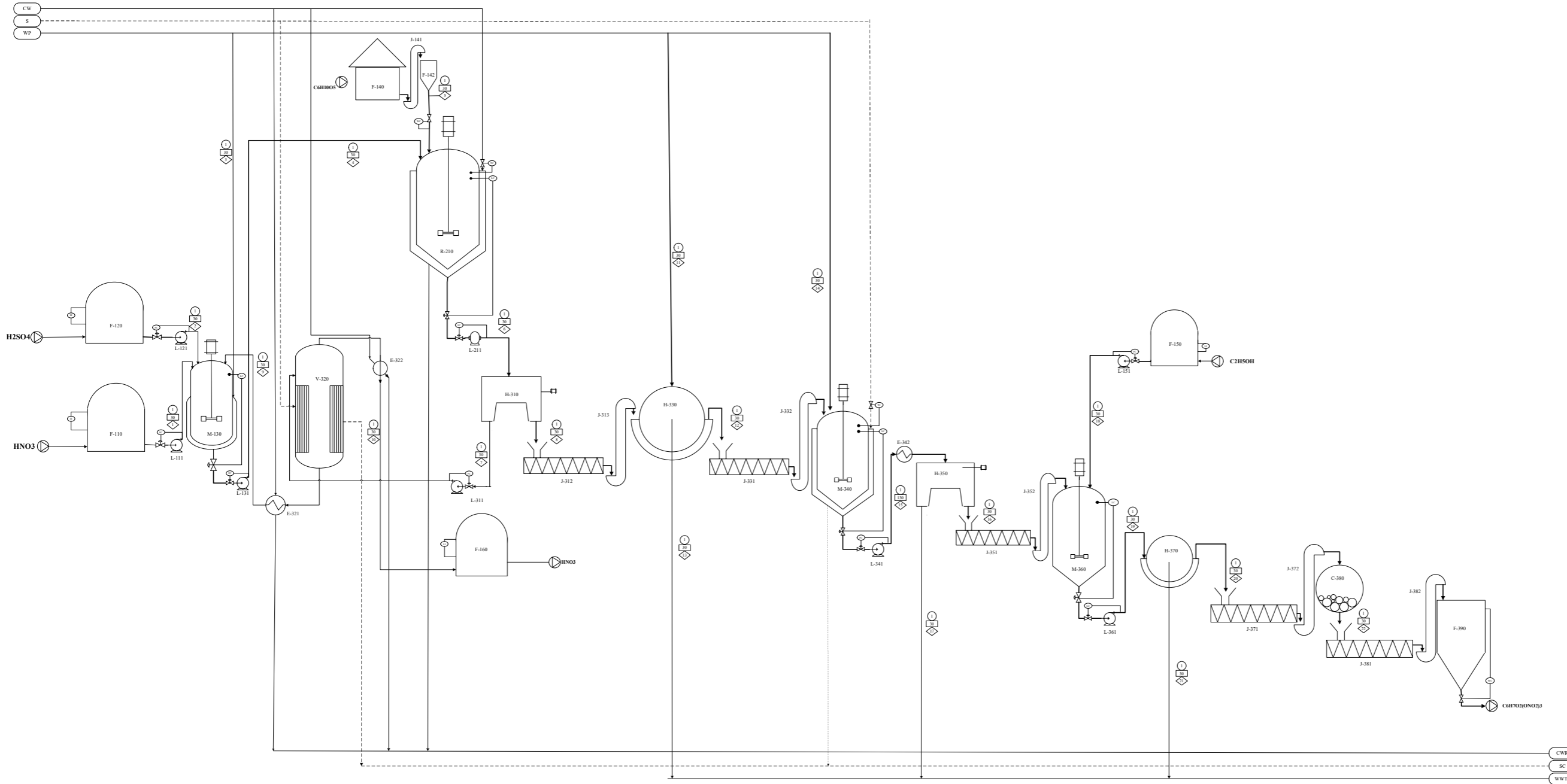


PRA RANCANGAN PABRIK NITROCELLULOSE DARI CELLULOSE DAN NITRIC ACID

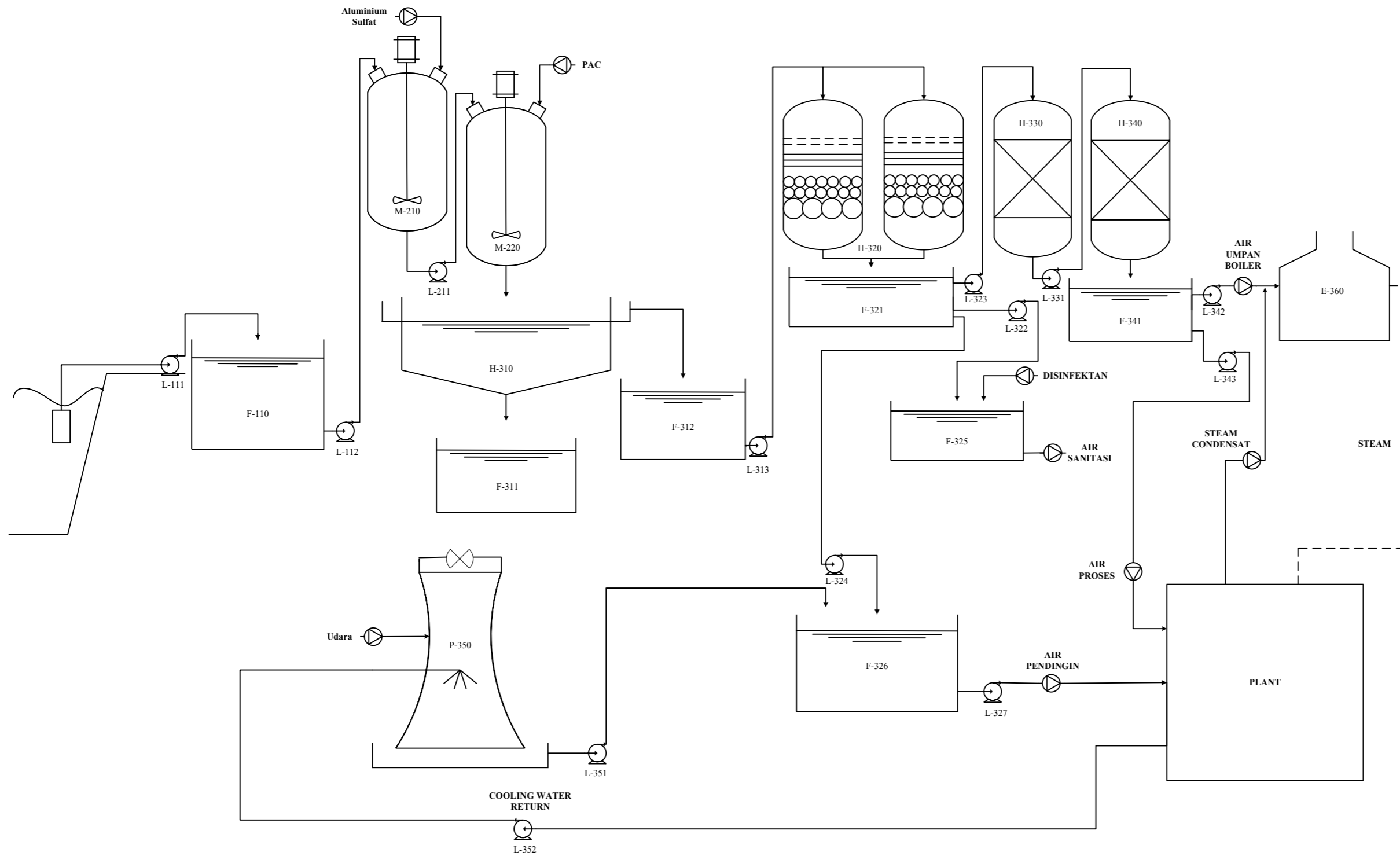


KETERANGAN	
	Temperatur (°C)
	Aliran Massa (kg/jam)
	Tekanan (atm)
	Steam
	Cooling Water
	Water Process
	Steam Condensate
	Cooling Water Return
	Waste Water Treatment Process

No.	Kode Alat	Nama Alat
1.	F-110	Tangki Penyimpanan Asam Nitrat 68%
2.	L-111	Pompa 1
3.	F-120	Tangki Penyimpanan Asam Sulfat 98%
4.	L-121	Pompa 2
5.	M-130	Mixer
6.	L-131	Pompa 3
7.	F-140	Gudang Selulosa
8.	J-141	Bucket Elevator 1
9.	F-142	Hopper
10.	F-150	Tangki Penyimpanan Etilanol 95%
11.	L-151	Pompa 4
12.	F-160	Tangki Penyimpanan Asam Nitrat 47%
13.	R-210	Reaktor
14.	L-211	Rotary Pump 1
15.	H-310	Centrifuge 1
16.	L-311	Pompa 5
17.	J-312	Screw Conveyor 1
18.	J-313	Bucket Elevator 2
19.	V-320	Evaporator
20.	B-321	Cooler 1
21.	B-322	Kondensator
22.	H-330	Rotary Drum Vacuum Filter 1
23.	J-331	Screw Conveyor 2
24.	J-332	Bucket Elevator 3
25.	M-340	Boiling Tub
26.	L-341	Pompa 6
27.	B-342	Cooler 2
28.	H-350	Centrifuge 2
29.	J-351	Screw Conveyor 3
30.	J-351	Bucket Elevator 4
31.	M-360	Tangki Stabilisasi
32.	L-361	Pompa 7
33.	H-370	Rotary Drum Vacuum Filter 2
34.	J-371	Screw Conveyor 4
35.	J-372	Bucket Elevator 5
36.	C-380	Ball Mill
37.	J-381	Screw Conveyor 5
38.	J-382	Bucket Elevator 6
39.	F-390	Tangki Penyimpanan Nitroselulosa
Nama		Adinda Putri Cahyani
NPM		20031010026
Dosen Pembimbing		Prof. Dr. Ir. Sri Redjeki, MT
		Program Studi Teknik Kimia Fakultas Teknik dan Sains IPN "Veteran" Jawa Timur 2024

Nomor 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
C ₆ H ₁₀ O ₅					4772,055	715,808		715,808				715,808			715,808	14,316	701,492		14,316	14,316		14,316
HNO ₃	16600,571			16600,571		11868,284	11630,918	237,366		11630,918		10,532	226,834		10,532	0,211	10,321		0,211	0,008	0,203	0,008
H ₂ SO ₄		49770,801		49770,801		49770,801	48775,385	995,416	48775,385			44,166	951,250		44,166	0,883	43,282		0,883	0,032	0,852	0,032
C ₂ H ₅ OH																		3027,698	3027,698	108,562	2919,137	108,562
H ₂ O	7812,034	1015,731	3784,960	12612,725	301,900	14266,707	13981,373	285,334	995,416	12985,957	1630,452	12,660	1903,126	14872,904	14885,564	297,711	14587,853	159,353	457,064	16,389	440,675	16,389
C ₆ H ₇ O ₂ (ONO ₂) ₃						7436,452		7436,452				7436,452			7436,452	7436,452			7436,452	7436,452		7436,452
Total	24412,605	50786,531	3784,960	78984,097	5073,955	84058,052	74387,676	9670,376	49770,801	24616,875	1630,452	8219,618	3081,210	14872,904	23092,521	7749,573	15342,948	3187,051	10936,624	7575,758	3360,867	7575,758

FLWSHEET UTILITAS PRA RANCANGAN PABRIK NITROCELLULOSE DARI CELLULOSE DAN NITRIC ACID



No.	Kode Alat	Nama Alat		
1.	F-110	Bak Penampung Air Sungai		
2.	L-111	Pompa 1		
3.	L-112	Pompa 2		
4.	M-210	Tangki Koagulasi		
5.	L-211	Pompa 3		
6.	M-220	Tangki Flokulasi		
7.	H-310	Clarifier		
8.	F-311	Bak Penampung Flok		
9.	F-312	Bak Penampung Air Bersih Dari Clarifier		
10.	L-313	Pompa 4		
11.	H-320	Sand Filter		
12.	F-321	Bak Penampung Air Bersih		
13.	L-322	Pompa 5		
14.	L-323	Pompa 6		
15.	L-324	Pompa 7		
16.	F-325	Bak Penampung Air Sanitasi		
17.	F-326	Bak Penampung Air Pendingin		
18.	L-327	Pompa 8		
19.	H-330	Tangki Kation Exchanger		
20.	L-331	Pompa 9		
21.	H-340	Tangki Anion Exchanger		
22.	F-341	Bak Air Demineralisasi		
23.	L-342	Pompa 10		
24.	L-343	Pompa 11		
25.	P-350	Cooling Tower		
26.	L-351	Pompa 12		
27.	L-352	Pompa 13		
28.	E-360	Boiler		
Nama		Adinda Putri Cahyani		
NPM		20031010026		
Dosen Pembimbing				
Prof. Dr. Ir. Sri Redjeki, MT				
				
			Program Studi Teknik Kimia	
			Fakultas Teknik dan Sains	
			UPN "Veteran" Jawa Timur 2024	