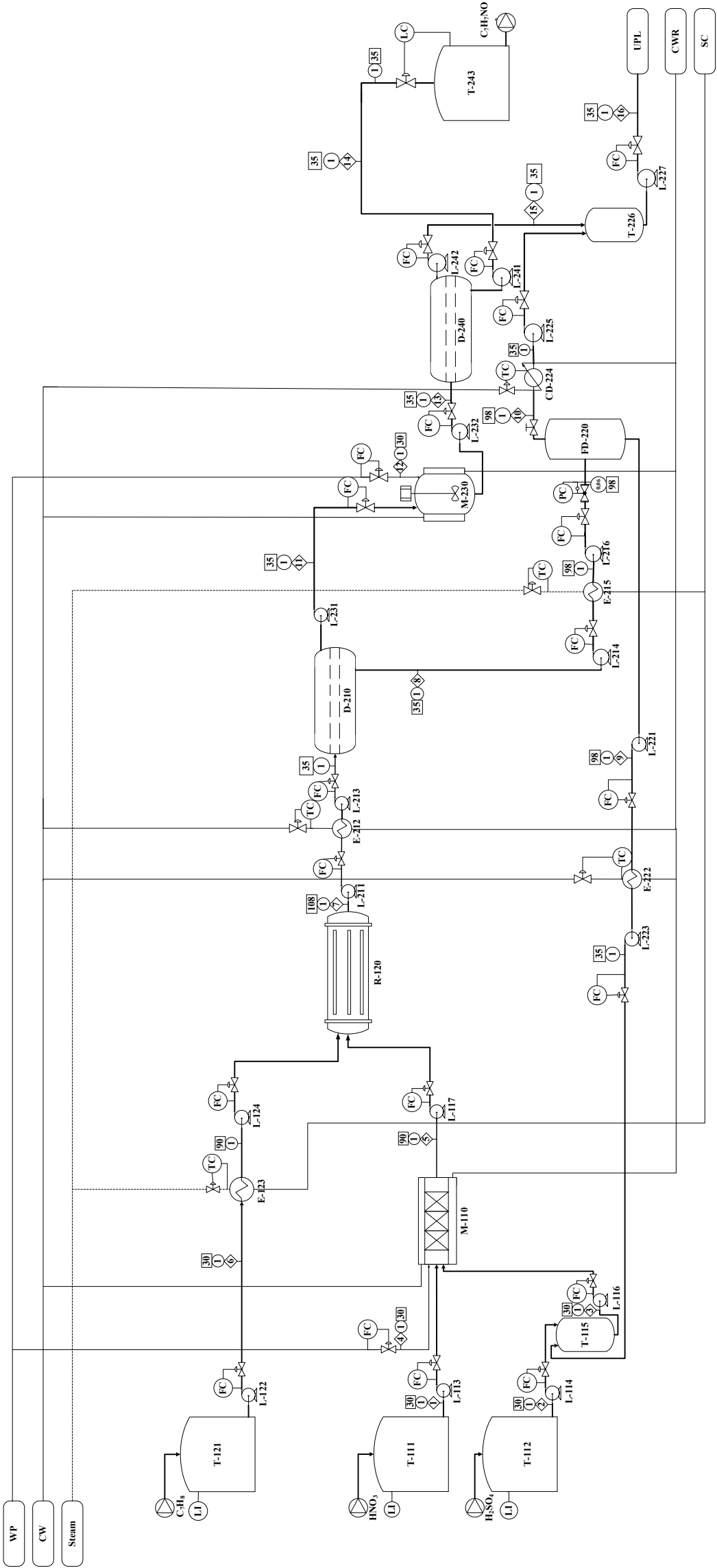


FLOWSHEET PENGEMBANGAN PABRIK MONONITROTOLUENE DARI TOLUENE
 DAN ASAM NITRAT DENGAN KATALIS ASAM SULFAT



S	Steam		Tekanan
CW	Cooling Water		Temperatur
CTWR	Cooling Water Return		
WP	Water Process		Nomor Aliran
SC	Steam Condensate		

1	M-110	Static mixer
2	T-111	Tangki penyimpanan asam nitrat
3	T-112	Tangki penyimpanan asam sulfat
4	L-113	Pompa-1
5	L-114	Pompa-2
6	T-115	Akumulator-1
7	L-116	pompa-3
8	L-117	pompa-4
9	R-120	Plug flow reactor adiabatic
10	T-121	Tangki penyimpanan toluene
11	L-122	Pompa-5
12	E-123	Heater-1
13	L-124	Pompa-6
14	D-210	Two phase decanter-1
15	L-211	Pompa-7
16	E-212	Cooler-1
17	L-213	Pompa-8
18	L-214	Pompa-9
19	E-215	Heater-2
20	L-216	Pompa-10
21	FD-220	Flash drum-1
22	L-221	Pompa-11
23	E-222	Cooler-2
24	L-223	Pompa-12
25	CD-224	Kondensor-1
26	L-225	Pompa-13
27	T-226	Akumulator-2
28	L-227	Pompa-14
29	M-230	Washer tank
30	L-231	Pompa-15
31	L-232	Pompa-16
32	D-240	Two phase decanter-2
33	L-241	Pompa-17
34	L-242	Pompa-18
35	T-243	Tangki penyimpanan mononitrotoluene

Digambar oleh		
ADINDA TIARA KHANSA (21031010057)		
DOSEN PEMBIMBING		

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 SURABAYA
 2025

Komponen	Aliran Massa (kg/jam)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C ₇ H ₈ (l)	-	-	0.5518	-	-	3361.2981	224.0865	15.9843	0.5518	-	208.1023	-	208.1023	207.1991	0.9032	16.3357
C7H8 (g)	-	-	-	-	-	-	-	-	-	15.4325	-	-	-	-	-	-
H ₂ SO ₄ (l)	-	177.9681	58565.5042	-	58565.5042	-	58565.5042	58565.4447	58387.5361	-	0.0595	-	0.0595	-	0.0595	177.9681
H ₂ SO ₄ (g)	-	-	-	-	-	-	-	-	-	177.9086	-	-	-	-	-	-
HNO ₃ (l)	2192.1509	-	0.6409	-	2192.1509	-	43.8430	43.8430	0.6409	-	-	-	-	-	-	43.2021
HNO ₃ (g)	-	-	-	-	-	-	-	-	-	43.2021	-	-	-	-	-	-
H ₂ O (l)	1031.60044	2.1616	708.9322	25131.0245	26928.3820	16.8909	27559.0752	27559.0752	706.7706	-	-	1557.23907	1557.2391	-	1557.2391	28409.5437
H ₂ O (g)	-	-	-	-	-	-	-	-	-	26852.3046	-	-	-	-	-	-
C ₇ H ₇ NO ₂ (l)	-	-	-	-	-	-	4671.7172	-	-	-	4671.7172	-	4671.7172	4671.7172	-	-
Total	3223.75136	180.1296	59275.6291	25131.0245	87686.0371	3378.1890	91064.2262	86184.3472	59095.4994	27088.8478	4879.8790	1557.23907	6437.1181	4878.9163	1558.2018	28647.0495