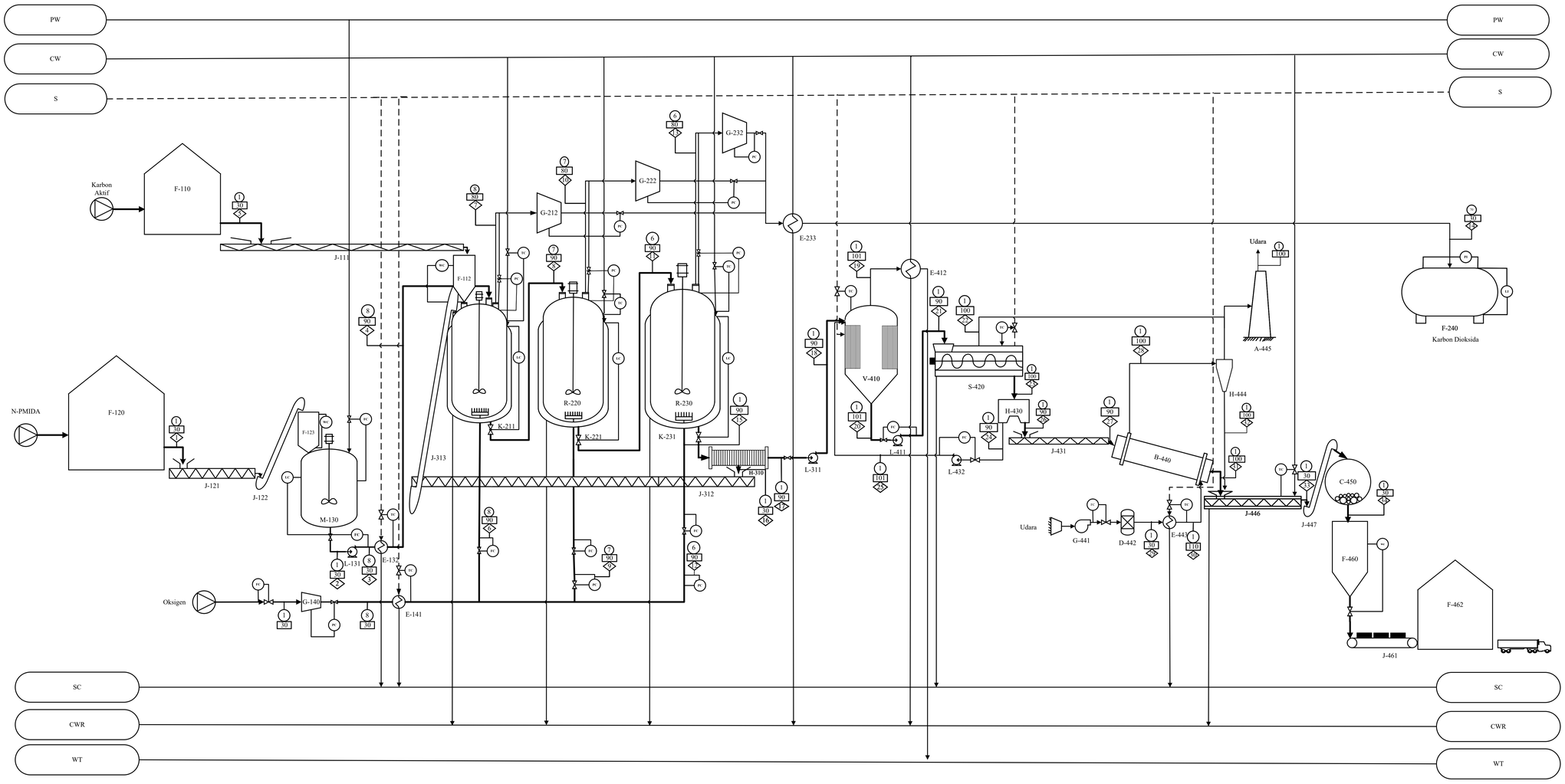
PRA RANCANGAN N-PHOSPHONOMETHYL GLYCNE DARI N-(PHOSPHONOMETHYL) IMINODIACETIC ACID (N-PMIDA) DENGAN PROSES OKSIDASI KATALIS KARBON AKTIF KAPASITAS 60.000 TON/TAHUN



Keterangan	
◇	Nomor Aliran
□	Temperatur (^{o}C)
○	Tekanan (atm)
S	Steam
WP	Water Process
CW	Cooling Water
CWR	Cooling Water Return
SC	Steam Condensate

No.	Kode Alat	Nama Alat
1	F-110	Gudang Penyimpanan Karbon Aktif
2	J-111	Screw Conveyor- 1
3	F-112	Hopper Karbon Aktif
4	F-120	Gudang Penyimpanan N-PMIDA
5	J-121	Screw Conveyor- 2
6	J-122	Bucket Elevator-1
7	F-123	Hopper N-PMIDA
8	M-130	Tangki Pelarut N-PMIDA
9	L-131	Pompa- 1
10	E-132	Heater- 1
11	G-140	Kompresor- 1
12	E-141	Heater- 2
13	R-210	Reaktor- 1
14	K-211	Presure Reducing Valve- 1
15	G-212	Kompresor- 2
16	R-220	Reaktor- 2
17	K-221	Presure Reducing Valve- 2
18	G-222	Kompresor- 3
19	R-230	Reaktor- 3
20	K-231	Presure Reducing Valve- 3
21	G-232	Kompresor- 4
22	E-233	Cooler
23	F-240	Tangki Penyimpanan Co2
24	H-310	Filter Press
25	L-311	Pompa- 2
26	J-312	Screw Conveyor-3
27	J-313	Bucket Elevator-2
28	V-410	Evaporator
29	L-411	Pompa-3
30	E-412	Kondensor
31	S-420	Evaporatif Crystallizer
32	H-430	Centrifuge
33	J-431	Screw Conveyor-4
34	L-432	Pompa- 4
35	B-440	Rotary Dryer
36	G-441	Blower
37	D-442	Molecular Sieve
38	E-443	Heater-3
39	H-444	Cyclone
40	A-445	Stack
41	J-446	Cooling Screw Conveyor
42	J-447	Bucket Elevator-3
43	C-450	Ball Mill
44	F-460	Silo N- Phosonometyl Gycyne
45	J-461	Belt Conveyor
46	F-462	Gudang Penyimpanan Produk

Neraca Massa (kg/jam)

Komponen	Nomer Aliran																													
	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	33	34
$C_5H_{10}NO_7P$	10254,6434	10254,6434	10254,6434	10254,6434				1538,1965			307,6393				51,2835	1,0257	50,2578	50,2578		50,2578	50,2578		50,2578	47,7449	47,7449	2,5129	2,5129	0,0251			2,4878	0,0249	2,5126	2,5126
H_2O (l)	103,5823	34182,1448	34182,1448	34182,1448				34182,1448			34182,1448				34182,1448	136,7286	34045,4162	34045,4162		19460,3453	19460,3453		7470,0287	7096,5272	7096,5272	373,5014	373,5014		1,5499		78,7130		78,7130	78,7130
H_2O (g)																			14585,0710			11990,3166						294,7885						
Karbon Aktif					512,7322			512,7322			512,7322				512,7322	512,7322																		
O_2						1444,8883	216,7333		216,7333	43,3467		43,3467	7,2259	267,3058																					
$C_3H_8NO_5P$ (l)								6489,2644			7405,3959				7596,2490	75,9625	7520,2865	7520,2865		50,2578	50,2578		26,3210	25,0050	25,0050									
$C_3H_8NO_5P$ (s)																							7493,9655			7495,2815	7495,2815	74,9528			7420,3287	74,2033	7494,5320	7494,5320
CH_2O_2 (l)								1766,2405			2015,5921				2067,5383	41,3508	2026,1875	2026,1875																
CH_2O_2 (g)																			2026,1875															
CO_2							1689,0970			238,4608			49,6773	1977,2351																				
Udara Basah																													516,6357					
Udara Kering																														518,1856				
Air Proses	34078,5626																																	
Total	44436,788	44436,788	44436,788	44436,788	512,732	1444,888	1905,830	44488,578	216,733	281,807	44423,504	43,3467	56,9032	2244,5409	44409,9477	767,7997	43642,1481	43642,1481	16611,2585	19560,8609	19560,8609	11990,3166	15040,5730	7169,2771	7169,2771	7871,2959	7871,2959	369,7664	518,1856	518,1856	7501,5294	74,2282	7575,7576	7575,7576

FLOWSHEET PRA RANCANGAN N-PHOSPHONOMETHYL GLYCNE DARI N-(PHOSPHONOMETHYL) IMINODIACETIC ACID (N PMIDA) DENGAN PROSES OKSIDASI KATALIS KARBON AKTIF KAPASITAS 60.000 TON/TAHUN

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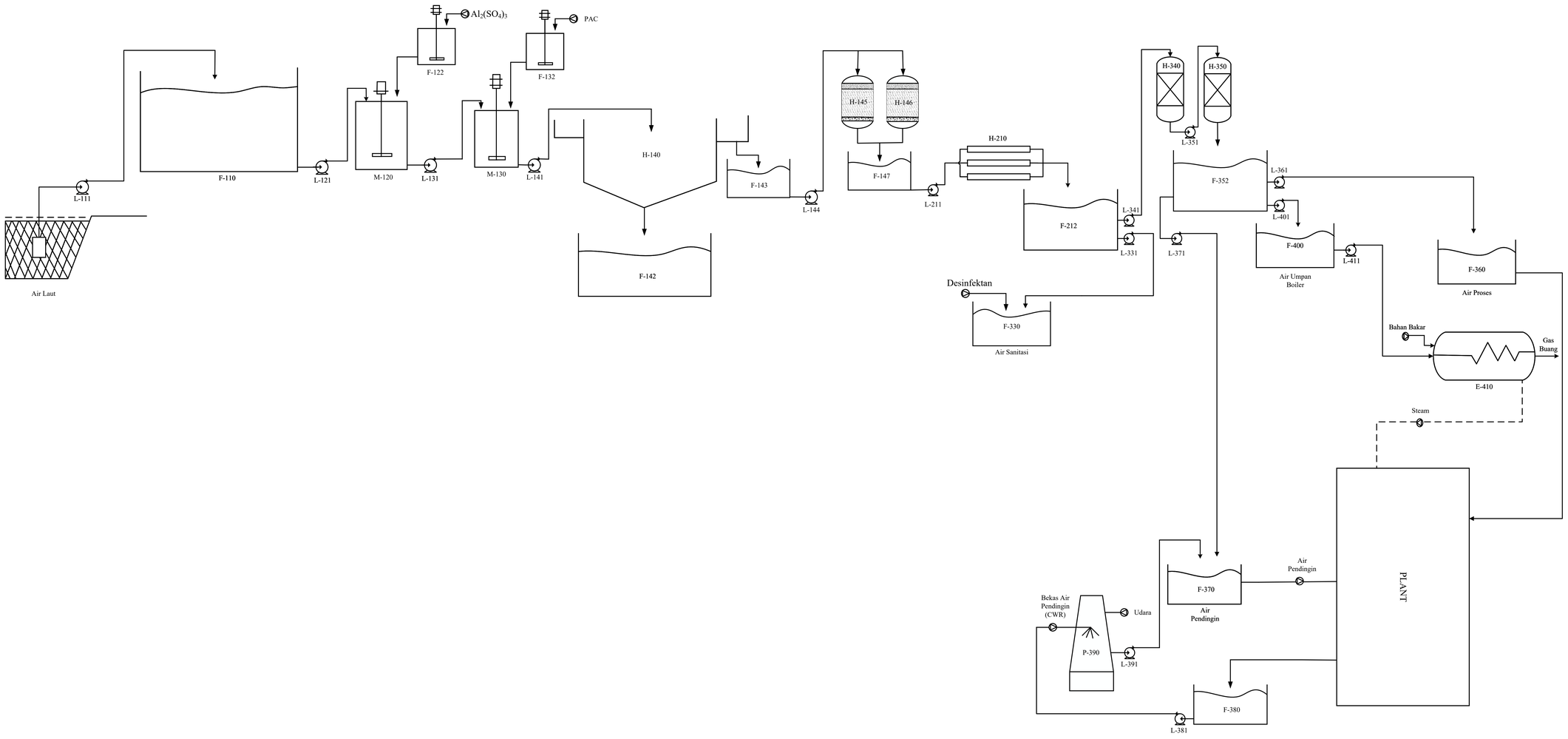

No.	Kode Alat	Nama Alat
1	L-111	Pompa-1
2	F-110	Bak Penyimpanan Air Laut
3	L-121	Pompa-2
4	F-122	Tangki Koagulasi
5	M-120	Tangki Pelarutan Koagulan
6	L-131	Pompa-3
7	F-132	Tangki Flokulan
8	M-130	Tangki Pelarutan Flokulan
9	L-141	Pompa-4
10	H-140	Clarifier
11	F-142	Bak Penampung Flok
12	F-143	Tangki Penyimpanan Filtrat
13	L-144	Pompa-5
14	H-145	Sand Filter 1
15	H-146	Sand Filter 2
16	F-147	Tangki Penampungan Hasil Sand Filter
17	L-221	Pompa-6
18	H-210	Reverse Osmosis
19	F-212	Bak Penyimpanan Air Bersih
20	L-331	Pompa-7
21	F-330	Bak Penyimpanan Air Sanitasi
22	L-341	Pompa-8
23	H-340	Kation Exchanger
24	L-351	Pompa-9
25	H-350	Anion Exchanger
26	F-352	Bak Penyimpanan Air Demineralisasi
27	L-361	Pompa-10
28	F-360	Bak Penyimpanan Air Proses
29	L-371	Pompa-11
30	F-370	Bak Penyimpanan Air Pendingin
31	L-372	Pompa-12
32	F-380	Bak Penyimpanan Ricycle Air Pendingin
33	L-381	Pompa-13
34	P-390	Cooling Tower
35	L-391	Pompa-14
36	F-400	Bak Umpan Boiler
37	L-411	Pompa-15
38	E-410	Boiler

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