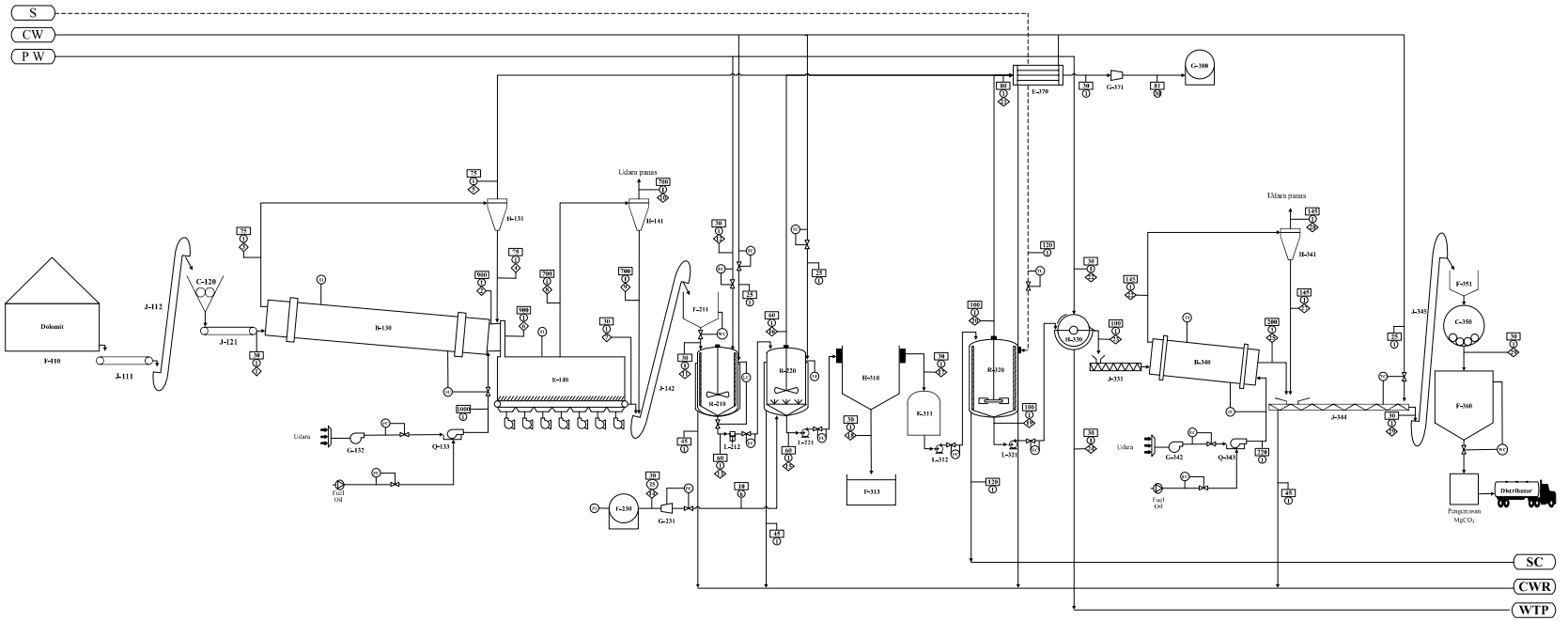
PABRIK MAGNESIUM KARBONAT DARI MINERAL DOLOMIT DAN GAS CO_2 DENGAN PROSES HIDRASI



Komponen	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
$MgCO_3$	9133,9781																		8376,2372				8208,7124	167,5247	8044,5382	164,1742	162,5325	1,6417	8207,0707
$CaCO_3$	10332,3721														10466,5644		523,3282	9943,2362	523,3282				512,8617	10,4666	502,6044	10,2572	10,1547	0,1026	512,7591
Fe_2O_3	40,2822	39,4765	0,8056	0,7976	0,0081	40,2741	39,4686	0,8055	0,7974	0,0081	40,2660		40,2660		40,2660		2,0133	38,2527	2,0133				1,9730	0,0403	1,9336	0,0395	0,0391	0,0004	1,9726
Al_2O_3	211,4813	207,2317	4,2296	4,1873	0,0423	211,4390	207,2102	4,2288	4,1865	0,0423	211,3967		211,3967		211,3967		10,5698	200,8269	10,5698				10,3584	0,2114	10,1513	0,2072	0,2051	0,0021	10,3564
SiO_2	18,1270	17,7644	0,3625	0,3589	0,0036	18,1233	17,7609	0,3625	0,3588	0,0036	18,1197		18,1197		18,1197		0,9060	17,2137	0,9060				0,8879	0,0181	0,8701	0,0178	0,0176	0,0002	0,8877
H_2O	404,8356		404,8356		404,8356							5660,1841	1836,7280		3770,6260		3582,0947	188,5313	5371,7977		404,8356	5243,7302	212,5106	10403,2174	0,2123	212,0982		212,0982	0,2123
MgO		4169,6557	85,0950	84,2441	0,8510	4253,8998	4168,8218	85,0780	84,2272	0,8508	4253,0490		31,8979		31,8979		1,5949	30,3030	2,2191				1,5630	0,0319	1,5317	0,0435	0,0309	0,0003	1,5627
CaO		5801,4535	118,3970	117,2130	1,1840	5800,2932	5800,2932	118,3733	117,1896	1,1837	5917,4828		41,3811		41,3811		2,2191	42,1621	1,5949				2,1747	0,0444	2,1312	0,0313	0,0431	0,0004	2,1742
CO_2			9291,7489		9291,7489									17948,8623		4142,0451				4372,1588	17905,9528								
$Mg(OH)_2$													6107,8791		9,1618		0,4581	8,7037	0,4581				0,4489	0,0092	0,4400	0,0090	0,0089	0,0001	0,4488
$Ca(OH)_2$													7759,8297		11,6397		0,5820	11,0578	0,5820				0,5703	0,0116	0,5589	0,0114	0,0113	0,0001	0,5702
$Mg(HCO_3)_2$															15303,2621		14538,0990	765,1631											
TOTAL	20141,0762	10255,6018	9905,4744	206,8009	9698,6734	10442,4028	10233,5547	208,8481	206,7596	2,0885	10440,3143	5660,1841	16100,4984	17948,8623	29907,3155	4142,0451	18661,3650	11245,4505	14289,7063	4372,1588	18210,7885	5243,7302	8951,8609	10581,5756	8564,9717	386,8893	173,0431	213,8462	8738,0148

KETERANGAN	
▭	Temperatur (°C)
○	Tekanan (atm)
◇	Aliran Massa (Kg/Jam)
S	Steam
CW	Cooling Water
PW	Process Water
SC	Steam Condensate
CWR	Cooling Water Return
WTP	Water Treatment Plant

No.	Kode	Nama Alat
1	F-110	Gudang Penyimpanan Dolomit
2	J-111	Belt Conveyor
3	J-112	Bucket Elevator
4	C-120	Roll Crusher
5	J-121	Belt Conveyor
6	B-130	Rotary Kiln
7	H-131	Cyclone-1
8	G-132	Blower-1
9	Q-133	Burner-1
10	E-140	Grate Cooler
11	H-141	Cyclone-2
12	J-142	Bucket Elevator
13	R-210	Hydrator
14	F-211	Hopper-1
15	L-212	Pompa-1
16	R-220	Carbonator
17	L-221	Pompa-2
18	F-230	Tangki Gas CO_2
19	G-231	Expander
20	H-310	Clarifier
21	F-311	Tangki Penampung $Mg(HCO_3)_2$
22	L-312	Pompa-3
23	F-313	Bak Penampung $CaCO_3$
24	R-320	Reaktor Pemanas
25	L-321	Pompa-4
26	H-330	Rotary Drum Vacum Filter
27	J-331	Screw Conveyor
28	B-340	Rotary Dryer
29	H-341	Cyclone-3
30	G-342	Blower-2
31	Q-343	Burner-2
32	J-344	Cooling Screw Conveyor
33	J-345	Bucket Elevator
34	F-351	Hopper-2
35	C-350	Ball Mill
36	F-360	Silo $MgCO_3$
37	F-351	Kondenser
38	C-350	Kompresor
39	F-360	Tangki CO_2

Flowsheet Pra Rancangan Pabrik Magnesium Karbonat Dari Mineral Dolomit dan Gas CO_2 Dengan Proses Hidrasi

Disusun Oleh : Devy Shinta Siagnam (21031010186)

Dosen Pembimbing : Ir. Nurul Widji Triana, MT.

Program Studi Teknik Kimia
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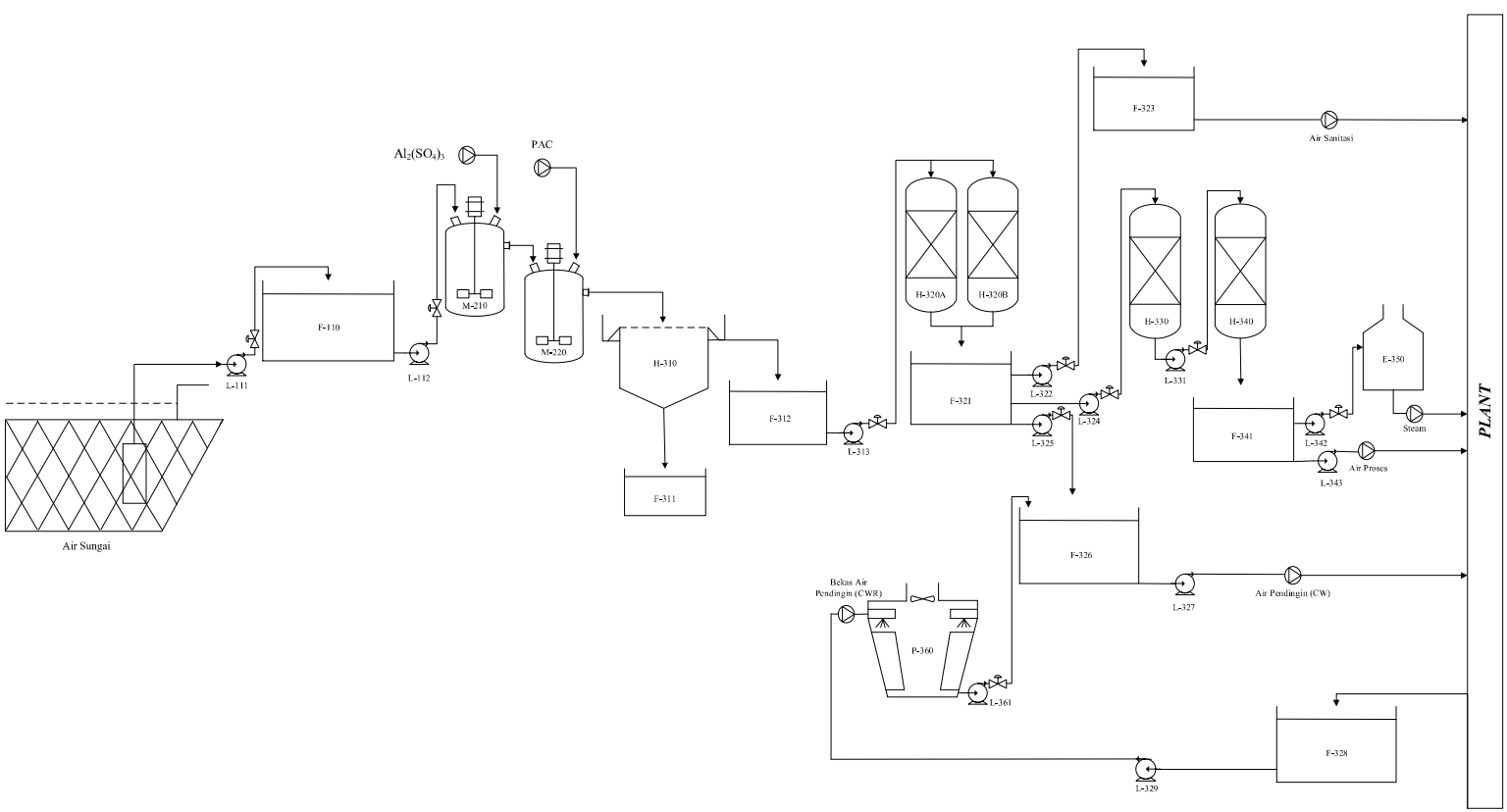
FLOWSHEET UTILITAS PABRIK MAGNESIUM KARBONAT DARI MINERAL DOLOMIT DAN GAS CO_2 DENGAN PROSES HIDRASI



No.	Kode	Nama Alat
1	L-111	Pompa-1
2	F-110	Bak Penampung Air Sungai
3	L-112	Pompa-2
4	M-210	Tangki Koagulasi
5	M-220	Tangki Flokulasi
6	H-310	Clarifier
7	F-311	Bak Penampung Flok
8	F-312	Bak Penampung Air Bersih-1
9	L-313	Pompa-3
10	H-320A	Sand filter-1
11	H-320B	Sand filter-2
12	F-321	Bak Penampung Air Bersih-2
13	L-322	Pompa-4
14	F-323	Bak Penampung Air Sanitasi
15	L-324	Pompa-5
16	H-330	Tangki Kation Exchanger
17	L-331	Pompa-6
18	H-340	Tangki Anion Exchanger
19	F-341	Bak Penampung Air Demineralisasi
20	L-342	Pompa-7
21	E-350	Boiler
22	L-343	Pompa-8
23	L-325	Pompa-9
24	F-326	Bak Penampung Air Pendingin
25	L-327	Pompa-10
26	F-328	Bak Penampung Bekas Air Pendingin
27	L-329	Pompa-11
28	P-360	Cooling Tower
29	L-361	Pompa-12

Flowsheet Pra Rancangan Pabrik Magnesium Karbonat Dari Mineral Dolomit dan Gas CO_2 Dengan Proses Hidrasi

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