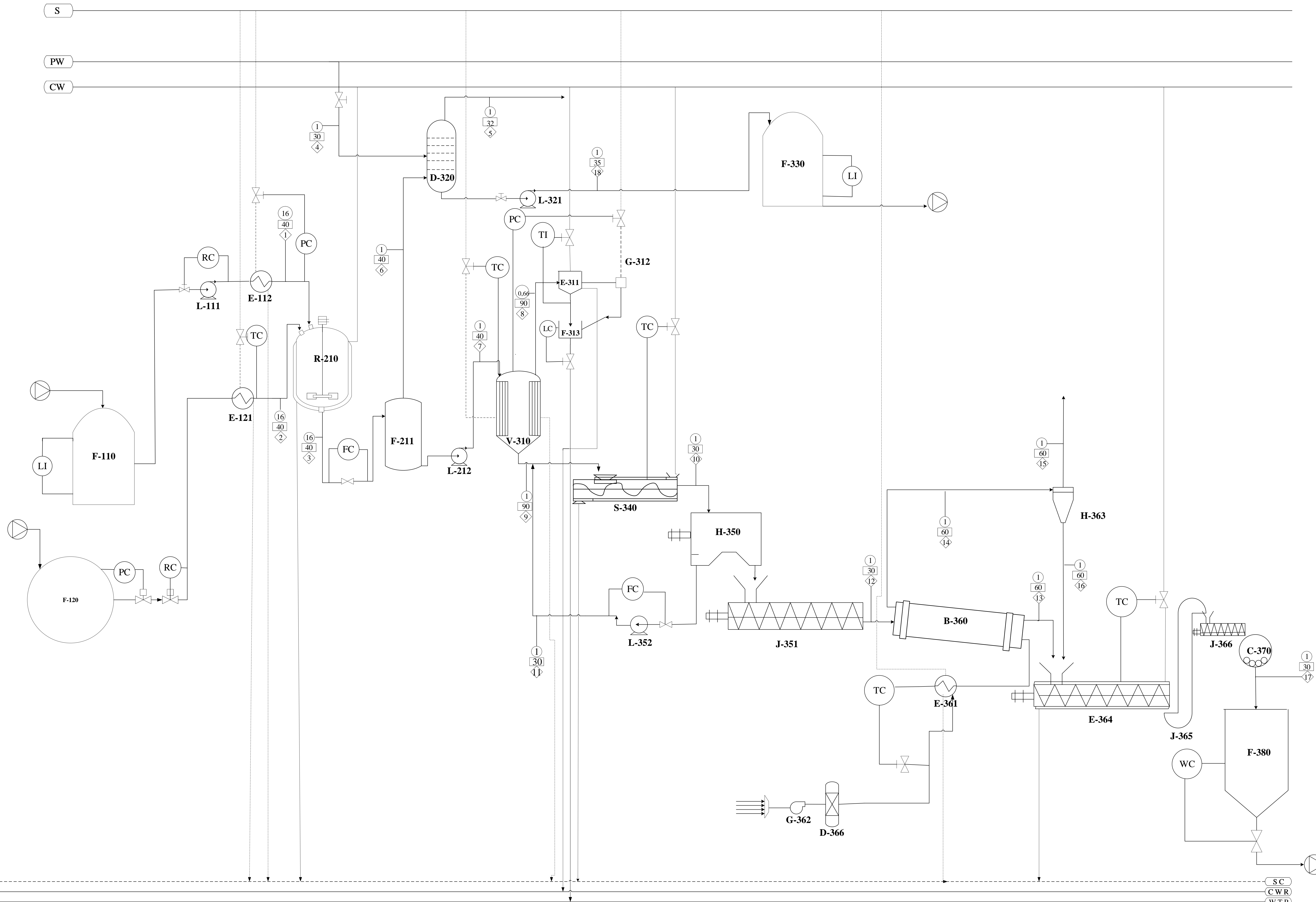


FLOWSHEET PERANCANGAN PABRIK HEXAMETHYLENE TETRAMINE DARI AMONIA DAN FORMALDEHYDE MENGUNAKAN PROSES MACLEAN



KETERANGAN :

 	Temperatur ; °C
◇	Aliran Massa ; kg/jam
○	Tekanan ; atm
S	Steam
S C	Steam Condensate
C W	Cooling Water
C W R	Cooling Water Return
W T P	Waste Treatment Plant
P W	Process Water

NO	NAMA ALAT	KODE ALAT
1	Tangki Penampung Formalin	(F – 110)
2	Pompa 1	(L – 111)
3	Heat Exchanger 1	(E – 112)
4	Tangki Penampung Amonia	(F – 120)
5	Heat Exchanger 2	(E – 121)
6	Reaktor	(R – 210)
7	Tangki Stabilisasi	(F – 211)
8	Pompa 2	(L – 212)
9	Evaporator	(E – 310)
10	Kondensor	(E – 311)
11	Steam Jet Ejector	(G – 312)
12	Hot Well	(F – 313)
13	Scrubber	(D – 320)
14	Pompa 3	(L – 321)
15	Tangki Penyimpanan	(F – 330)
16	Screw Conveyor	(J – 332)
17	Crystallizer	(S – 340)
18	Centrifuge	(H – 350)
19	Screw Conveyor	(J – 351)
20	Pompa 4	(L – 352)
21	Rotary Dryer	(B – 360)
22	Burner	(Q – 361)
23	Blower 1	(G – 362)
24	Cyclone	(H – 363)
25	Cooling Conveyor	(E – 364)
26	Bucket Elevator	(J – 365)
27	Molecular Sieve	(D – 366)
28	Ball Mill	(C – 370)
29	Silo Hexamine	(F – 380)

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PROGRAM STUDI TEKNIK KIMIA FAKULTAS TEKNIK UNIVERSITAS PEMBANGUNAN NASIONAL "VETERAN" JAWA TIMUR 2022		

Component	Stream No. (kg/jam)																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CH ₂ O	4912.3416		49.1234				49.1234	331.9150										
CH ₂ OH	331.9150		331.9150				331.9150	49.1234										
H ₂ O	8032.3423	12.2666	10961.0485	1494.5747			10961.0485	6334.3190	4626.7295	6009.8603	5858.4401	151.4202	3.7514	147.6688	147.6688		3.7514	
NH ₃ (g)					0.0151	602.32865												
NH ₃ (aq)		2441.0559	602.3287															
NH ₄ OH (aq)																		2096.88826
(CH ₂) ₆ N ₄ (aq)			3785.5059				3785.5059		3785.5059	1131.6525	1131.6525							
(CH ₂) ₆ N ₄ (s)									3785.5059			3785.5059	3747.6509	37.8551	0.3786	37.4765	3785.1274	
Total	13276.5988	2453.3225	15729.9215	1494.5747	0.0151	602.3287	15127.5928	6715.3574	8412.2354	10927.0188	6990.0926	3936.9262	3751.4023	185.5239	148.0474	37.4765	3788.8788	2096.8883