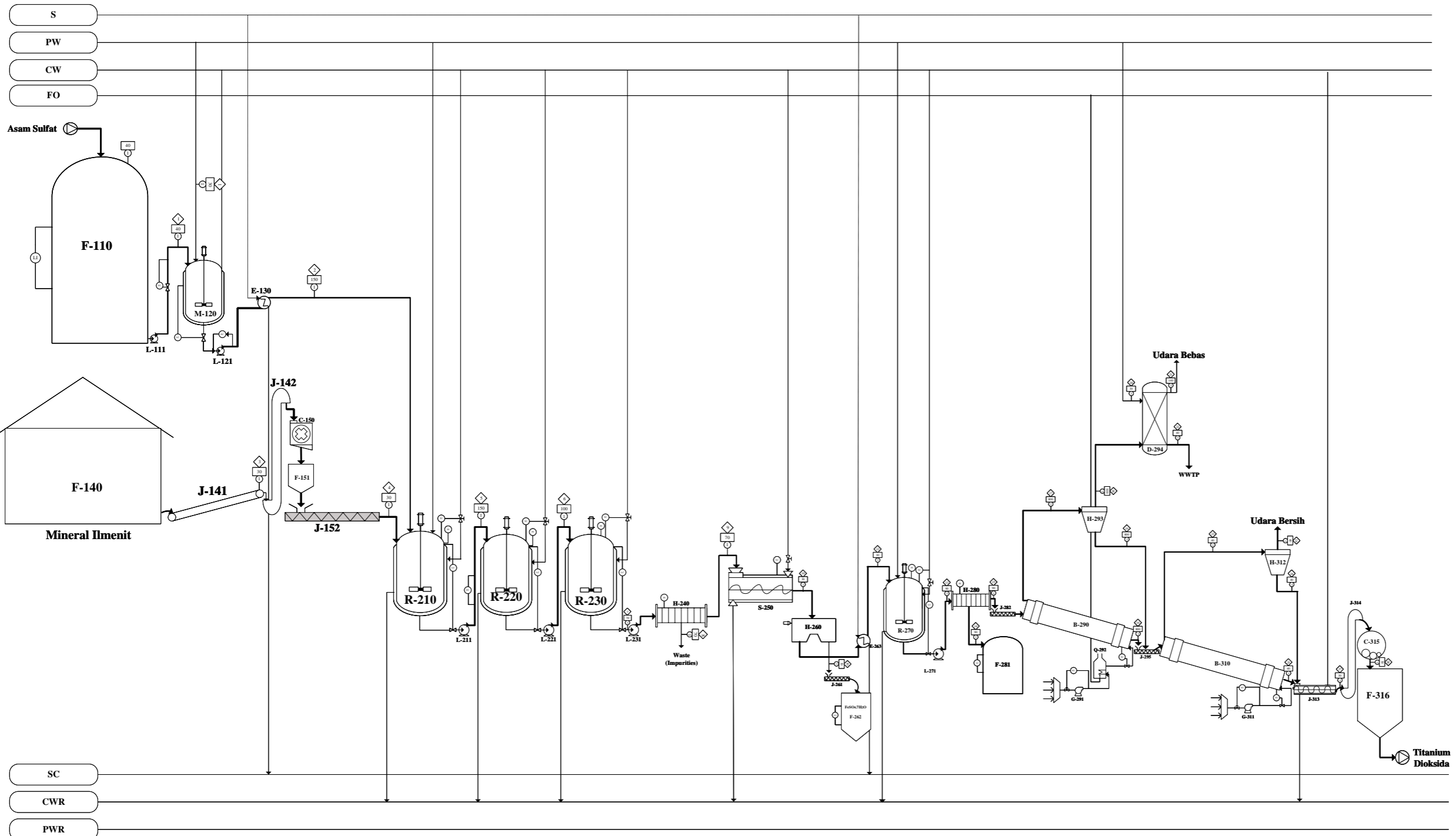


FLOWSHEET PABRIK TITANIUM DIOKSIDA DENGAN PROSES SULFAT DARI MINERAL ILMENIT DAN ASAM SULFAT



KETERANGAN			
□	Temperatur : °C	CW	Cooling Water
◇	Aliran massa : kg/jam	CWR	Cooling Water Return
○	Tekanan : atm	PW	Process Water
S	Steam	FO	Fuel Oil
SC	Steam Condensate	PWR	Process Water Return

41	F-320	Silo Produk
40	C-315	Ball Mill
39	J-314	Bucket Elevator II
38	J-313	Cooling Conveyor
37	H-312	Cyclone II
36	G-311	Blower II
35	B-310	Rotary Cooler
34	J-295	Screw Conveyor IV
33	D-294	Scrubber
32	H-293	Cyclone I
31	Q-292	Burner
30	G-291	Blower I
29	B-290	Rotary Kiln
28	J-282	Screw Conveyor III
27	F-281	Silo Asam Sulfat
26	H-280	Filter Press II
25	L-271	Pompa VI
24	R-270	Tangki Hidrolisis
23	E-263	Heater II
22	F-262	Silo Besi (II) Sulfat Heptahydrate
21	J-261	Screw Conveyor II
20	H-260	Centrifuge
19	H-250	Crystallizer
18	H-240	Filter Press I
17	L-231	Pompa V
16	R-230	Tangki Digester III
15	L-221	Pompa IV
14	R-220	Tangki Digester II
13	L-211	Pompa III
12	R-210	Tangki Digester I
11	J-152	Screw Conveyor I
10	F-151	Hopper
9	C-150	Hammer Mill
8	J-142	Bucket Elevator I
7	J-141	Belt Conveyor I
6	F-140	Gudang Ilmenit
5	E-130	Heater I
4	L-121	Pompa II
3	M-120	Tangki Pengencer Asam Sulfat
2	L-111	Pompa I
1	F-110	Storage Asam Sulfat

No.	Kode Alat	Nama Alat
DIGAMBAR OLEH : KARIMAH NABILAH RIZA (19031010173)		
DOSEN PEMBIMBING : DR. IR. SRIE MULJANI, MT		
FLOWSHEET PERANCANGAN PABRIK TITANIUM DIOKSIDA DENGAN PROSES SULFAT DARI MINERAL ILMENIT DAN ASAM SULFAT		
PROGRAM STUDI TEKNIK KIMIA FAKULTAS TEKNIK UNIVERSITAS PEMBAGUNAN NASIONAL "VETERAN" JAWA TIMUR 2023		

Komponen	Nomor	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	
FeTiO ₃				23659,3566	23659,3566	10883,3040	3264,9912	163,2496	163,2496																					
MgO			657,9534	657,9534	302,6586	90,7976	4,5399	4,5399																						
CaO			560,8783	560,8783	258,0040	77,4012	3,8701	3,8701																						
Al ₂ O ₃			749,6354	749,6354	344,8323	103,4497	5,1725	5,1725																						
SiO ₂			1337,4790	1337,4790	1337,4790	1337,4790	1337,4790	1337,4790																						
H ₂ SO ₄	33256,9287	33256,9287			16384,1875	5029,7094	406,8147	1,4754	405,3393	405,3393	8,1068	397,2325	14449,6201	14227,3753	222,2447															
H ₂ O	665,1386	2834,0687			2353,2339								2988,5851	2942,6187	45,9664		2642,0271	2642,0271												
H ₂ O proses	2168,9301				8133,1065							8150,6867									190,7103									
FeSO ₄ ·7H ₂ O _(n)					23366,7277	37300,2208	42973,1431	155,8549	42817,2882	23551,9127	42817,2882																			
FeSO ₄ ·7H ₂ O _(s)										19265,3755																				
TiOSO ₄					13448,4764	21467,7530	24732,7442	89,7007	24643,0435	24643,0435	492,8609	24150,1827	1207,5091	1188,9368	18,5723															
MgSO ₄ ·7H ₂ O					2185,0632	3488,0083	4018,4931	4018,4931																						
CaSO ₄ ·2H ₂ O					930,2567	1484,9654	1710,8110	1710,8110																						
Al ₂ (SO ₄) ₃ ·18H ₂ O					2643,1263	4219,2127	4860,9050	4860,9050																						
TiO(OH) ₂													14052,3875		14052,3875	137,7134	2,8105				2,8105				2,8105	0,0281	137,7134	2,7824	140,4958	140,4958
TiO ₂																11138,5914	227,3182				227,3182				227,3182	2,2732	11138,5914	225,0450	11363,6364	11363,6364
SO ₃																	190,7104	190,7104							0,00005					
Total	36090,9974	36090,9974	26965,3027	26965,3027	80217,2221	80217,2221	80217,2221	12351,5511	67865,6710	67865,6710	43318,2558	32698,1018	32698,1018	18358,9309	14339,1710	11276,3048	3062,8662	2832,7375	230,1287	190,7103	2642,0272	381,4206	230,1287	2,3013	11276,3048	227,8274	11504,1321	11504,1321		