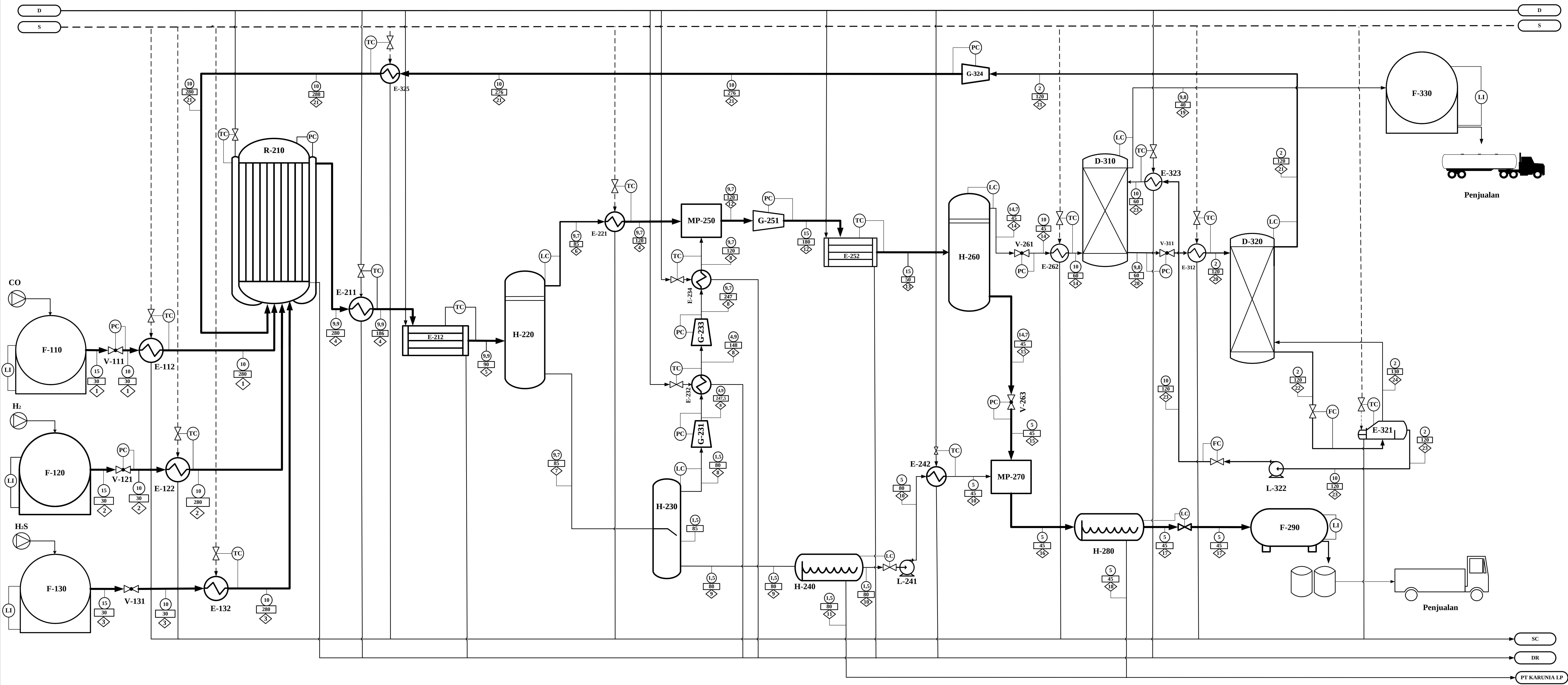


PRA RANCANGAN PABRIK METIL MERKAPTAN DARI SYNGAS DAN HIDROGEN SULFIDA DENGAN
CONTINUOUS SYNTHESIS GAS PROCESS



KETERANGAN			
	Temperature (°C)		Pressure (atm)
	Flow mass (kg/jam)		Dowtherm
	Steam		Steam Condensate
	Dowtherm Return		Waste Water Treatment
	Flow Control		Temperature Control
	Pressure Control		Level Indicator

NO	KODE	NAMA ALAT
1	F-110	Tangki Penyimpanan Karbon Monoksida
2	V-111	Expansion Valve-1
3	E-112	Heater-1
4	F-120	Tangki Penyimpanan Hidrogen
5	V-121	Expansion Valve-2
6	E-122	Heater-2
7	F-130	Tangki Penyimpanan Hidrogen Sulfida
8	V-131	Expansion Valve-3
9	E-132	Heater-3
10	R-210	Reaktor
11	E-211	Cooler-1
12	E-212	Kondensor Parsial-1
13	H-220	Knock Out Drum-1
14	E-221	Heater-4
15	H-230	Flash Drum
16	G-231	Kompresor-1
17	E-232	Cooler-2
18	G-233	Kompresor-2
19	E-234	Cooler-3
20	H-240	Decanter-1
21	L-241	Pompa-1
22	E-242	Cooler-4
23	MP-250	Mixing Point-1
24	G-251	Kompresor-3
25	E-252	Kondensor Parsial-2
26	H-260	Knock Out Drum-2
27	V-261	Expansion Valve-5
28	E-262	Heater-5
29	V-263	Expansion Valve-6
30	MP-270	Mixing Point-2
31	H-280	Decanter-2
32	F-290	Tangki Penyimpanan Metil Merkaptan
33	D-310	Scrubber
34	V-311	Expansion Valve-7
35	E-312	Heater-6
36	D-320	Stripper
37	E-321	Reboiler
38	L-322	Pompa-2
39	E-323	Cooler-5
40	G-324	Kompresor-4
41	E-325	Heater-7
42	F-330	Tangki Penyimpanan Syngas Campuran

Komponen	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	
CO _(g)	5424,746077			52,0993	52,0991	52,0991		0,0002				52,0993	52,0989	52,0989					52,0989						
CO _(l)					0,0002		0,0002						0,0004		0,0004	0,0004									
H _{2(g)}		782,0505		47,8799	47,8797	47,8797		0,0002				47,8799	47,8796	47,8796					47,8796						
H _{2(l)}					0,0002		0,0002						0,0003		0,0003	0,0003									
CO _{2(g)}			34,6352	418,3217	199,7586	199,7586		205,5590				405,3176	92,7132	92,7132					9,2883		83,4262			16,7999	
CO _{2(l)}					218,5631		218,5631		13,0041	0,6502	12,3539		312,6043		312,6043	313,2546	15,6627	297,5918		83,5951		16,9696	0,1697		
H ₂ S _(g)			6660,5632	485,8646	297,4281	297,4281		186,0248				483,4529	132,3830	132,3830					2,6503		129,7325		26,3886	0,1319	
H ₂ S _(l)					188,4366		188,4366		2,4117	0,1206	2,2911		351,0699		351,0699	351,1905	17,5595	333,6310		129,8644		26,3886	0,1319		
COS			5,9068																						
CS _{2(g)}			3,1548	3,1548	0,2623	0,2623		2,3139				2,5762	0,0284	0,0284					0,0284						
CS _{2(l)}					2,8925		2,8925		0,5786	0,5497	0,0289		2,5478		2,5478	3,0975	2,9426	0,1549							
N _{2(g)}	0,2170	0,4147	2,3098	2,9415	2,9415	2,9415						2,9415	2,9414	2,9414					2,9414						
CH _{4(g)}			6,3095	6,3095	6,3095	6,3095						6,3095	6,3094	6,3094					6,3094						
CH ₃ SH _(g)				8904,5601	2070,7222	2070,7222		6363,2505				8433,9727	336,7046	336,7046					336,7046						
CH ₃ SH _(l)					6833,8378		6833,8378		470,5874	451,7639	18,8235		8097,2681		8097,2681	8549,0320	8207,0707	341,9613							
C ₂ H ₇ NO																				708,4663		708,4663	708,4663		
H ₂ O _(g)				3212,3343	57,5776	57,5776		1353,5053				1411,0828	1,6969	1,6969					1,6845					43,3582	
H ₂ O _(l)					3154,7568		3154,7568		1801,2515	18,0125	1783,2390		1409,3860		1409,3860	1427,3985	14,2740	1413,1245		1653,1128		1696,4710	1653,1128		
Total	5424,9631	782,4652	6712,8793	13133,4657	13133,4656	2734,9785	10398,4871	8110,6538	2287,8333	471,0969	1816,7364	10845,6323	10845,6323	672,7556	10172,8768	10643,9736	8257,5102	2386,4634	459,5856	2575,0385	213,1588	2448,2955	2361,880759	86,4148	

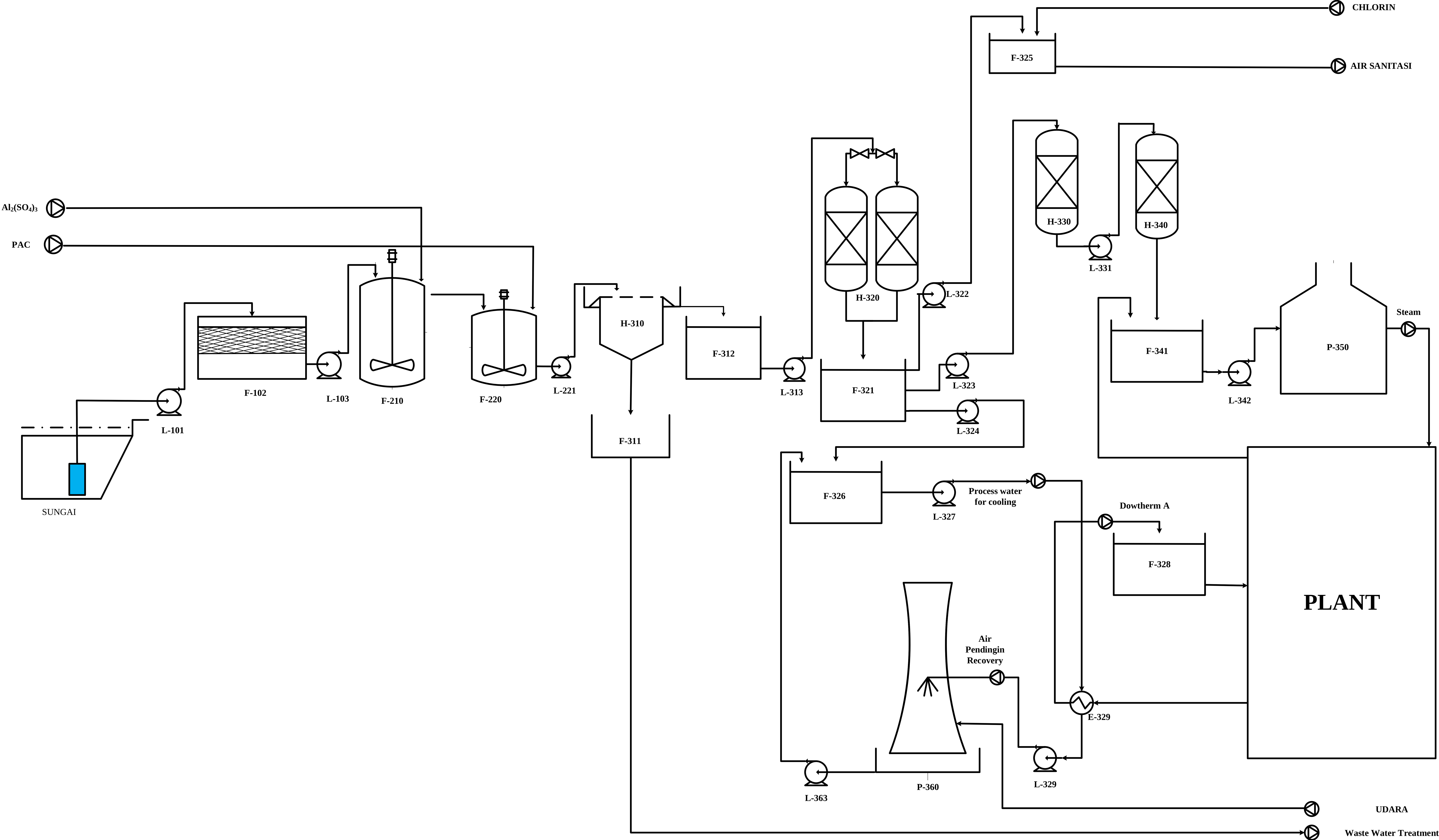
Flowsheet Proses Pra Rancangan Pabrik Metil Merkaptan
Dari Syngas Dan Hidrogen Sulfida Dengan *Continuous Synthesis Gas Process*

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FLWSHEET UTILITAS
PRA RANCANGAN PABRIK METIL MERKAPTAN DARI SYNGAS DAN HIDROGEN SULFIDA
DENGAN CONTINUOUS SYNTHESIS GAS PROCESS



NO.	KODE	NAMA ALAT
1	L-101	Pompa Bak Penampung Air Sungai
2	F-102	Bak Penampung Air sungai
3	L-103	Pompa Tangki Koagulasi
4	F-210	Tangki Koagulasi
5	F-220	Tangki Flokulasi
6	L-221	Pompa Clarifier
7	H-310	Clarifier
8	F-311	Bak Penampung Flok
9	F-312	Bak Penampung Air Bersih
10	L-313	Pompa Sand Filter
11	H-320	Sand Filter
12	F-321	Bak Penampung Air Bersih Sand Filter
13	L-322	Pompa Bak Penampung Air Sanitasi
14	L-323	Pompa Kation Exchanger
15	L-324	Pompa Bak Penampung Air Pendingin
16	F-325	Bak Penampung Air Sanitasi
17	F-326	Bak Penampung Air Pendingin
18	L-327	Pompa Air Pendingin
19	F-328	Tangki Penyimpanan Dowtherm A
20	E-329	Heater Dowtherm A
21	H-330	Kation Exchanger
22	L-331	Pompa Anion Exchanger
23	H-340	Anion Exchanger
24	F-341	Bak Penampung Air Demineralisasi
25	L-342	Pompa Air Umpan Boiler
26	P-350	Boiler
27	P-360	Cooling Tower
28	L-361	Pompa Cooling Tower
29	L-362	Pompa Recycle Air Pendingin

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	PROGRAM STUDI TEKNIK KIMIA		
	FAKULTAS TEKNIK DAN SAINS		
	UNIVERSITAS PEMBANGUNAN NASIONAL		
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