* The specifications may be partially revised without prior notice in order to improve the exteriors and performance of products. Actual products may be different from the images shown in the catalogue.

G-Brane

High Permeability
High Stability
High Durability

FOR SMARTER, GREENER WORLD

HOLLOW FIBER / FLAT SHEET MEMBRANE

I WATER TREATMENT MEMBRANE PRODUCTS I

150-721, LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea
Membrane biz. Department
E-Mail : membrane@lge.com
www.lg.com/global/business

Differentiated Membrane Material Technology
and Membrane Filtration Engineering

Global Leading Company in Membrane Filtration

LG TOTAL WATER SOLUTION

- Membrane Filtration Engineering
- Membrane Filtration Operation Technology
- Membrane Filtration Process Technology
- Membrane Material Innovation

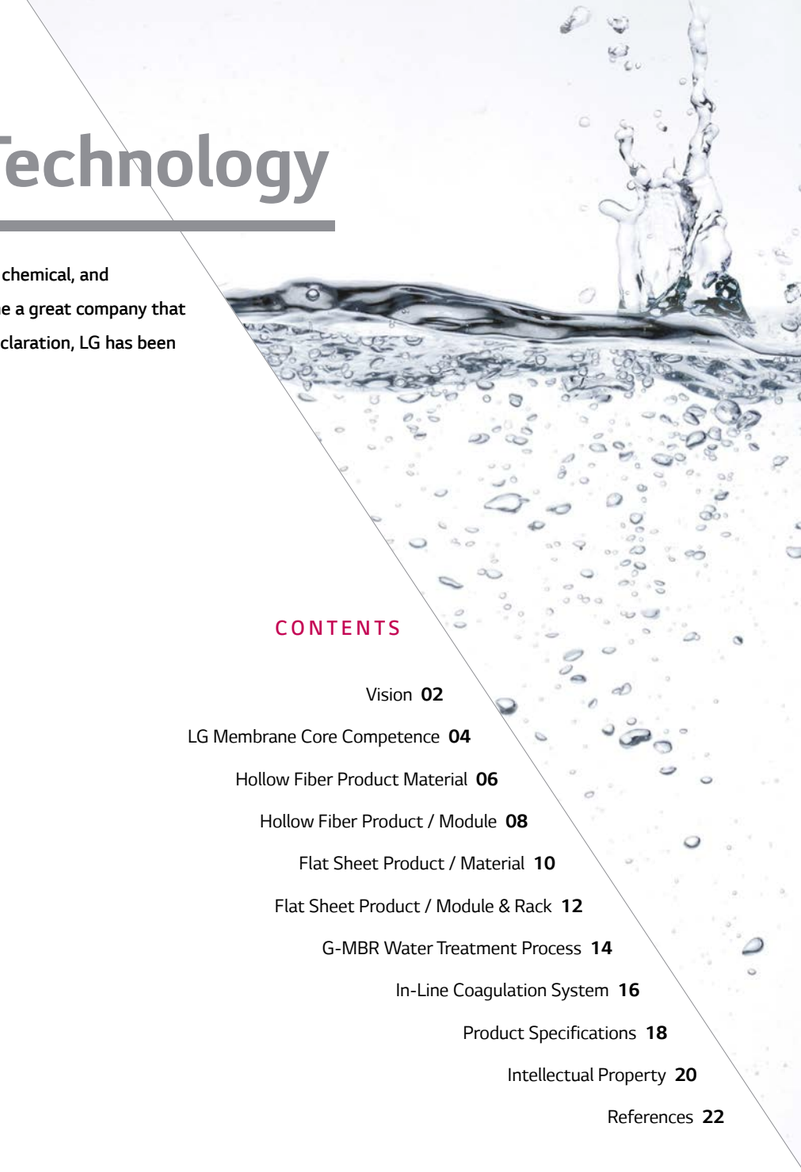
LG GREEN INITIATIVES

Green New Business — Green Production — Green Products

In order to lead the green industry growth, LG has selected three major green initiatives, and is driving forward the water treatment business as a part of the green new business among the three initiatives.

LG G-Brane Technology

Based on its 60 years of achievement in electronics, chemical, and telecommunications, LG is leaping forward to become a great company that lasts for centuries. Since its 1999 Environmental Declaration, LG has been active in environmentally-friendly businesses.



CONTENTS

G-Brane

The G-Brane is a new brand of LG water treatment membrane that provides the best water solution based on three principles, high permeability, high stability, and high durability.

LG's Membrane Solutions Opening the Door to a Smarter, Greener World

The Core Competence of LG G-Brane

• Membrane Technology Based on Convergence

Based on the convergence of membrane material, application and IT technologies, LG Electronics delivers a differentiated treatment process and state-of-the-art engineering through a collective work with laboratories and academic researchers.

• Total Membrane Solution

With its diverse membrane products such as flat sheet and hollow fiber, LG Electronics provides a systematic solution in all aspects of water membrane treatment including engineering, construction, and operations and management.

• Stable Product Supply

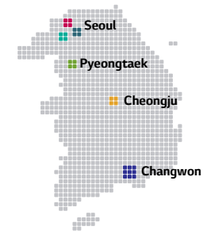
Based on the world's largest production capacity, LG Electronics is able to supply membrane products anytime and anywhere, supported by the highest-level customer service.

Saleforce Coverage

LG Electronics product sales and service coverage reaches about 150 countries in North America, Europe, Middle East, Africa, Asia, and the CIS.

Global R&D Network

LG Electronics is building a membrane business network in North America and Europe in addition to its existing business headquarter and laboratories in Korea and China.



| Korea headquarter and membrane labs : 7 locations |

- The Membrane Business Department : Headquarter
- The Materials and Parts Research Center : Development of Membrane Materials
- Pyeongtaek Technology Research Center : Research Headquarter
- The Production Technology Research Center : Membrane Production Facility Research
- Cheongju Production Research Center : Development of Rack and Production Technology
- Changwon Production Plant : Production of Hollow Fiber, Flat sheet, and Rack
- The Common Research Center : Interpretation and Design of Membrane Fluid

| Overseas Membrane Research Centers : 2 locations |

- China : Hangzhou Subsidiary (Production and Sales in China)
  Shanghai R&D Lab

Quality Control

With its quality control process, the Six Sigma, LG Electronics is strict in quality control through all processes covering procurement, testing, shipment and transportation. The credibility tests are conducted in the field, adding to the perfection of the membrane products.

Quality Test

Accelerated Life Cycle Credibility Test

Zero-defect Test Facility Hollow Fiber Product

6σ SIXSIGMA

Hollow Fiber Membrane

LG delivers high-performance, environmentally-friendly products to the membrane customers based on its cutting-edge materials and manufacturing technologies.

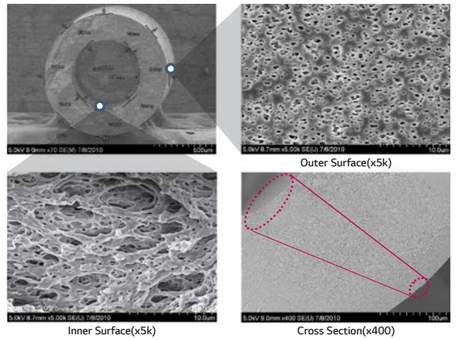
LG's proprietary hollow fiber manufacturing process maximize the content of high-strength PVDF (Polyvinylidene Difluoride). LG membranes are exceptional in durability, chemical resistance and permeability supported by the asymmetrical membrane structure, and are very stable in non-effluent environmentally-friendly water treatment process.

Hollow Fiber Membrane Materials

The Porous Membrane of Inner/Outer Surface Asymmetry in Hollow Fiber Material

The LG hollow fiber membrane has an asymmetrical structure in which the size of the pore decreases from the inner to the outer surface of the fiber, which helps the formation of an even and thick membrane, increases permeability and an efficient elimination of turbidity.

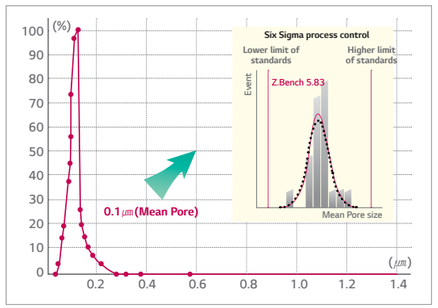
- On the outer surface, the pore size is evenly 0.1㎛, enhancing the elimination of floating matters, while a few ㎛ of inner surface pore size maximizes permeability.
- Uniform 250㎛-thick separation membrane layers are formed, offering strong product stability against external shocks.



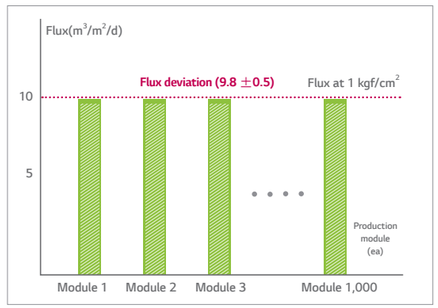
Even Flux by Model and Enhanced Process Stability

LG's hollow fiber manufacturing process is under thorough quality management utilizing the Six Sigma process across all processes from fiber production to module assembly. The deviation of flux among membrane modules is minimized, providing stability and reducing uneven membrane fouling and flow distribution in actual sites.

- Deviation limited to 5% through Six Sigma quality management



Capillary Flow Porometer

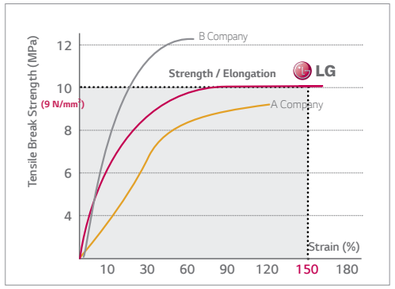


Flux by Module Product

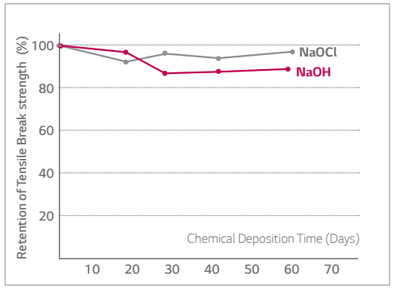
High PVDF Content, High Strength Membrane

The LG hollow fiber membrane, manufactured with the *TIPS process, contains high-intensity PVDF material that is resistant to oxidation, alkali, and acid chemicals, providing excellent durability and chemical resistance under the conditions of frequent cleaning.

- Superior mechanical strength to competitors' PVDF membrane due to a PVDF content-doubling technology
- Hollow fiber recovers quickly from outer impact with an optimal engineering of strength and elasticity



Tensile Strength & Break Strain



Membrane's Chemical Resistance
(NaOCl 5,000 mg/ℓ , NaOH 5wt % Soaking)

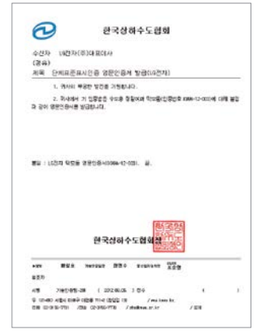
* TIPS : Thermal Induced Phase Separation

Non-Effluent Environmentally-Friendly Membrane

The LG hollow fiber is produced with non-effluent, environmentally-friendly material by parts, and received water membrane module standard certification, proving the product's stability.

Name	Materials
Fiber	PVDF
Housing	PVC
Side Cap	PVC
Baffle	PE
End Cap	PVC
Potting	Urethane resin
Nut	PVC
O-Ring	EPDM

Configuration of Hollow Fiber Membrane Module



Water Membrane Certification (KWWA-12-003)

NSFCertification (NSF/ANSI 61)

Hollow Fiber Membrane

LG delivers high-performance, environmentally-friendly products to the membrane customers based on its cutting-edge materials and manufacturing technologies.

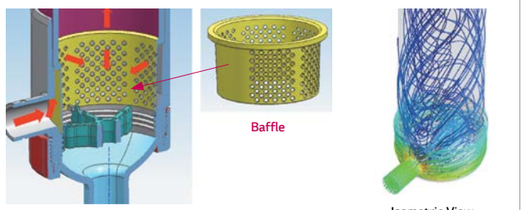
The LG hollow fiber membrane module has two categories, pressurized and submerged. The pressurized module is suitable for industrial and drinking water treatment with its hydraulic baffle separator designed to increase permeability and stability. The submerged module is suitable for large-capacity sewage and wastewater treatment with its hydraulic design and dual aeration structure, strengthening packing density and chemical resistance.

Pressurized Hollow Fiber Module (G-Brane P Series)

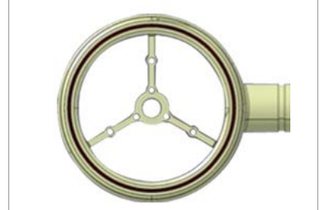
Strengthened Permeability and Stability with Hydraulic Structure

As a result of proprietary module housing design, LG's pressurized membrane module is resistant to impact from sudden influx of water even though it has high packing density. It evens out inflow of water to increase permeability and stability.

- The baffle of beehive design resolves the water hammer effect that comes from the influx of water, and prevents membrane fouling often caused by drifts.
- The separator improves fluid flow within the hollow fiber module of high packing density and realizes an even filtration performance.



Baffle Structure and CFD

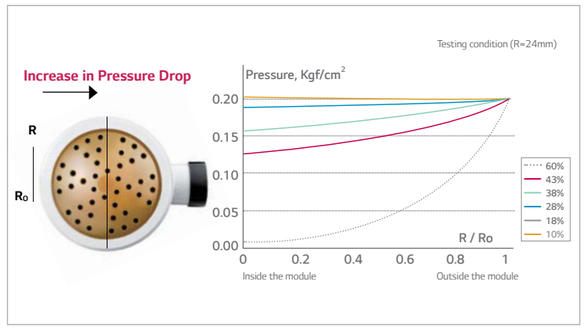


Separator Structure

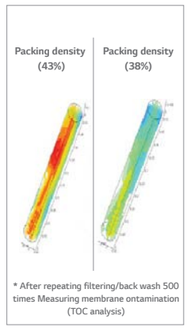
Maximized Packing Density with Pressure Loss-Minimizing Design

The LG pressurized membrane module minimizes pressure loss while maximizing packing density, realizing a high-efficiency, high-density product and strengthening the housing against pressure from outer impact.

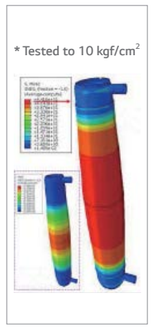
- Optimal design of inner and outer pressure loss and of packing density
- Module stability is enhanced to resist *10kgf/cm^2, five times the maximum operating inner pressure



Packing Density Optimization



Contamination-Resistance Design



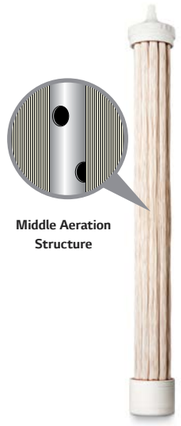
Module Pressure-Resistance Design

* Standard test : Housing internal pressure

Submerged Hollow Fiber Module (G-Brane S Series)

Suitable for Large-Capacity Sewage and Wastewater Treatment with High Resistance Against Fouling and High Packing Density

The LG submerged membrane module has high packing density and fouling resistance, being suitable for MBR, sewage discharge water reuse, and large-capacity sewage and wastewater treatment.



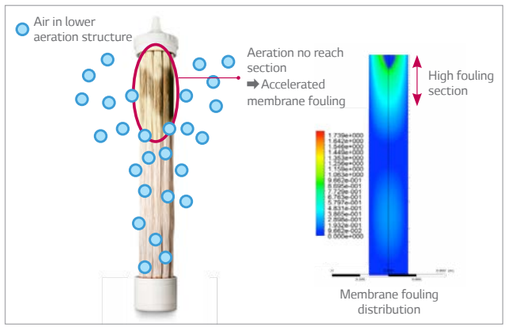
- Strengthened fouling resistance with the dual aeration structure (Middle and lower parts of the module)
- Minimized installation space with high density enabled by an 8-inch module of 35m^2 membrane area

Name	Materials
Body, End Cap	PVC
Supporter	STS
Potting	Urethane Resin
O-ring	EPDM

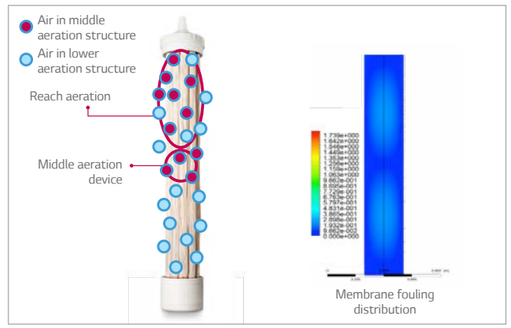
Dual Aeration Structure

The LG submerged membrane module is differentiated from existing products since its dual aeration structure minimizes cleaning chemicals and aeration flow rate, reducing the cost of maintenance.

- Even physical cleaning performance with an optimal dual aeration structure in the middle and lower parts of the module
- Strengthened cleaning performance with an optimal arrangement of aeration structure, reducing the air usage by 30% per membrane area



Single Aeration



Double Aeration

Flat Sheet Membrane

**LG is collaboratively deploying it's global resources, striving to be the Water-industry leader.
World-class membrane performance and customer focussed excellence.**

The LG flat sheet membrane is made of PES permeable material and has a double-layer structure of even pore size distribution enabled by the Six Sigma process. It provides excellent permeability, fouling resistance, stability and elimination effectiveness.

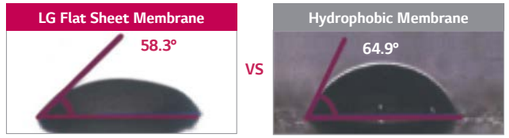
Flat Sheet Membrane Material

Highly Permeable Membrane with Hydrophilic Material

The LG flat sheet membrane is composed of a permeable polymer material, PES (Polyethersulfone), differentiated from other materials such as PTFE and PP.
It provides exceptional fouling resistance and permeability under conditions of sewage and wastewater treatment process and high concentration active sludge.

- Highly hydrophilic, showing selective permeation under high concentration sludge condition.
- Highly resistant to fouling under high concentration condition, as organic matters such as protein and microorganisms do not easily adhere
- More convenient to handle, as the pre-treatment process of increasing permeability is skipped.

I Hydrophilic Comparison I



* Our criteria for hydrophilic comparative evaluation

I Pure Permeability I (Unit : LMH)

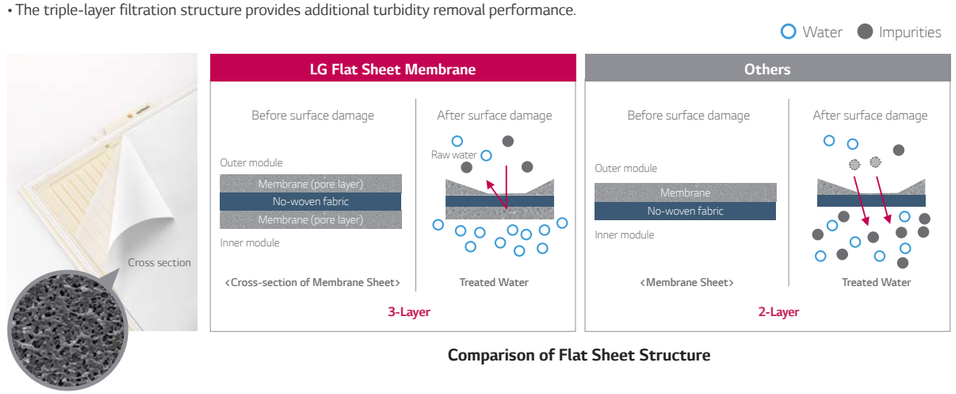
Category	Contact Angle	Pure Permeability
LG Flat Sheet Membrane	58.3°	4,375 LMH
Hydrophobic Membrane	64.9°	3,844 LMH

* Evaluation condition : Absorption pressure - 0.5kgf/cm^2
* LMH = l /m^2.hr

Stable Membrane with 3-Layer Structure

The LG flat sheet is structured with 3 layers-membrane layer, supportive layer, and membrane layer again. Therefore it has 2 membrane layers. It double prevents membrane damage by foreign objects flowing in from sewage and wastewater processes.

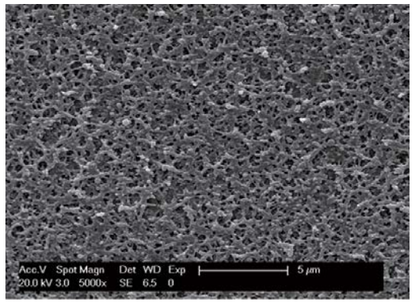
- Stable treatment quality secured by increased durability with 3-layer membrane.
- The triple-layer filtration structure provides additional turbidity removal performance.



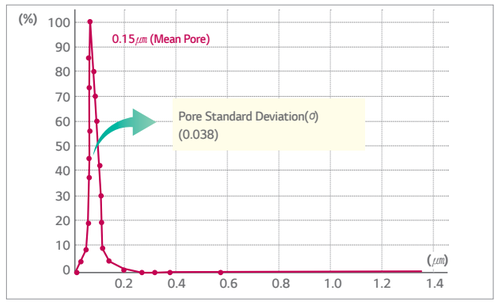
Comparison of Flat Sheet Structure

Stable Membrane with Uniform Pore Size Distribution

The LG flat sheet membrane is manufactured using the NIPS (Non-Solvent Induced Phase Separation) process which is divided into the casting process, evaporation process, immersion process, and drying process. Each process plays a role in determining the shape, distribution, characteristics, and performance of the membrane pore. What enhances the LG flat sheet significantly is the optimization technology of solvent and non-solvent combination and the Six Sigma process.



Membrane Surface Scanned by Electronics Microscope (FE-SEM 10KV, X5000)

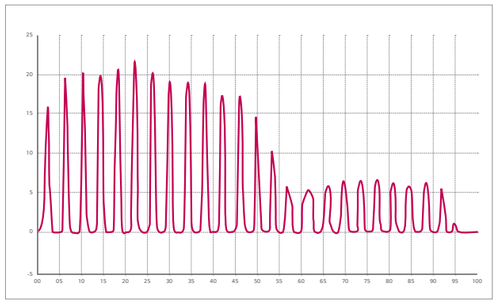


Capillary Flow Porometer

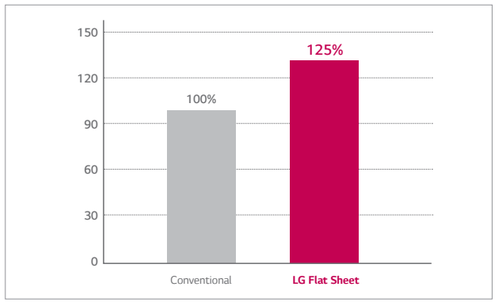
High Adhesiveness of The Flat Sheet and Panel

The LG flat sheet module is produced with a facility that is specialized for membrane sheet ABS panel, providing high durability and adhesiveness and therefore usable even in bad conditions.

- Adhesiveness stronger by 25% compared to competitor



Adhension Creep Test



Adhesion Comparative Test

Flat Sheet Membrane

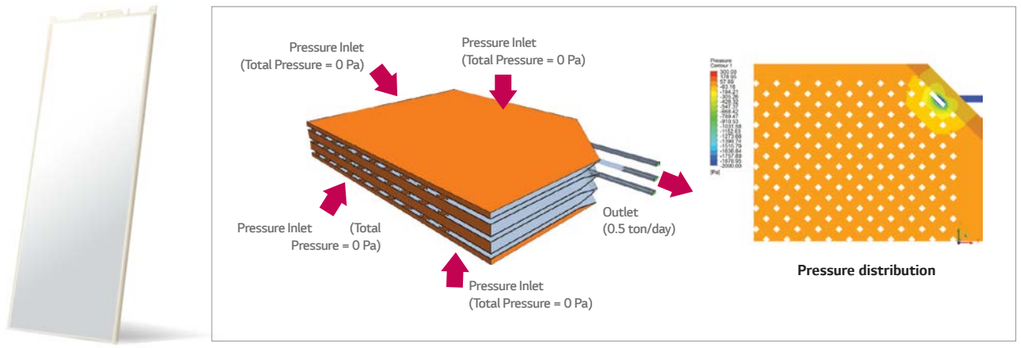
LG is collaboratively deploying it's global resources, striving to be the Water-industry leader.
World-class membrane performance and customer focussed excellence.

The LG flat sheet unit is composed of module and rack. The module shows an even distribution of suction pressure with fluid interpretation design, and the rack comes in various types in order to meet different user environments.

Flat Sheet Module / Rack (G-Brane F Series)

Optimal Design of Flat Sheet Structure

**Water treated with solid-liquid separation by the flat membrane sheet is tested by a hydraulic simulation (CFD).
Realizes a suction pressure distribution even with the effective fluid flow within the module panel of a vertical structure.**



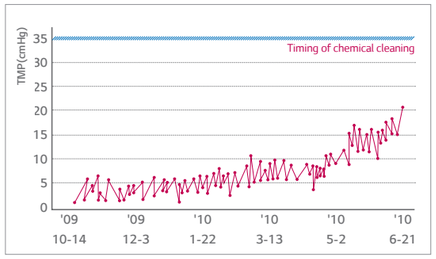
Pressure Loss and Structure Analysis of a Flat Sheet Module

Strengthened Durability and Physical Cleaning Effectiveness in Flat Sheet Unit

The flat sheet unit is strengthened in durability through an analysis of stress. The separate aeration system forms an optimal upward flow of water, reducing membrane fouling and cake formation.

- The flat sheet has strong durability thanks to not only erosion-preventative material but also structure stress analysis.
- It is possible to conduct less frequent chemical cleaning thanks to optimized physical cleaning and reduction of TMP (Trans-Membrane Pressure) increase ratio.
- The flat sheet is economical since less chemical cleaning is required.

Stress Analysis

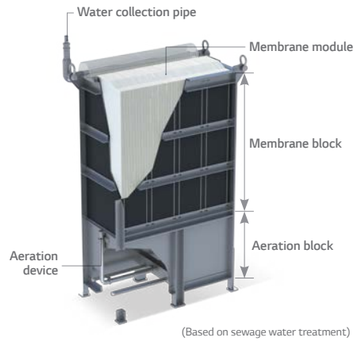


Result of Flat Sheet Operation (for 8 months)

Structure of The Flat Sheet Unit

The LG flat sheet unit is composed of the membrane block that has the module, and the aeration block for air scouring. It comes in 3 types, standard, slim and strong, being able to provide customized flat sheet unit according to different raw water characteristics.

- The G-Brane FN, the standard type, is suitable for general sewage treatment.
- The G-Brane FS, the slim type, is suitable for factories and urban facility as it occupies as much as 34% less installation space than the standard type.
- The G-Brane FT, the strong type, is suitable for high concentration influent.



(Based on sewage water treatment)

Flat sheet unit specification

Type	Standard		Slim		Strong	
Separation	G-Brane FN		G-Brane FS		G-Brane FT	
	100	200	100	250	100	200
Dimension(mm)	788x1,645x1,746	788x3,080x1,746	753x1,291x1,908	753x2,805x1,908	802x1,670x1,523	802x3,130x1,523
Membrane area(m^2)	100	200	100	250	80	160
Treatment capacity(m^3/day)*	40~60	80~120	40~60	100~150	30~50	60~100

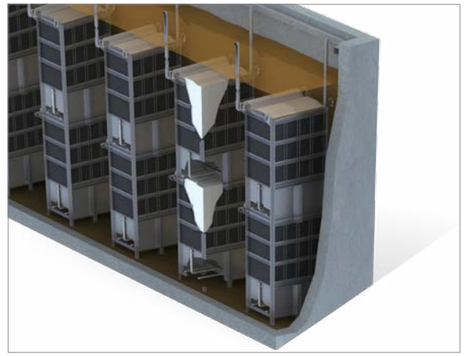
* About 30 models of LG flat sheet unit for different capacities.

The Double-Deck Unit Efficiency

The LG flat sheet double-deck unit is for a small space in an urban area. The high density unit is economical since it requires less space and less capacity of facilities such as blower.

- Saving of electricity cost due to less blower capacity
- Each deck can be separately hoisted and this downsizes the blower facilities. Ultimately, it reduces the initial investment cost.

Separation	G-Brane FN	G-Brane FS	G-Brane FT
	400D	500D	400D
Dimension(mm)	788x3,080x3,477	753x2,805x3,665	802x3,130x2,650
Membrane area(m^2)	400	500	320
Treatment capacity (m^3/day)*	160~240	200~300	120~200

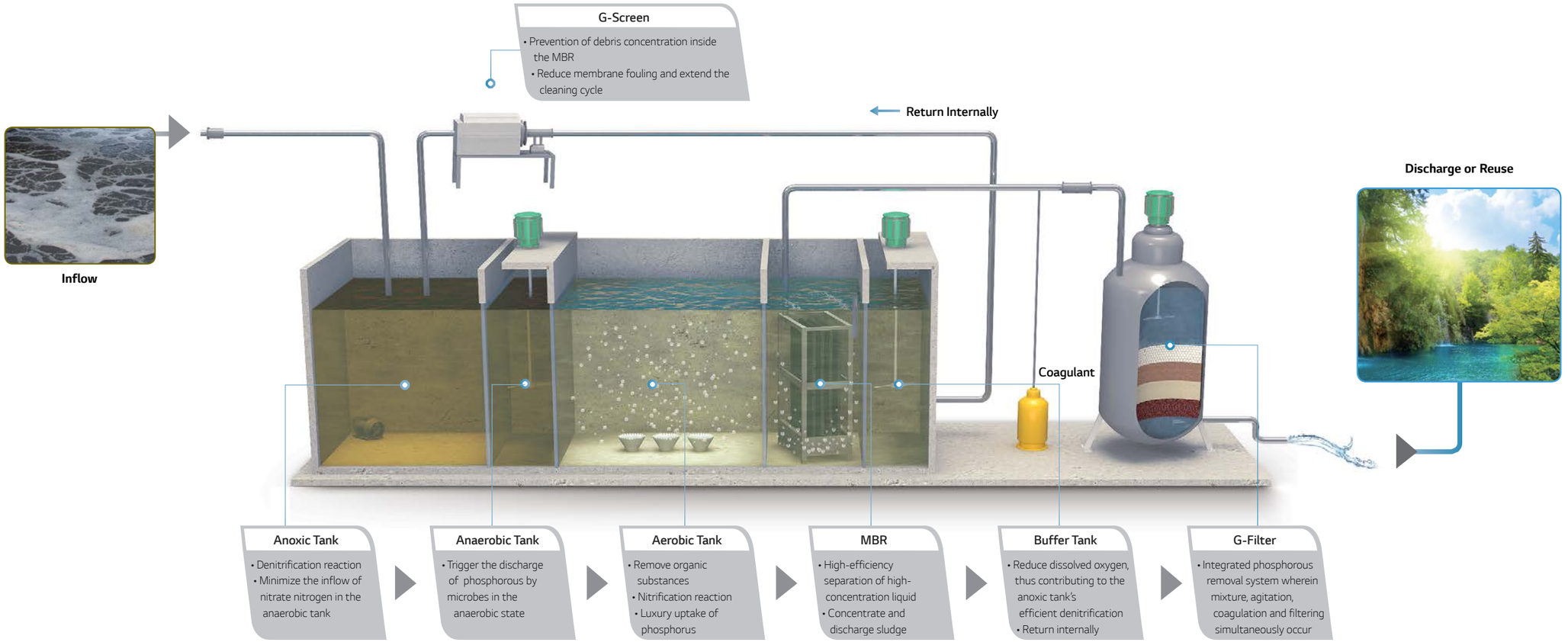


The double-deck unit

G-MBR Water Treatment Process

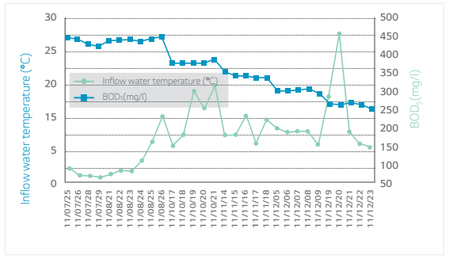
Korea New Excellent Technology Certification No. 322, Verification No. 145

The G-MBR process uses LG High-Flux, hydrophilic slim sheet membranes, and adopts the G-Filter system for removing phosphorous (T-P) more. The process;. meets the recently reinforced requirements for “Water discharged from public sewage treatment facilities” under the Sewage regulation. Notably, the process can meet the requirement for a total phosphorous (T-P) amount of under 0.2 mg/l, becoming the country’s first advanced sewage treatment process to earn the new environmental technology certification and verification. Also, the G-MBR process allows compact installation space, and offers outstanding cost-efficiency and convenience of maintenance, operation and installation.

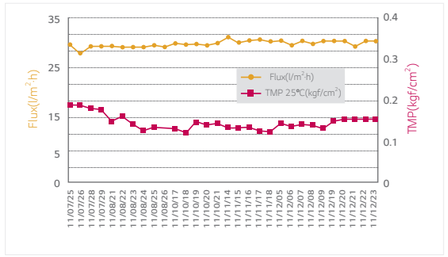


Application of Slim Flat Sheet Membranes

LG G-MBR process involving slim flat sheet membranes can retain the MLSS with diverse and high load changes (5,110~15,250 mg/l, AVG 10,694 mg/l). The process offers flexible processes to external environments such as 10.7~24.1°C temperatures, providing stable treated water quality.



Inflow Water Temperature / BOD_5



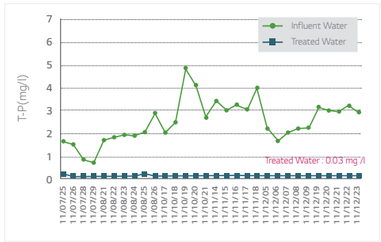
TMP / Flux

G-MBR Process’s Verification Results

- The integrated phosphorous-removal system (G-Filter) strongly resists shock load, and is the country’s first verification process to meet the 2012 reinforced T-P 0.2 mg/l or under.
- An integrated phosphorous removal system wherein mixture, agitation, coagulation, and filtration simultaneously occur, minimizing the required area compared with the existing phosphorous removal process.

Category	Pollutant concentration(mg /l)			Effciency
	Influent water	Treated water	Necessary site	(%)
BOD	139.6	1.3	< 5	97.2
COD_{Cr}	236.5	4.1		96.7
COD_{Mn}	67.1	3.5	< 20	90.7
SS	124.2	0.1	< 10	99.8
T-N	20.23	6.45	< 20	65.9
T-P	2.19	0.03	< 0.2	98.2

*2012 legal discharged water quality I regional criteria (over 500m^3/day)

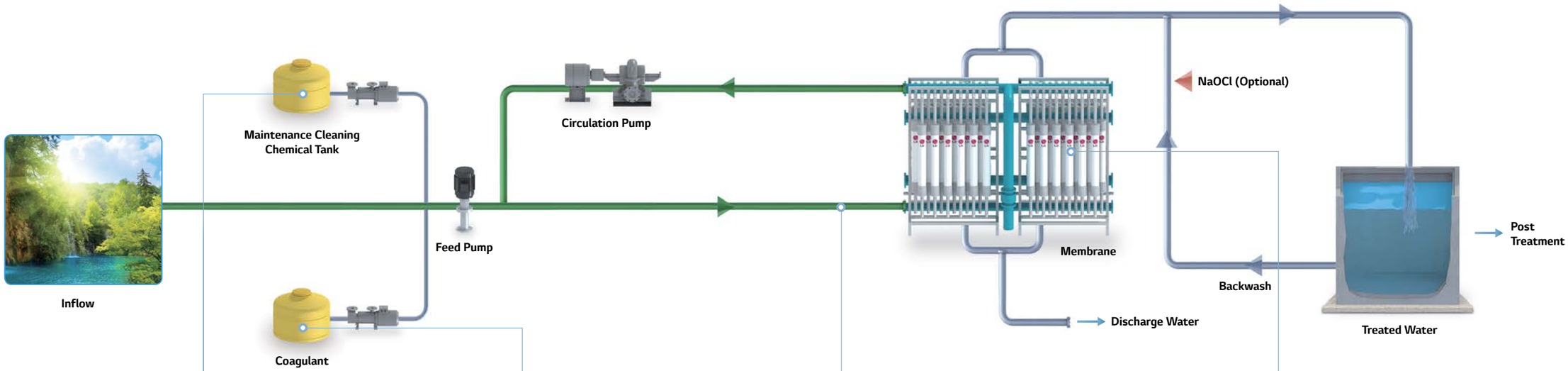


T-P Treatment Results

The In-Line Coagulation System

Korea New Excellent Technology Certification No. 422

The In-Line coagulation system is a stable water treatment technology that can reduce membrane fouling by minimizing floc breaking of feed water. Unlike the existing process of reducing TMP and foulants by reducing the diameter of the pore, the In-Line coagulation system decreases TMP by enlarging the floc of foulant with the same pore diameter.
Also, when applying the In-Line coagulation system, capital and maintenance cost are reduced compared to existing technologies because the mixing and coagulation periods can be skipped.



Online Maintenance Cleaning
- Optiional pre-chlorination
- Reduce chemical cleaning frequency by 20%

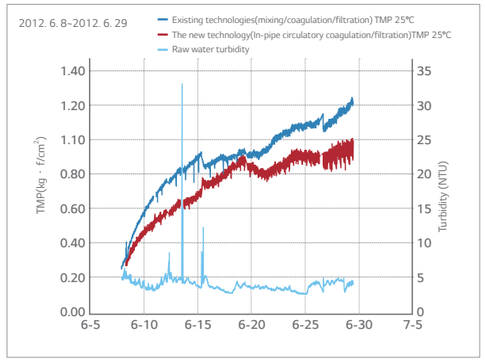
Coagulant Injection (Coagulation)
- Variable cogualnt injection to control the floc size

In-line Flocculation (Flocculation)
- Increase floc size by avoiding feed pump floc-breakage
- Less membrane fouling with larger floc creation
- Much improved flocculation efficiency compared to conventional process

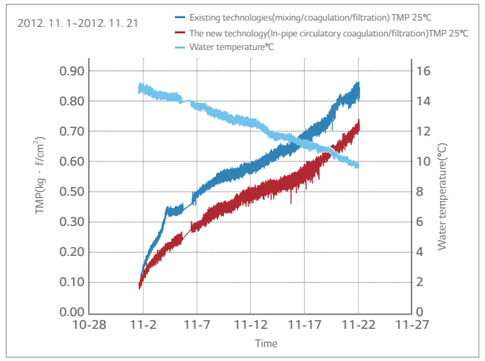
Membrane Filtration Process
- Remove suspended solids and microbe
- Keep turbidity of processed water less than 0.1 NTU

Application of The In-Line Coagulation System

- The In-Line coagulation system is a technology that can reduce membrane fouling by minimizing floc breaking of feed water.
- The increase of TMP is down by 20% in the case of normal turbidity and by 24.5% in the case of low temperature compared to the existing mixing/coagulating processes.



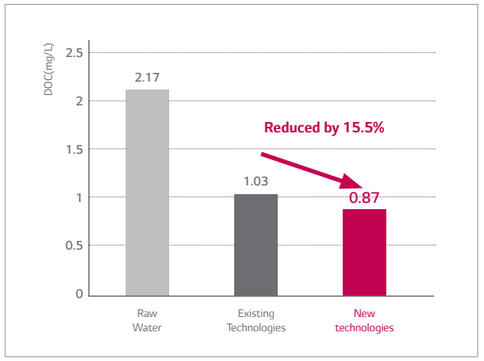
Tmp Under Normal Turbidity



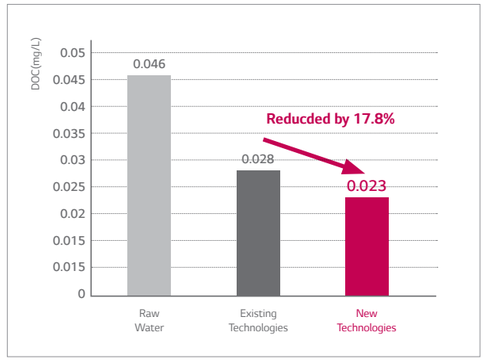
Tmp Under Low Temperature

The Result of Korea New Excellent Technology Certification of The In-Line Coagulation System

- The pre-treatment coagulation process is simplified by skipping the mixing and coagulating periods, reducing the costs of facility and maintenance.
- The In-Line coagulation system increases the efficiency of dissolving organic matter and turbidity removal.



Average DOC of raw water and treated water comparison between the existing and new technologies.



Average DOC of raw water and treated water comparison between the existing and new technologies.

Specifications

Product Specifications of The Pressurized Hollow Fiber Membrane

ITEM			G-Brane P5	G-Brane P7
Module	Model		MR-MHP05A	MR-MHP07A
	Effective Area		50m^2	75m^2
	Dimension		Ø216 x L1,731mm	Ø216 x L2,152mm
	Materials		PVC, PU	PVC, PU
	Membrane Type		Pressurized Microfiltration	Pressurized Microfiltration
	Operation Flux		40 - 150 LMH	40 - 150 LMH
	Operation Pressure		< 3kgf/cm^2	< 3kgf/cm^2
	Operation Temp.		40°C	40°C
	pH		1~12	1~12
	Weight	Dry	32kg	50kg
		Wet	64kg	80kg
Membrane	Materials		PVDF (Polyvinylidene Difluoride)	PVDF (Polyvinylidene Difluoride)
	Membrane Type		Hollow Fiber	Hollow Fiber
	Pore Size		0.1㎛	0.1㎛
	Fiber Diameter		O.D Ø 1.15 / ID Ø 0.7mm	O.D Ø 1.15 / ID Ø 0.7mm
	Flow Configuration		Outside-in	Outside-in
	Chemical Cleaning		~ 5,000mg/L (as NaOCl)	~ 5,000mg/L (as NaOCl)

Product Specifications of The Submerged Hollow Fiber Membrane

ITEM			G-Brane S3
Module	Model		MR-MHS03A
	Effective Area		35m^2
	Dimension (mm)		Ø234 x L1,968
	Materials		PVC, PU
	Membrane Type		Submerged Suction Microfiltration
	Operation Flux		15 - 65 LMH
	Operation Pressure		< 0.47 kgf/cm^2
	Operation Temp.		40°C
	pH		1 -12
	Weight	Dry	20kg
		Wet	40kg
Membrane	Materials		PVDF (Polyvinylidene Difluoride)
	Membrane Type		Hollow Fiber
	Pore Size		0.1㎛
	Fiber Diameter		O.D Ø 1.15 / ID Ø 0.7mm
	Flow Configuration		Outside-In
	Chemical Cleaning		~ 5,000mg/L (as NaOCl)

Product Specifications of The Flat Sheet Membrane

ITEM	G-Brane FN (Standard)	G-Brane FS (Slim)	G-Brane FT (Strong)
Model	MR - MFS20A	MR - MFS20F	MR - MFS20G
Effective Area	1m^2/module	1m^2/module	0.8m^2/module
Dimension (W x H x D, mm)	465x1,187x4	500x1,230x2.9	490x1,000x6
Material	PES, ABS	PES, ABS	PES, ABS
pH	3~13	3~13	3~13
Membrane Type	Submerged Suction Microfiltration	Submerged Suction Microfiltration	Submerged Suction Microfiltration
Operation Pressure	< -0.47kgf/cm^2	< -0.47kgf/cm^2	< -0.47kgf/cm^2
Weight	1.7kg	1.5kg	2.8kg
Operation Flux	15~65LMH	15~65LMH	15~65LMH
Chemical Cleaning	~5,000mg/ l (as NaOC l)	~5,000mg/ l (as NaOC l)	~ 5,000mg/ l (as NaOC l)

G-Brane

High Permeability / High Stability / High Durability

Intellectual Property

Through a consistent technological development and maintaining of superior product performance, LG is acquiring certifications from Korea and abroad

| Patent Applications |

- Slim type membrane separation device
- Pressurized module housing inclusive of the fan-shaped baffle
- Membrane module and the concerning submerged membrane separation
- Membrane module, assembled membrane module and the concerning submerged separation membrane device
- Submerged membrane separation device and operation process
- Submerged membrane separation device
- Maintenance cleaning process of filtration membrane and the concerning water treatment system
- Water treatment device equipped with water re-feed waterway
- Pressurized hollow fiber module
- Slim type membrane package module and the concerning submerged membrane separation

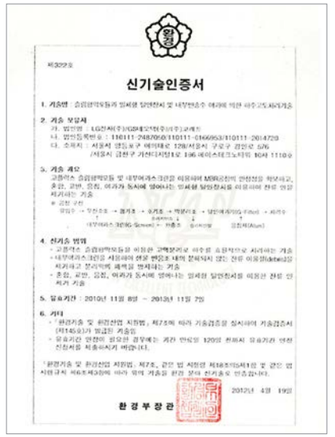
| Patent Registration |

- Advanced sewage treatment system inclusive of internal filtration screen
- Phosphorous removal device for advanced sewage water treatment
- Submerged membrane separation device and its operating process
- Water treatment device equipped with circulating waterway and the concerning treatment process
- Phosphorous removal device for advanced sewage water treatment
- Advanced sewage treatment system inclusive of internal filtration screen
- Membrane module and the concerning submerged membrane separation device
- Submerged membrane separation device
- Membrane module, assembled membrane module and the concerning submerged separation membrane device

| Trademark Registration |

- G-MBR trademark application (December 2009)
- G-Brane trademark application (February 2014)

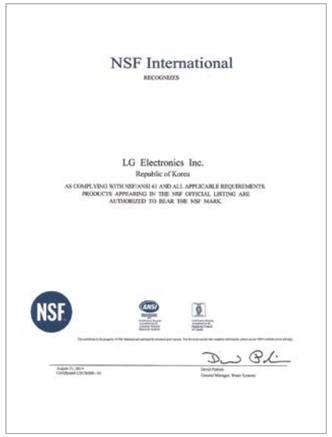
Patent Certificate
(Advanced sewage treatment system involving the internal filtration screen)



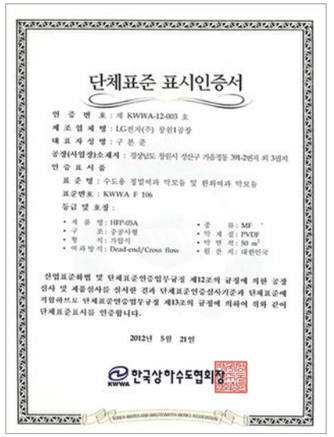
Korea New Excellent Technology Certificate No. 322
(G-MBR Process)

Korea New Excellent Technology Verification No. 145
(G-MBR Process)

| Certifications |

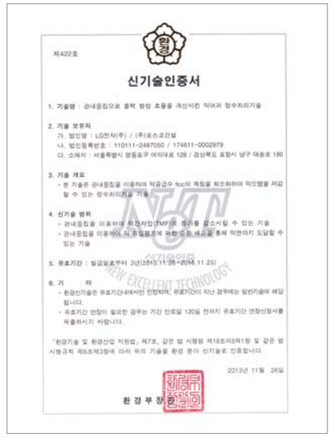


NSFCertification
(NSF/ANSI 61)



Certification from Korea Water and Wastewater Works Association
(50/75m^2 hollow fiber membrane)

Patent Certificate
(Phosphorous removal system for use in the advanced sewage treatment system)



Korea New Excellent Technology Certificate No. 422
(Membrane filtration water treatment technology that improves floc formulation efficiency with in-pipe coagulation)

Patent Certificate
(Membrane filtration water treatment technology that improves floc formulation efficiency with in-pipe coagulation)

References

Based on the hollow fiber membrane application know-how, product development and pilot operation, LG is ramping up its efforts to secure references in water treatment and water reuse projects.

Since developed in 2009, LG flat sheet membrane product is proving its performance in various areas such as plant operation, and sewage and wastewater treatment plants.

Pressurized Hollow Fiber Module

I Industrial Water (RO Pre-treatment) I

- LG Chemical (Yeosu Factory) [10,000m^3/d] (2015. 05)
- LG Chemical (Paju Factory) [2,400m^3/d] (2015. 05)
- LG Display (Guangzhou Factory) [25,000m^3/d] (2013. 12)
- LG Display (Paju P9 Factory) [7,000m^3/d] (2013. 08)
- LG Display (Paju P8 Factory) [10,000m^3/d] (2013. 02)



I Reuse of Wastewater I

- LG Display MF REMF Reuse (Paju P8 Factory) [4,000m^3/d] (2015. 05)
- China Jinhwa Reuse [10,000m^3/d] (2014. 12)
- China Sansi Energy [5,000m^3/d] (2014. 06)
- LG Display (Guangzhou Factory) [2,400m^3/d] (2014. 05)

I Pilot Plant I

- K-Water Siheung WTP [300m^3/d] (2012. 06 ~ 2013. 12)
- Anyang Cheong-Gye WTP [75m^3/d] (2012. 06 ~ 2015. 04)
- Daegoo Gosan WTP [200m^3/d] (2013 ~ 2015. 02)
- Daegoo Maegog WTP [500m^3/d] (2013. 09 ~ In operation)
- Gumi SWTP Discharge Water Reuse[150m^3/d] (2012. 12 ~ 2013. 04)

Submerged Hollow Fiber Module

I Reuse of Wastewater I

- LG Display MBR Reuse (Paju P81 Factory) [4,000m^3/d] (2015. 05)
- LG Display Wastewater Reuse (Paju P8 Factory) [2,400m^3/d] (2015. 03)
- LG Display MBR Reuse (Guangzhou Factory) [5,100m^3/d] (2014. 05)




I Pilot Plant I

- LG Display MBR Reuse [30m^3/d] (2013. 07 ~ 2014. 02)
- Gumi SWTP Discharge Water Reuse [20m^3/d] (2013. 08 ~ In operation)

Flat Sheet Membrane Module

I Sewage and Wastewater Treatment Facility (MBR) I

- LG Electronics Pyeongtaek WWTP [2,500m^3/d] (2014. 03)
- Jeongok Landfill Leachate Treatment [220m^3/d] (2013. 10)
- Namyangju Rural SWTP [200m^3/d] (2013. 10)
- Segwang Rehabilitation Center WWTP [200m^3/d] (2013. 09)
- LG Life Osong Campus WWTP [1,000m^3/d] (2013. 02)
- LG Chemical Daesan Factory [900m^3/d] (2013. 01)
- LG Life Iksan Factory WWTP [500m^3/d] (2013. 01)
- LG Innotek Gumi Factory WWTP [730m^3/d] (2012. 09)
- Borak Inc. WWTP [350m^3/d] (2012. 09)
- Hanmi Pharmaceutical WWTP [500m^3/d] (2012. 08)
- Cycling Stadium in Gangwon Province [230m^3/d] (2011. 12)
- LG Electronics Changwon 1 Factory WWTP [500m^3/d] (2011. 09)
- Medico WWTP [720m^3/d] (2011. 08)
- LG Innotek Cheong-Ju Factory WWTP [4,000m^3/d] (2011. 03)
- LG Household & Healthcare Cheong-Ju Factory WWTP [200m^3/d] (2010. 12)
- DSME WWTP [1,200m^3/d] (2010. 09)

- Irelend Nursing Home SWTP [120m^3/d] (Under construction)
- Irelend Lakelend Dairy Product WWTP [1,600m^3/d] (2015. 04)
- China Kangseosung Drug Factory WWTP [2,000m^3/d] (2014. 12)
- China Zhejiang WWTP [70m^3/d] (2013. 12)
- Irelend Johnkelly Meat Processing WWTP [72m^3/d] (2013. 10)