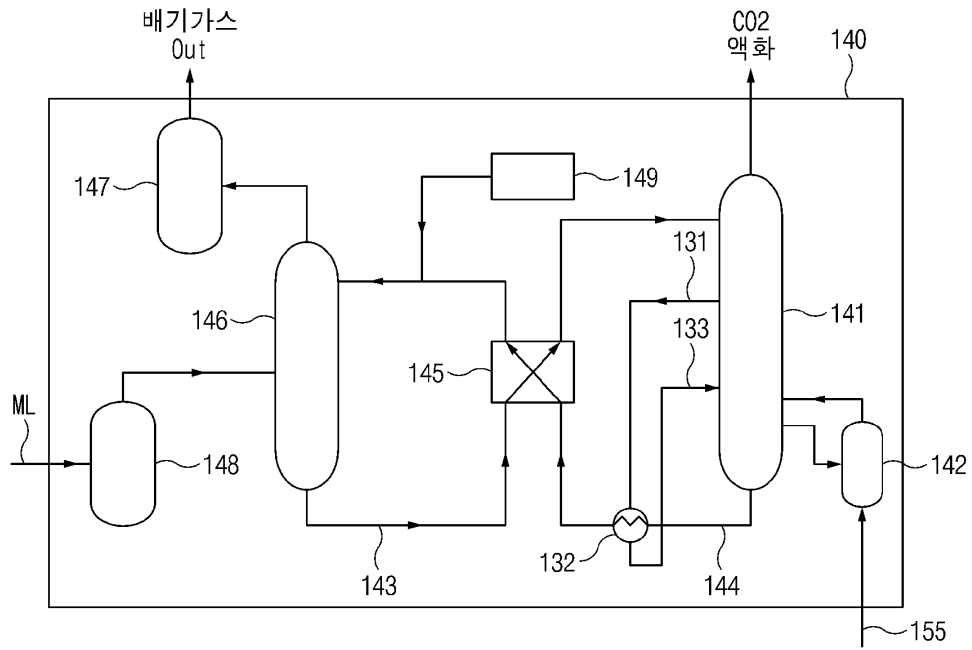


[도2]



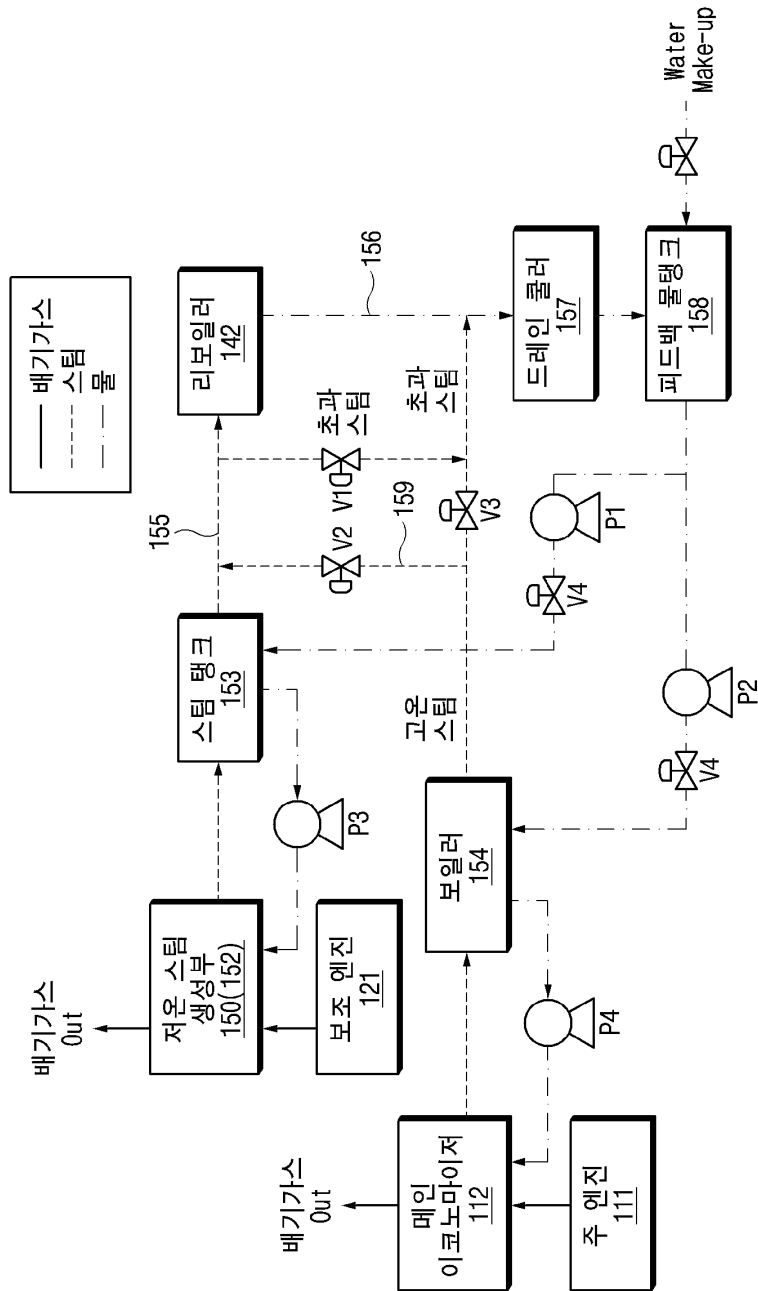
[표 3]

Thermal degradation rates of different amines.									
Solvent	Concentration(m)	Loading (mol CO ₂ /mol alkalinity)	k ₁ (x10 ⁻⁷ s ⁻¹)					Reference	
			100 C	120 C	135 C	150 C	175 C		
MEA	3.5	0.4	0.03	0.22	1.09			Davis(2009)	
MEA	7	0.2		0.28	0.90		3.97	Davis(2009)	
MEA	7	0.4	0.02	0.29	1.34	8.28		Davis(2009)	
MEA	11	0.2		0.19	0.69			Davis(2009)	
DEA	4.0	0.5			9.91			Eide-Haugmoet al.(2011)	
DGA	7	0.4			0.39			Davis(2009)	
PZ	8	0.47					0.24	Freeman(2011)	
PZ	8	0.3			0.01	0.61	1.32	Freeman(2011)	
PZ	8	0.2					0.79	Freeman(2011)	
PZ	8	0.1					0.66	Freeman(2011)	
PZ	8	0.0				0.001	0.07	Freeman(2011)	
1-MPZ	8	0.3				0.36		Freeman(2011)	
2-MPZ	8	0.3				0.25		Freeman(2011)	
MDEA	7	0.2			0.42	4.38		Closmann(2011)	
Mor	8	0.3					0.5	Freeman(2011)	
Pyr	8	0.3					14.0	Freeman(2011)	
HomoPZ	8	0.3					18.5	Freeman(2011)	
(PD	8	0.3					0.84	Freeman(2011)	
t2,5-DimethylPZ	2	0.3				0.09		Freeman(2011)	
HMDA	8	0.3					1.9	Namjoshi et al.(2013)	
BAE	8	0.4					2.0	Namjoshi et al.(2013)	
DAB	8	0.4					27.2	Namjoshi et al.(2013)	
PDA	5.0	0.4				4.08		Hatchell(2014)	
Putrescine	5.0	0.4				2.69		Hatchell(2014)	
EDA	5.0	0.4				7.97		Hatchell(2014)	
HMI	8	0.3					59.30	Freeman(2011)	
HEEDA	3.5	0.4			16.0			Freeman(2011)	
AMP	7.0	0.4			0.21	0.86		Freeman et al.(2010a)	
HEP	7.0	0.4			0.46			Freeman et al.(2010a)	
DETA	7	0.4			9.91			Freeman et al.(2010a)	
AEP	2.33	0.4			1.91			Davis(2009)	

[도4]

Pressure(barg)	Temperature(degC) tSatW(P)
0	100.0
1	120.4
2	133.7
3	143.7
4	151.9
5	158.9
6	165.0
7	170.5
8	175.4
9	179.9
10	184.1
20	214.9
30	235.7
40	251.8
50	265.2
60	276.7
70	286.8
80	295.9
90	304.2
100	311.7
200	366.2

[도5]



[illegible]

The diagram illustrates a CO2 capture system (140) integrated with a power plant. Key components and their functions are as follows:

- Exhaust Gas (배기가스) Flow:** Exhaust gas from the main engine (111) and auxiliary engine (121) passes through a main economizer (112) and a main condenser (115) before being exhausted (배기가스 Out).
- Steam Generation:** A low-temperature steam generator (150) and a boiler (154) produce steam (스팀), which is stored in a steam tank (153).
- CO2 Capture Process:** The CO2 capture system (140) consists of a CO2 absorber (146), a CO2 regenerator (141), and a reboiler (142). The absorber (146) receives exhaust gas and a lean amine solution (아민) from the regenerator (141). The regenerator (141) releases CO2 gas (CO2 액화) and sends a rich amine solution to the reboiler (142). The reboiler (142) heats the rich amine solution using steam from the boiler (154) and sends the lean amine solution back to the absorber (146).
- Water and Ammonia Flow:** Water (물) and ammonia (아민) are used in the process. Water is supplied to the boiler (154) and the reboiler (142). Ammonia is supplied to the absorber (146) and the regenerator (141).
- Control and Monitoring:** The system is controlled by a main controller (112). A steam tank (153) and a boiler (154) are also monitored. A drain cooler (157) is used to cool the exhaust gas before it is exhausted.

[51]

