

Patents Status

- **Korea** : Registered 13
- **Joint (Arstroma-KEPCO)** : Registered 4, Pending 5
- **Overseas** : Registered 11, Pending 21

6. Patents – Domestic

No.	Country	Application Number	Patent Number	Title of Invention	Current status
		Filing Date	Registration Date		
1	KR	10-2013-0053058	10-1354680-00-00	Carbon dioxide separating apparatus using silicone separators	registered
		2013-05-10	2014-01-16		
2	KR	10-2013-0119091	10-1522252-00-00	Manufacturing method of membrane for separating carbon dioxide and apparatus using the same	registered
		2013-10-07	2015-05-15		
3	KR	10-2015-0040454	10-1657045-00-00	Fluid separating device	registered
		2015-03-24	2016-09-07		
4	KR	10-2015-0040455	10-1794885-00-00	Fluid separating tube and fluid separating device including the same	registered
		2015-03-24	2017-11-01		
5	KR	10-2015-0040524	10-1677492-00-00	Apparatus for separating fluid	registered
		2015-03-24	2016-11-14		
6	KR	10-2015-0040525	10-1677494-00-00	Apparatus for separating fluid	registered
		2015-03-24	2016-11-14		
7	KR	10-2016-0014820	10-1981040-00-00	Fluid separating membrane and method for fabricating the same	registered
		2016-02-05	2019-05-16		
8	KR	10-2016-0014822	10-1981041-00-00	Fluid separating membrane and fluid separating device including the same	registered
		2016-02-05	2019-05-16		
9	KR	10-2016-0014828	10-1981042-00-00	Fluid separating device	registered
		2016-02-05	2019-05-16		
10	KR	10-2016-0014833	10-1981043-00-00	Fluid separating tube and fluid separating device	registered
		2016-02-05	2019-05-15		
11	KR	10-2016-0014835	10-1981044-00-00	Fluid separating film module	registered
		2016-02-05	2019-05-15		
12	KR	10-2016-0035306	10-1981045-00-00	Fluid separating device	Registered
		2016-03-24	2019-05-15		
13	KR	10-2016-0035302	10-2014211-00-00	Fluid separating membrane module	Registered
		2016-03-24	2019-08-20		

6. Patents – joint patent(Arstroma-Kepeco)

No.	Country	Application Number	Patent Number	Title of Invention	Current status
		Filing Date	Registration Date		
1	Korea	10-2017-0096181	10-1919302	SYSTEM FOR DETECTING AN ABNORMALITY IN A CARBON DIOXIDE SEPARATION MEMBRANE PLANT	registered
		2017.7.28	2018.11.12		
2	Korea	10-2017-0096183	10-1963101	SYSTEM FOR EVALUATING PERFORMANCE OF CARBON DIOXIDE SEPARATION MEMBRANE MODULE AND DEVICE THEREFOR	registered
		2017.7.28	2019.3.22		
3	Korea	10-2018-0101528	10-2078591	MEMBRANE MODULE OF FLAT SHEET TYPE FOR GAS SEPARATION	registered
		2018-8-28	2020-2-21		
4	China	201880002801.8		SYSTEM FOR EVALUATING PERFORMANCE OF CARBON DIOXIDE SEPARATION MEMBRANE MODULE AND DEVICE THEREFOR	
		2019.01.10			
5	Philippine	1-2019-500058		SYSTEM FOR EVALUATING PERFORMANCE OF CARBON DIOXIDE SEPARATION MEMBRANE MODULE AND DEVICE THEREFOR	
		2019.01.09			
6	U.S.A	16/316,463		SYSTEM FOR EVALUATING PERFORMANCE OF CARBON DIOXIDE SEPARATION MEMBRANE MODULE AND DEVICE THEREFOR	
		2019.01.09			
7	China	201880002793.7		SYSTEM FOR DETECTING AN ABNORMALITY IN A CARBON DIOXIDE SEPARATION MEMBRANE PLANT	
		2019.01.10			
8	Philippine	1-2019-500057		SYSTEM FOR DETECTING AN ABNORMALITY IN A CARBON DIOXIDE SEPARATION MEMBRANE PLANT	
		2019.01.09			
9	U.S.A	16/316,558	10821405	SYSTEM FOR DETECTING AN ABNORMALITY IN A CARBON DIOXIDE SEPARATION MEMBRANE PLANT	registered
		2019.01.09	2020-11-3		

6. Patents – abroad ①

No.	Country	Application Number	Patent Number	Title of Invention	Current status
		Filing Date	Registration Date		
1	SA	515370116	4791	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2015-11-08	2016-05-01		
2	AU	2014263432	AU2014263432	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2015-10-27	2017-05-18		
3	RU	2015152510	2627370	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2015-12-08	2017-08-08		
4	US	14/785,445	9,937,464	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2015-10-19	2018-04-10		
5	MX	MX/a/2015/015181	359580	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2015-10-30	2018-10-03		
6	CA	2,909,395	2.909.395	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2015-10-09	2018-11-06		
7	CA	3,003,318	3.003.318	DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	registered
		2018-04-30	2019-03-12		
8	PCT	PCT/KR2014/003757		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
		2014-04-29			
9	IN	9610/DELNP/2015		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
		2015-10-14			
10	AE	1422/2015		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
		2015-10-20			
11	BR	112015027126 0		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
		2015-10-26			
12	JP	2016-512821		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
		2015-11-09			

6. Patents – abroad ②

No.	Country	Application Number	Patent Number	Title of Invention	Current status
		Filing Date	Registration Date		
13	Ep	14794902.8 2015-11-09		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
14	CN	201480026648.4 2015-11-10		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
15	ID	P-00201507345 2015-11-13		DEVICE FOR SEPARTING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
16	EK	PCT/KR2016/003012 2016-03-24		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
17	EK-IN	201717030615 2017-08-30		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
18	EK-AE	P6001105/2017 2017-08-30		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
19	EK-AU	2016236944 2017-08-30		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
20	EK-IR	139650140003006000 2017-09-04	97471 2018-12-22	FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	registered
21	EK-CN	201680014401.X 2017-09-07		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
22	EK-SA	17382284 2017-09-12		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
23	EK-CA	2.979.518 2017-09-12		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
24	EK-US	15/559,682 2017-09-19	10898860 2021-1-26	FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	registered
25	EK-BR	1120170201542 2017-09-20		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
26	EK-JP	2017-549400 2017-09-20		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	

6. Patents – abroad ③

No.	Country	Application Number	Patent Number	Title of Invention	Current status
		Filing Date	Registration Date		
27	EK-MX	MX/a/2017/012181		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
		2017-09-25			
28	EK-RU	2017135420	2708861	FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	registered
		2017-10-05	2019-12-11		
29	EK-PH	1-2017-501877		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
		2017-10-13			
30	EK-ID	P-00201707270	IDP000068507	FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	registered
		2017-10-19	2020-4-17		
31	EK-EP	16769117.9		FLUID SEPARATION APPARATUS COMPRISING FLUID SEPARATION MEMBRANE, AND FLUID SEPARATION MEMBRANE MODULE	
		2017-10-23			
32	JP-DIV	2017-215000		DEVICE FOR SEPARATING CARBON DIOXIDE USING SILICONE SEPARATION FILM AND METHOD FOR MANUFACTURING SAME	
		2017-11-07			