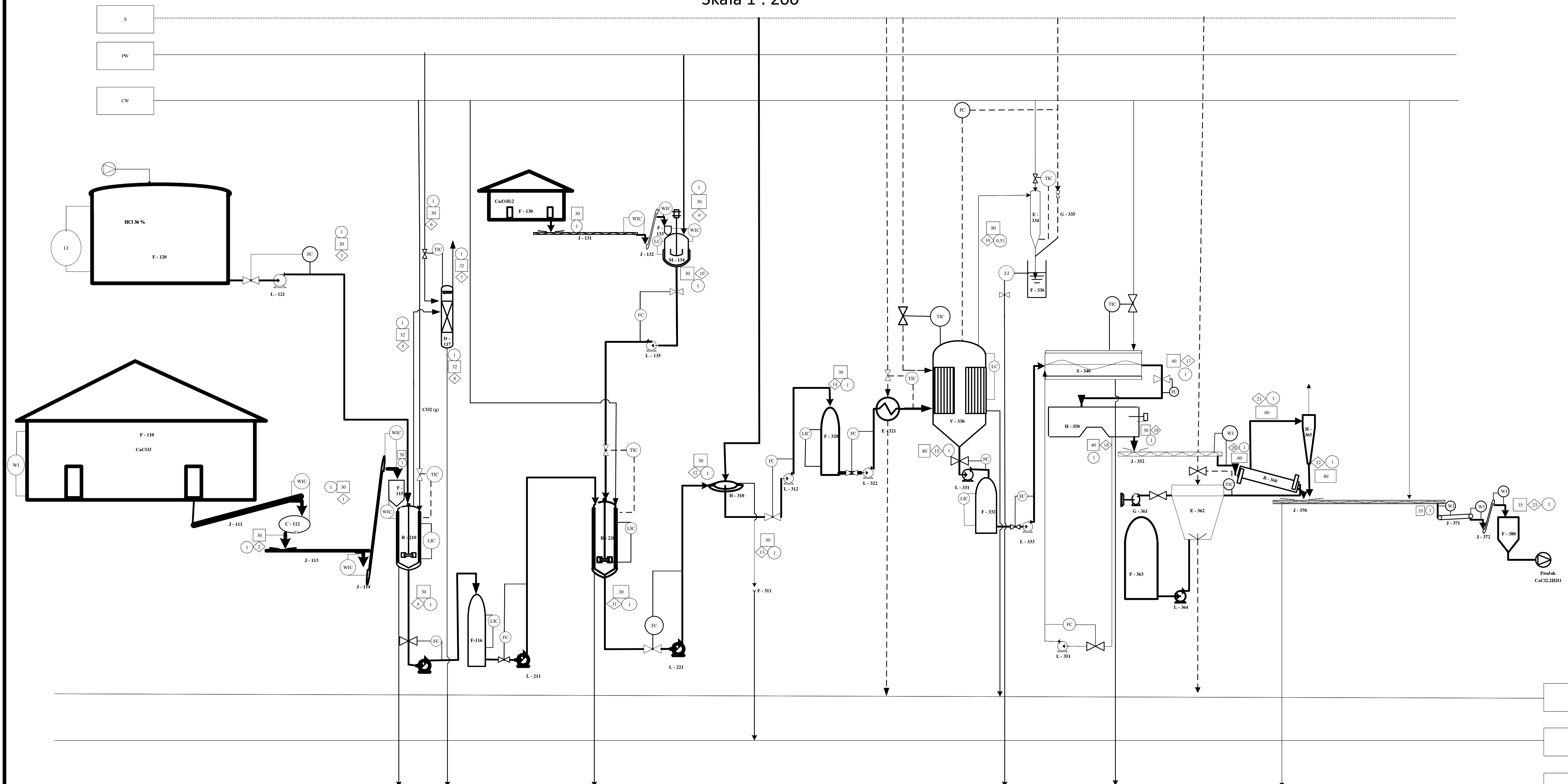


PERANCANGAN PABRIK CALCIUM CHLORIDE DEHYDRATE DARI CALCIUM CARBONATE DAN HYDROCHLORIC ACID DENGAN PROSES NEUTRALIZATION

Skala 1 : 200

KETERANGAN :

	Temperatur, °C
	Aliran Massa, kg/jam
	Tekanan, atm
	Steam - 148°C, 4,5 atm
	Steam Condensate
	Cooling Water
	Cooling Water Return
	Process Water
	Waste Treatment Plant



47	F - 390	SILO PRODUK
46	J - 372	BUCKET ELEVATOR - 3
45	J - 371	BELT CONVEYOR - 3
44	J - 370	COOLING CONVEYOR
43	H - 365	CYCLONE
42	L - 364	POMPA - 10
41	F - 363	SILO FUEL OIL
40	E - 362	AIR CHAMBER
39	G - 362	BLOWER - 1
38	B - 360	ROTARY DRYER
37	J - 352	SCREW CONVEYOR - 2
36	L - 351	POMPA - 9
35	H - 350	CENTRIFUGE
34	S - 340	CRYSTALLIZER
33	L - 333	POMPA - 8
32	F - 332	TANGKI PENAMPUNG SEMENTARA-3
31	L - 331	POMPA - 7
30	F - 336	HOTWELL
29	G - 335	STEAM JET EJECTOR
28	E - 334	BAROMETRIC CONDENSOR
27	V - 330	EVAPORATOR
26	E - 321	HEATER
25	L - 332	POMPA - 6
24	M - 320	PEPANMUNG SEMENTARA-2
23	L - 312	POMPA - 5
22	F - 311	BAK PENAMPUNG LIMBAH
21	H - 310	ROTARY DRUM FILTER
20	F - 211	POMPA - 4
19	R - 220	REAKTOR NETRALISASI
18	L - 135	POMPA - 3
17	M - 134	TANGKI PELARUTAN Ca(OH)2
16	F - 133	HOPPER Ca(OH)2
15	J - 132	BUCKET ELEVATOR - 2
14	J - 131	SCREW CONVEYOR - 1
13	F - 130	GUDANG Ca(OH)2
12	L - 211	POMPA - 2
11	R - 210	REAKTOR ASAM
10	L - 121	POMPA - 1
9	F - 120	TANGKI HCL
8	F - 117	SCRUBBER
7	F - 116	TANGKI PENAMPUNG SEMENTARA-1
6	F - 115	HOPPER CaCO3
5	J - 114	BUCKET ELEVATOR - 1
4	J - 113	BELT CONVEYOR - 2
3	C - 112	BALL MILL
2	J - 111	BELT CONVEYOR - 1
1	F - 110	GUDANG CaCO3
NO	KODE	SAMA ALAT

PERANCANGAN PABRIK CALCIUM CHLORIDE DEHYDRATE DARI CALCIUM CARBONATE DAN HYDROCHLORIC ACID DENGAN PROSES NEUTRALIZATION

DIDESAIN OLEH : STEFANUS DADY WALUYO
18031010150

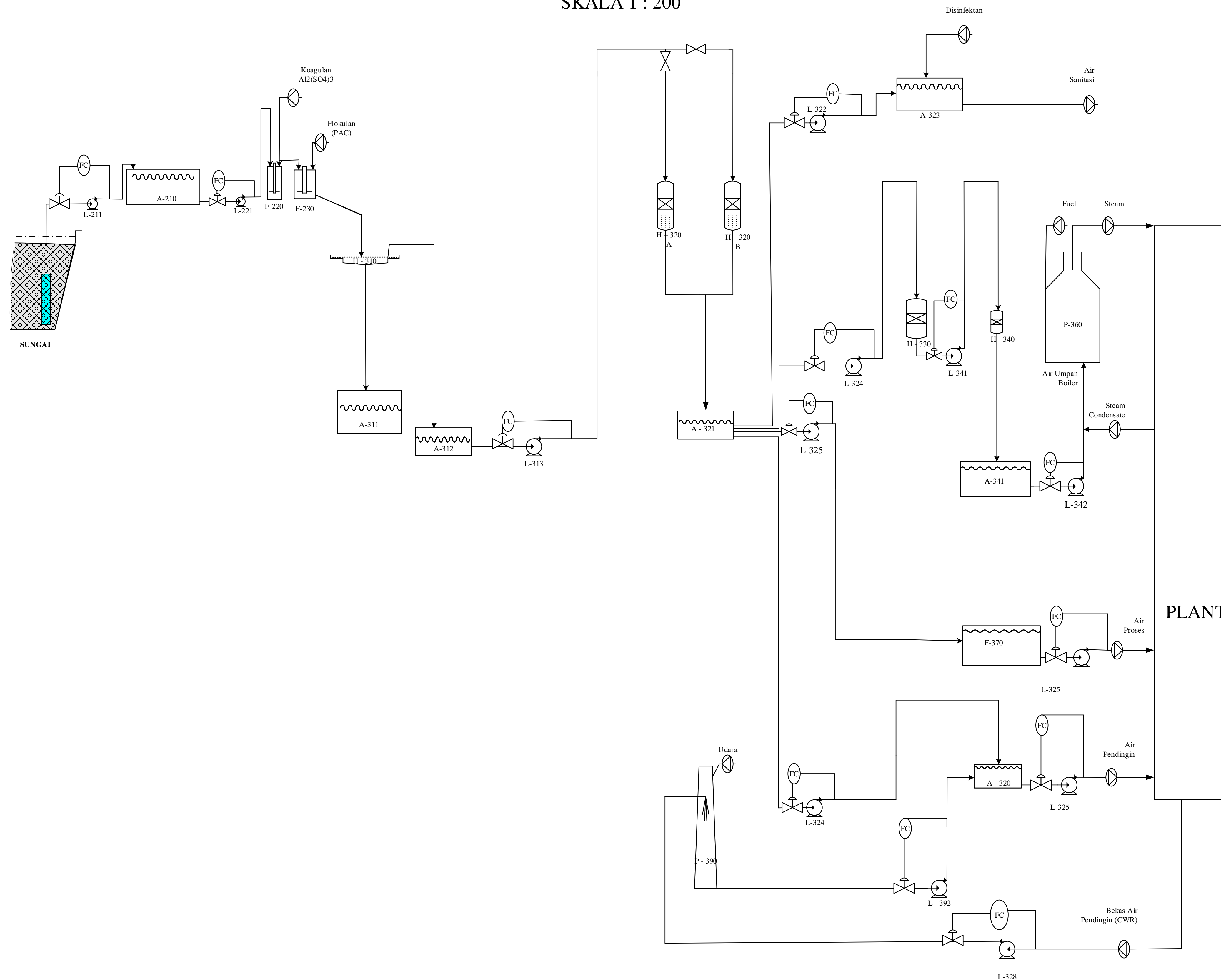
DOSEN PEMBIMBING :
IR. SIWANTO, MS

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2022

Nomer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CaCO ₃	6536,5278	6536,5278		65,3653							65,3653	65,3653	64,7116											
MgCO ₃	29,0278	29,0278		2,9028							2,9028	2,9028	2,8738											
H ₂ O	31,6667	31,6667	8860,4180	10062,4921	1170,4075	1588,41013		1600,1142		977,0703	11144,8991	11144,8991		11033,4501	5098,6924	5934,7577	5098,6924	4588,8232	509,8692	509,8692		5,0987	5,0987	
HCl			4983,9851	237,3326							23,7333	23,7333		23,4959	23,4959		23,4959	21,1463	2,3496	2,3496		0,0235	0,0235	
CaCl ₂				7182,9904							7531,9441	7531,9441		7456,6246	7456,6246		30,5978	27,5380	3,0598	3,0598	0,0303	3,0292	3,0595	
MgCl ₂				29,5461							8,8638	8,8638		8,7752	8,7752		8,7752	7,8977	0,8775	0,8775	0,0087	0,8687	0,8774	
CO ₂					2860,9960		28,6100																	
Ca(OH) ₂									244,2676	244,2676	11,6318	11,6318		11,5155	11,5155			11,5155	10,3639	1,1515	1,1515	0,0114	1,1400	1,1514
Mg(OH) ₂											12,6271	12,6271	12,5008											
CaCl ₂ ·2H ₂ O																		7426,0269	742,6027	6683,4242	6683,4242	66,1659	6616,5900	6682,7558
H ₂ CO ₃								3991,08945																
Total	6597,2222	6597,2222	13844,4031	17580,6293	4031,4035	1588,4101	28,6100	5591,2037	244,2676	1221,3379	18801,9672	18801,9672	80,0862	18533,8614	12599,1037	5934,7577	12599,1037	5398,3718	7200,7319	7200,7319	66,2163	6626,7501	6692,9664	

**PABRIK CLASIUM CLORIDAEHYDRATE DARI CALSIUM CARBONAT DAN HYDROCLORIC ACID
DENGAN PROSES NAUTRALIZATION**

SKALA 1 : 200



NO	KODE	NAMA ALAT
27	L-211	POMPA-1
26	A-210	BAK PENAMPUNG AIR SUNGAI
25	L-221	POMPA-2
24	F-220	TANGKI KOAGULASI
23	F-230	TANGKI FLOKULASI
22	L-231	POMPA-3
21	P-240	COOLING TOWER
20	L-241	POMPA - 4
19	H-310	CLARIFIER
18	A-311	BAK PENAMPUNG FLOK
17	A-312	BAK PENAMPUNG AIR JERNIH
16	L-313	POMPA-5
15	H-320	SAND FILTER
14	A-321	BAK PENAMPUNG AIR BERSIH
13	L-322	POMPA-6
12	A-323	BAK PENAMPUNG AIR SANITASI
11	L-324	POMPA-7
10	H-330	TANGKI KATION EXCHANGER
9	L-331	POMPA-8
8	H-340	TANGKI ANION EXCHANGER
7	A-341	BAK PENAMPUNG AIR DEMNERALISAI
6	L-342	POMPA-9
5	L-325	POMPA-10
4	L-327	POMPA 11
3	A-328	BAK PENAMPUNG AIR PENDINGIN
2	L-329	POMPA-12
1	A-350	BAK PENAMPUNG AIR PROSES

FLOWSHEET UTILITAS

UNIT PENGOLAHAN AIR

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