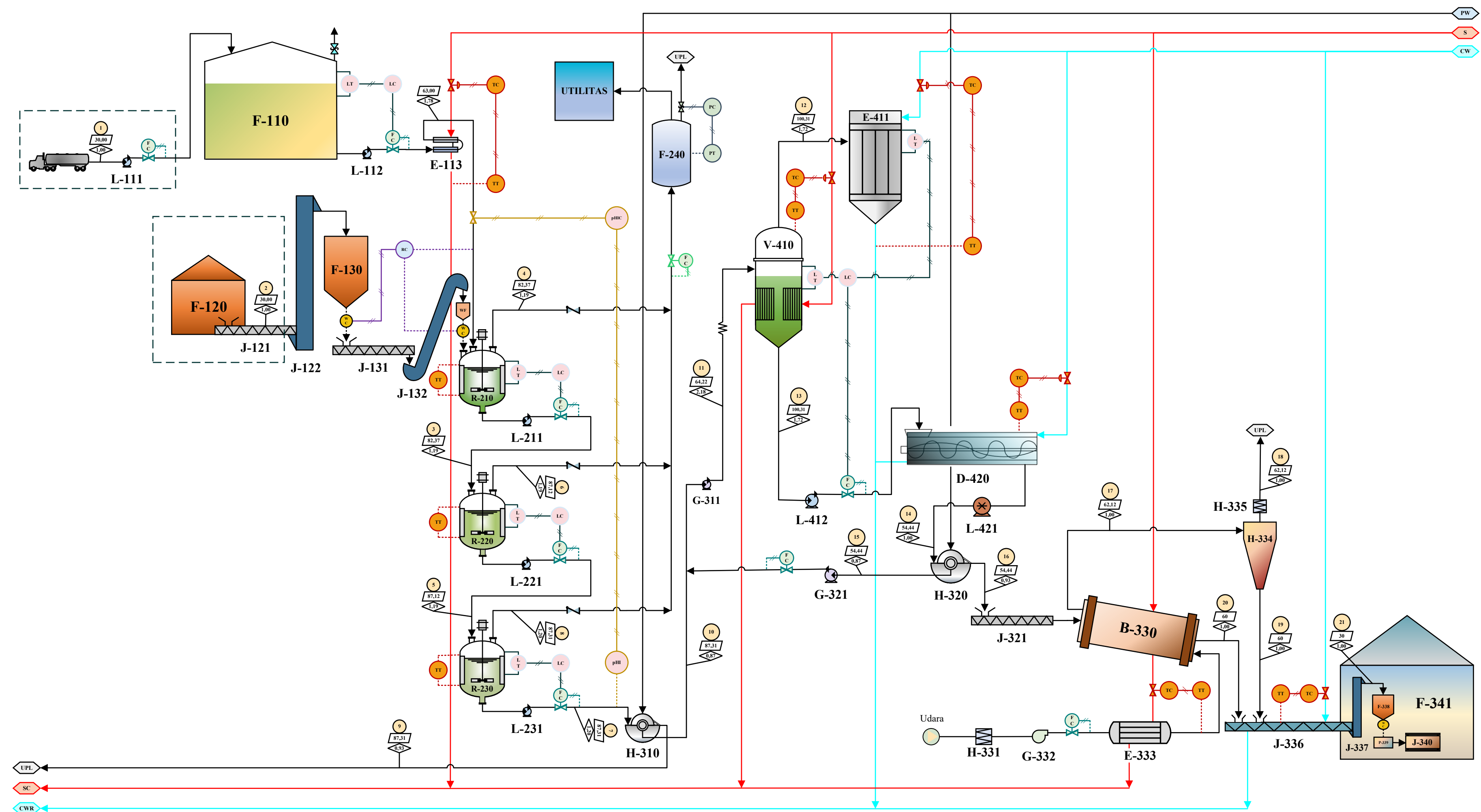




PROCESS ENGINEERING FLOW DIAGRAM
PRARANCANGAN PABRIK KIMIA FERROUS SULPHATE HEPTAHYDRATE DARI STEEL PICKLING LIQUOR DAN SCRAP IRON
KAPASITAS PRODUKSI 58.000 TON/TAHUN



Keterangan Alat			
F-110	Storage Steel Pickling Liquor	L-111	Pompa 1
E-113	Heater Steel Pickling Liquor	L-112	Pompa 2
F-120	Storage Scrap Iron	J-121	Screw Conveyor 1
F-130	Silo Scrap Iron	J-122	Bucket Elevator 1
R-210	Neutrallizer 1	J-131	Screw Conveyor 2
R-220	Neutrallizer 2	J-132	Bucket Elevator 2
R-230	Neutrallizer 3	L-211	Pompa 3
F-240	Buffer Tank	L-221	Pompa 4
H-310	Rotary Vacuum Filter 1	L-231	Pompa 5
H-320	Rotary Vacuum Filter 2	G-311	Vacuum Pump 1
V-410	Evaporator	L-412	Pompa 6
E-411	Condenser	L-421	Pompa Slurry
D-420	Crystallizer	G-321	Vacuum Pump 2
B-330	Rotary Dryer	J-321	Screw Conveyor 3
H-334	Cyclone	H-331	Air Filter 1
E-333	Air Heater	H-335	Air Filter 2
F-338	Silo Produk	G-332	Blower
P-339	Packaging Unit	J-337	Bucket Elevator 3
J-336	Cooling Screw Conveyor	F-341	Storage Produk
J-340	Belt Conveyor		

Keterangan Simbol			
	Nomor Arus	LI	Level Indicator
	Temperature (°C)	FC	Flow Controller
	Tekanan (atm)	WC	Weight Controller
TC	Temperature Controller	WF	Weigh Feeder
pHIC	pH Indicator Controller	TT	Temperature Transmitter
LIC	Level Indicating Controller	S	Steam
PIC	Pressure Indicating Controller	CW	Cooling Water
CWR	Cooling Water Return	SC	Steam Condensate
UPL	Unit Pengolahan Lanjut	pHI	pH Indicator
PW	Process Water		



Komponen	Nomor Arus (Kg/Jam)																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
H ₂ (g)	—	—	—	16,9615	—	4,1083	—	0,1603	—	—	—	—	—	—	—	—	—	—	—	—	—
H ₂ O(g)	—	—	—	—	—	—	—	—	—	—	—	7.745,4044	—	—	—	—	—	39,6000	—	—	—
H ₂ SO _{4(l)}	1.035,3351	—	211,7775	—	12,3031	—	4,5219	—	0,0904	4,4317	4,5201	—	4,5201	4,5201	0,0886	4,4315	0,0443	0,0004	0,0439	4,3872	4,4311
H ₂ O(l)	11.240,7807	—	11.240,7807	—	11.240,7807	—	11.240,7807	—	224,8156	11.015,9651	38.727,0218	—	30.981,6174	27.758,2458	27.711,0567	47,1890	40,0000	—	0,4000	7,1890	7,5890
FeSO _{4(l)}	2.366,4801	—	3.642,7929	—	3.951,9294	—	3.963,9883	—	79,2798	3.884,7085	5.165,1544	—	5.165,1544	1.280,9583	1.280,4459	0,5124	0,0051	0,0001	0,0051	0,5073	0,5123
MnSO _{4(l)}	73,9525	—	73,9525	—	73,9525	—	73,9525	—	1,4791	72,4735	73,9229	—	73,9229	73,9229	1,4495	72,4735	0,7247	0,0072	0,7175	71,7487	72,4662
Fe ₂ (SO ₄) _{3(l)}	73,9525	—	73,9525	—	73,9525	—	73,9525	—	1,4791	72,4735	73,9229	—	73,9229	73,9229	1,4495	72,4735	0,4719	0,0047	0,4672	72,0016	72,4687
FeSO ₄ · 7H ₂ O(s)	—	—	—	—	—	—	—	—	—	—	—	—	—	7.104,2458	—	7.104,2458	71,0425	0,7104	70,3320	7.033,2033	7.103,5354
Fe ₂ O _{3(s)}	—	6,2659	6,2659	—	6,2659	—	6,2659	—	6,2659	—	—	—	—	—	—	—	—	—	—	—	—
Mn(s)	—	12,5318	12,5318	—	12,5318	—	12,5318	—	12,5318	—	—	—	—	—	—	—	—	—	—	—	—
Fe(s)	—	588,9952	118,4388	—	4,4650	—	0,0191	—	0,0191	—	—	—	—	—	—	—	—	—	—	—	—
Si(s)	—	18,7977	18,7977	—	18,7977	—	18,7977	—	18,7977	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	14.790,5009	626,5906	15.399,2903	16,9615	15.394,9786	4,1083	15.394,8104	0,1603	344,7585	15.050,0520	44.044,5422	7.745,4044	36.299,1378	36.295,8158	28.994,4902	7.301,3256	112,2885	40,3229	71,9656	7.189,0371	7.261,0027

PROGRAM STUDI S1 TEKNIK KIMIA
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STEEL PICKLING LIQUOR DAN SCRAP IRON
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Dikerjakan Oleh :

Nama Mahasiswa :

1. Calista Carissavilla 121200088
2. Puput Yugiani 121200124

Dosen Pembimbing :

1. Ir. Danang Jaya, M.T.
2. Perwitasari, S.T., M.Eng.