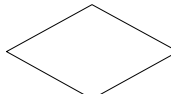
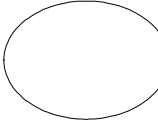
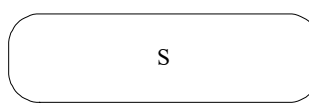
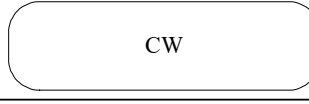
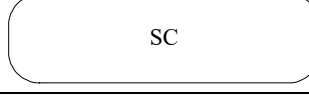
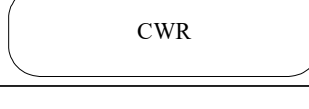


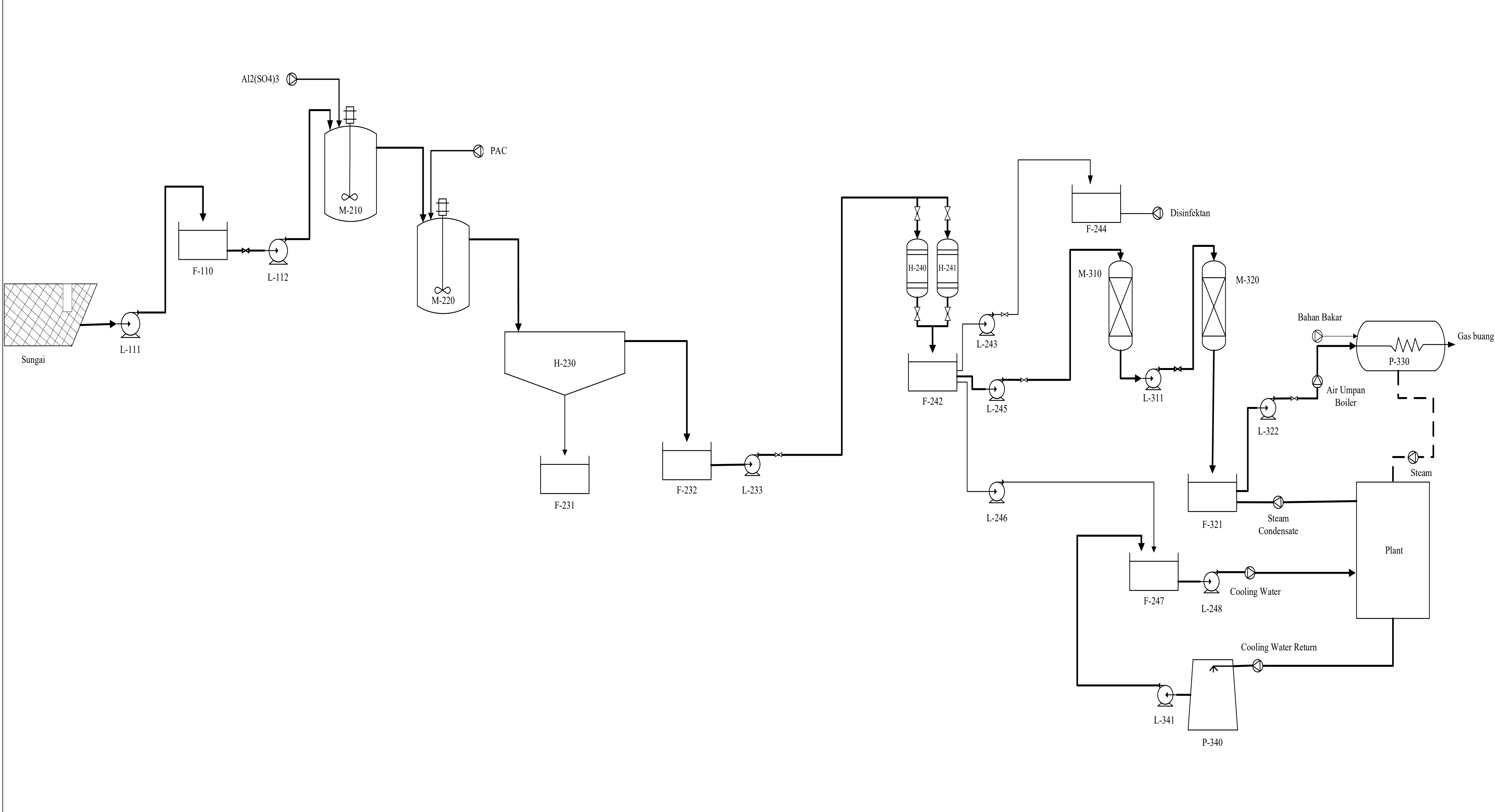
The diagram illustrates a chemical process with two parallel reaction systems. The top system starts with feed F-110, which is pumped by P-111 and passes through heat exchanger E-112 before entering reactor R-210. The bottom system starts with feed F-120, pumped by P-112, and passes through heat exchanger E-122 before entering reactor R-220. Both reactors are equipped with internal cooling coils and are cooled by heat exchangers E-113 and E-123. The effluents from the reactors are then separated in distillation columns D-310. The top column has a reboiler E-311 and a condenser E-314. The bottom column has a reboiler E-316. The bottoms product is pumped by P-315 to a storage tank F-320. The diagram includes various control loops (TC, FC, PC) and pumps (P-111, P-112, P-212, P-313, P-315). The process is divided into sections by vertical dashed lines.

	Aliran Massa (kg/jam)
	Tekanan (atm)
	Temperature (°C)
	Steam
	Cooling Water
	Steam Condensate
	Cooling Water Return
	Level Indicator
	Temperature Control
	Flow Control
	Pressure Control

NO	KODE ALAT	NAMA ALAT
1	F-110	Tangki Penyimpanan C_4H_8O
2	P-111	Pompa 1
3	E-112	Heater 1
4	F-120	Tangki Penyimpanan H_2
5	G-121	Kompressor 1
6	E-122	Heater 2
7	R-210	Reaktor 1
8	E-211	Heater 3
9	P-212	Pompa 2
10	E-213	Heater 4
11	R-220	Reaktor 2
12	G-221	Kompressor 2
13	E-222	Cooler 1
14	G-223	Pressure Reducing Valve
15	E-224	Cooler 2
16	D-310	Distilasi
17	E-311	Kondenser
18	F-312	Tangki Akumulator
19	P-313	Pompa 3
20	E-224	Cooler 3
21	E-315	Reboiler
22	P-316	Pompa 4
23	E-317	Cooler 4
24	F-320	Tangki Penyimpanan $C_4H_{10}O$

FLOWSHEET PRA RANCANGAN PABRIK N-BUTANOL DARI N-BUTIRALDEHIDE DAN HIDROGEN DENGAN PROSES HIDROGENASI KAPASITAS 60.000 TON/TAHUN	
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Dosen Pembimbing:	
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 PROGRAM STUDI TEKNIK KIMIA FAKULTAS TEKNIK DAN SAINS UNIVERSITAS PEMBANGUNAN NASIONAL “VETERAN”JAWA TIMUR SURABAYA 2026	

**SISTEM UTILITAS PABRIK
N-BUTANOL DARI N-BUTIRALDEHIDE DAN HIDROGEN
DENGAN PROSES HIDROGENASI KAPASITAS 60.000 TON/TAHUN**



No	Kode Alat	Nama Alat
1	L-111	Pompa-1
2	F-110	Tangki Penyimpanan Air Laut
3	L-112	Pompa-2
4	M-210	Tangki Koagulasi
5	M-220	Tangki Flokulasi
6	H-230	Clarifier
7	F-240	Tangki Penampung Flok
8	F-250	Tangki Penampung Air bersih
9	L-251	Pompa-3
10	H-260	Sand Filter
11	F-270	Tangki Penampung Air Sand Filter
12	L-271	Pompa-4
13	L-272	Pompa-5
14	L-273	Pompa-6
15	F-280	Tangki Penampung Air Sanitasi
16	M-310	Kation Exchanger
17	L-311	Pompa-7
18	M-320	Anion Exchanger
19	F-330	Tangki Penampung Air Demineralisasi
20	L-331	Pompa-8
21	P-340	Boiler
22	F-350	Tangki Penampung Air Pendingin
23	P-360	Cooling Tower
24	L-361	Pompa-9
25	L-351	Pompa-10

SISTEM UTILITAS PABRIK PABRIK N-BUTANOL DARI N-BUTIRALDEHIDE DAN HIDROGEN DENGAN PROSES HIDROGENASI KAPASITAS 60.000 TON/TAHUN	
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