

# ACTIVATED CARBON



# Samchully Carbotech Co.Ltd.

## Message



Samchully Carbotech Co. Ltd., which has ample Technology & Experience.

Samchully Carbotech Co. Ltd., manufactures and supplies the various activated carbons for a environmental preservation and improvement of living environment.

Samchully Carbotech' s activated carbons which used in the variety of industrial sectors, has earned a fame in quality and trust from our consumers for excellent performance.

Recently the activated carbon plays a major role in environmental protection, dioxin removal, and water pollute prevention, etc. It' s very important to choose the prime activated carbon to suit each applications.

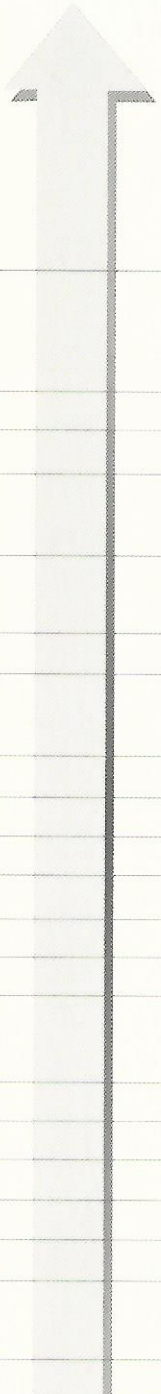
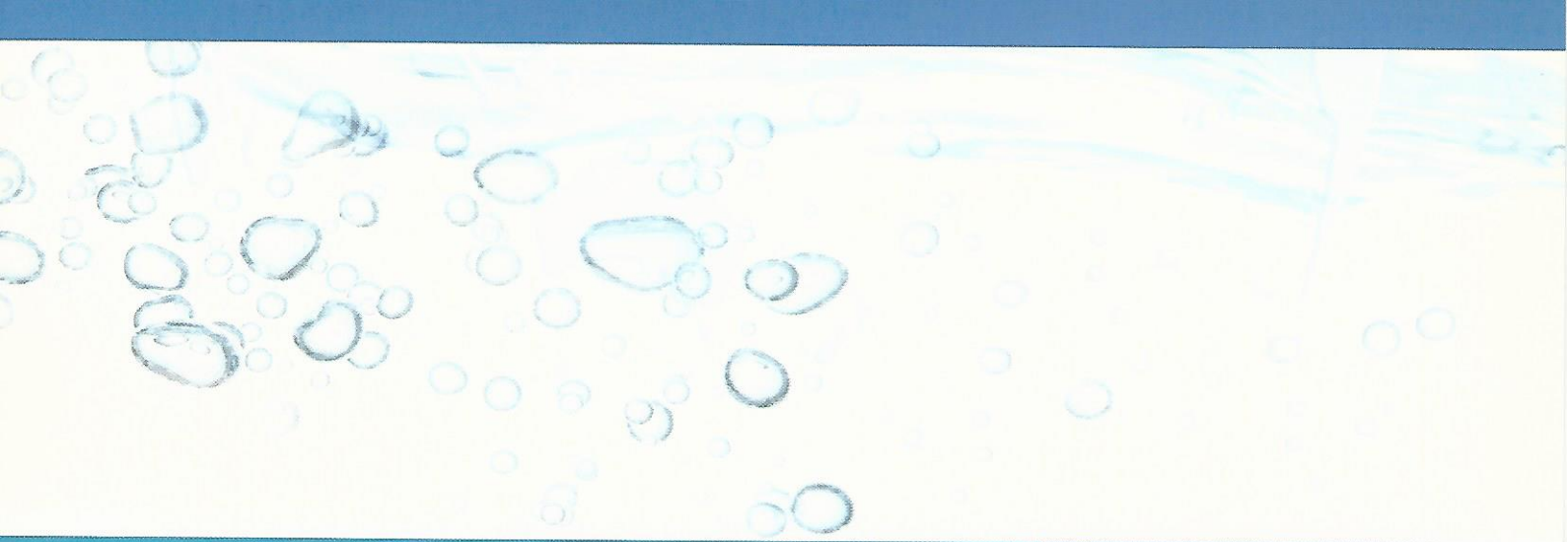
Samchully Carbotech Co. Ltd., has provided the activated carbons of the wide selection to satisfy the demand of the consumers, also participates in recycling system reusing ending the activated carbons, and enforces safer, cleaner remaking business.

Samchully Carbotech Co. Ltd., also will contribute to development of value added products to meet the customers' demands and the better life environment.

Thank you very much.

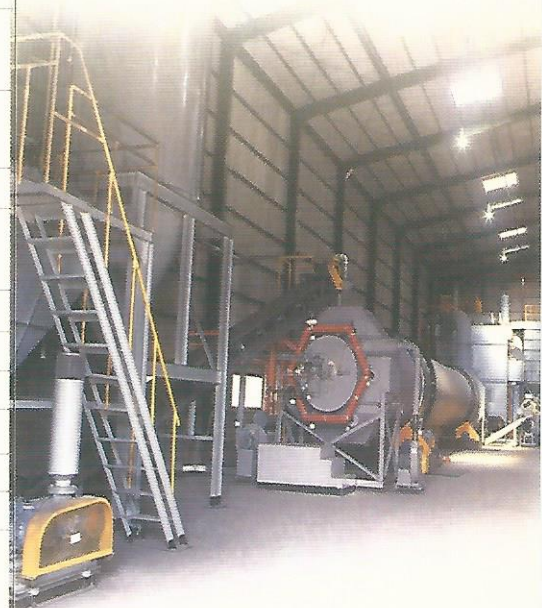
2013 / All the staff and administration





- 2012. 2 “Zeolite complex activated carbon and the manufacturing method” patent  
The application number (1999-0035091)  
The registration number (10396078)
- 2011.12 “The manufacturing method of antibiotic activated carbon” patent  
The application number (10-2007-0038636)  
The registration number (101093524)
- 2010.12 ISO 9001:2008 certification
- 2008. 7 Approbation “Venture company confirmation”-technology guaranteed fund
- 2007. 6 Approbation “Technology innovation small-medium business(INNO-BIZ)”  
-Daegu- Gyeongbuk Regional Office of SMBA
- 2007. 5 Approbation “attached research facility of Samchully Carbotech Co. Ltd”  
-Korea Industrial Technology Association
- 2006. 4 Addition the 3rd manufacturing machinery for Granular activated carbon
- 2006. 3 Approbation “Importing & retail business of food etc(trading registration)”  
-Daegu Food and Drugs Administration
- 2005. 3 Removal the head office to Kimchun plant
- 2004. 8 Addition the 2nd manufacturing machinery for water pollute prevention activated carbon
- 2004. 3 Approbation “Green light about industry of intermediate treatment of waste
- 2004. 2 Approbation “registration Kimchun plant”
- 2004. 2 Approbation “Manufacturing of water pollute prevention(Gyeongsangbuk-do)
- 2003.12 Shin Hyung TSC Co. Ltd. took over Kimchun plant
- 2002. 6 Associativity fulfillment about antibacterial ceramic ball development  
challenge(Pohang Institute for Industrial and Science and Technology)
- 2000. 4 Development and circulation of drug storage impregnated charcoal
- 2000. 4 Green light about industry of intermediate treatment of waste(Cheonan City)
- 2003. 3 Manufacturing of water pollute prevention(Chungcheongnam-do)
- 1999. 3 Establishment of Cheonan plant
- 1997. 4 Registration of Incorporation “Samchully Carbotech Co. Ltd.
- 1996. 4 Establishment of a manufacturing plant in Samchully, Gimpo City, Gyeonggi  
Province
- 1994.6 Foundation of Samchully Chemical

# History



# Activated Carbon

Activated Carbon products information

## Activated Carbon

### ■ Classification of Activated Carbon Product

Product Name	Application	Source Material	Size
SYG 0408	Air Pollution/ Odor Removal	Coconut Shell	4 × 8
SCG 40	Air Pollution/ Odor Removal	Coal	4mm
SAKA Series	Acidic Gas Treatment	Coconut & Coal	4 × 8, 4mm
SACG Series	Basic Gas Treatment	Coconut & Coal	4 × 8, 4mm
SYL 0830	Water Purification	Coconut Shell	8 × 30
SCL 0830	Water Purification	Coal	8 × 30
SYL 0830W	Waste Water Purification	Coconut Shell	8 × 30
SCL 0830W	Waste Water Purification	Coal	8 × 30
SYH, SCH	Neutral pH	Coconut & Coal	8 × 30
SPS	Refinement	Sawdust	200
SPY, SPC	Water/Waste Water Purification	Coconut & Coal	200

### ■ Technical Service

- General Industrial Chemical Analysis : Quality Test, Analysis for renaturation and economy
- Design & Construction of allied facilities with activated carbon
- Supply of Technical Report made by Computer Simulation(usage, span, absorber)
- Adsorption test about atmosphere, water analysis, and elements
- Agency of Charge and Exchange Work through rich experience
- Other Activated Carbon Related Reports

### ■ Other Business Item

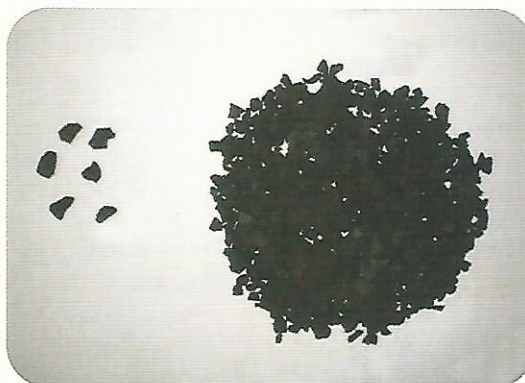
SAND, GRAVEL, ANTHRACITE etc.

## SYG 0408

### ■ Introduction

SYG 0408 Series are irregular granule type activated carbon used for air contaminant and odor removal, indoor air purification, and solvent refinement.

SYG 0408 Series are produced by Coconut shell char and have characteristics of high hardness, specific surface area, and excellent absorption abilities.



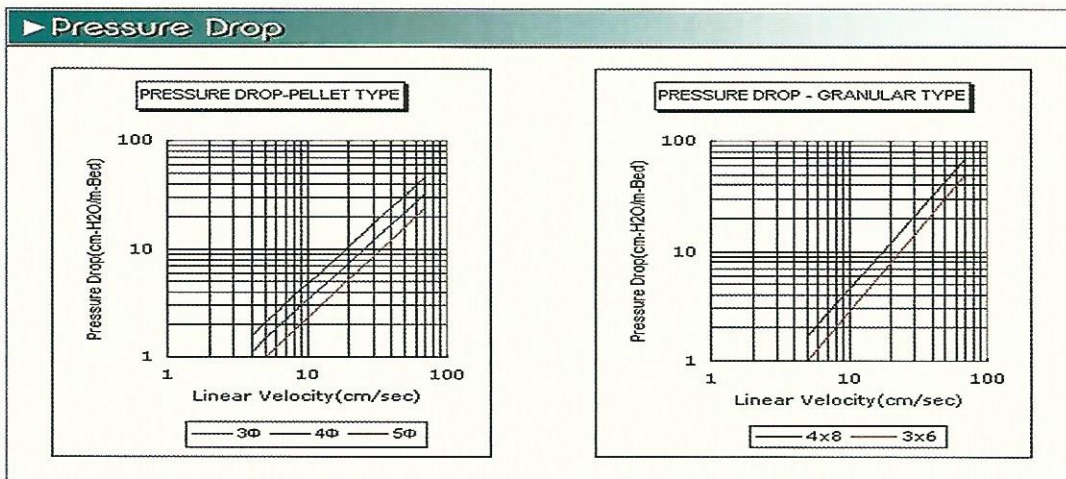


■ Application

- Indoor Air Purification of Hospital, Toilet, Laboratory, Cattle shed etc.
- Removal of various odor and harmful gas
- General Solvent Adsorption

■ Characteristics

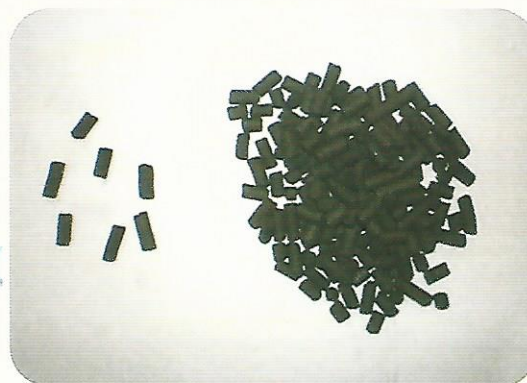
	SYG 0408-1	SYG 0408-2	SYG 0408-3
Iodine Number(mg/g)	>1100	>1100	>900
Moisture Contents(%)	<5	<5	<5
Hardness(%)	>95	>95	>95
Packing Density(g/cc)	0.42~0.48	0.42~0.48	0.52~0.56
Ash Content(%)	<5	<5	<5
Particle Size(mesh, %)	>95(4 × 8)	>95(4 × 8)	>95(4 × 8)



## SCG 40

■ Introduction

SCG 40 Series are assembled granule type activated carbon produced by selected coal char. SCG 40 Series have medium and large size pores as well as fine pores and so have characteristic of low pressure loss. SCG 40 Series are used for high concentration solvent refinement process which are high liable to arise fire, especially using ketone type solvent.



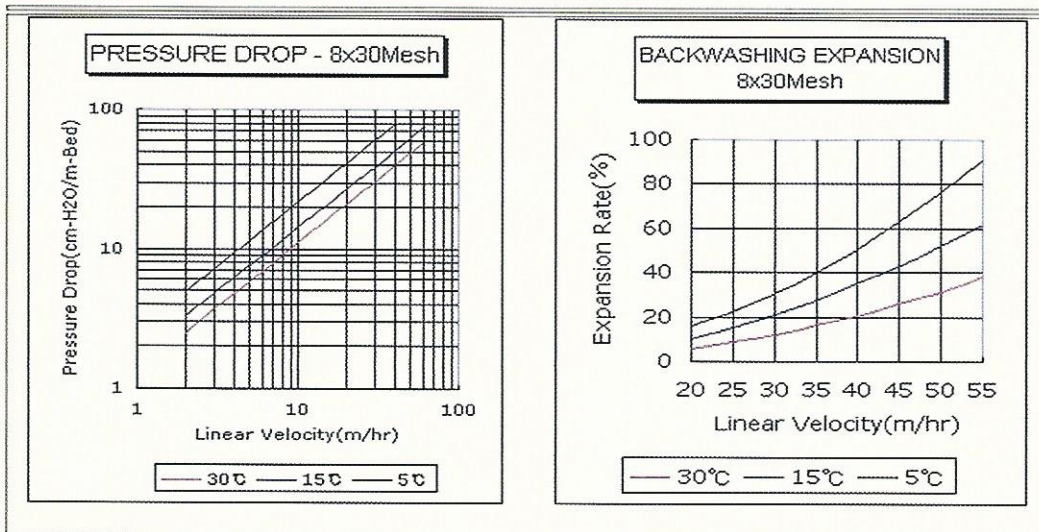
■ Application

- Various solvent adsorption
- Removal of various odor and harmful gas
- Solvent recovery

## ■ Characteristics

	SCG 40-1	SCG 40-2	SCG 40-3
Iodine Number(mg/g)	>1000	>950	>900
Moisture Content(%)	<5	<5	<5
Hardness(%)	>95	>95	>95
Packing Density(g/cc)	0.45~0.5	0.45~0.5	0.47~0.52
Ash Content(%)	<12	<12	<12
Specific Surface Area(m <sup>2</sup> /g)	>1050	>1000	>900
Total Pore Volume(cc/g)	0.7~0.9	0.7~0.9	0.6~0.9
Average Pore Diameter(Å)	21~25	21~25	21~25
Particle Size(mm)	4	4	4

### ▶ Pressure Drop & Expansion data



# SAKA, SACG Series

## ■ Introduction

General activated carbons don't have such good adsorption for organic compounds with low molecular. On the other hand, acidic or basic impregnated activated carbons are used to adsorb much for low molecular organic compounds.

## ■ Application and Features

Applications	Adsorbates	Characteristics
Neutral Gas	Methyl Sulfurate/ Methyl disulfide	Good adsorption of neutral gas with organic solvents
Acidic Gas	Hydrogen Sulfurate/ Methyl mercaptan	Adsorption of alkalic matters(NaOH, Na <sub>2</sub> CO <sub>3</sub> ) Air purification filter Removal of odor arised from sewage and excreta disposal plants
Basic Gas	Amonia / Trimethylamine	Adsorption of acidic matters(HCl, H <sub>3</sub> PO <sub>4</sub> ) Air purification filter Removal of odor arised from sewage and excreta disposal plants



■ Characteristics

	SAKA	SACG
Moisture Content(%)	<10	<10
Hardness(%)	>95	>95
Packing Density(g/cc)	0.45~0.5	0.45~0.5
Specific Surface Area(m <sup>2</sup> /g)	950~1000	950~1000
Adsorption of Sulfuric hydrogen(mg/g)	>180	
Adsorption of Methyl mercaptan(mg/g)	>200	
Adsorption of Ammonia(mg/g)		>70
Adsorption of Benzene(%)	>35	
Particle Size(mesh, mm)	4 × 8, 4mm	4 × 8, 4mm

## SYL 0830

■ Introduction

SYL 0830 Series are irregular granule type activated carbon used for removal of odor induced matters, organics, heavy metals, and residual chlorines in water purification processes.

SYL 0830 Series are produced by selected coconut shell char and have characteristics of high hardness and specific surface area, so exhibit excellent adsorptions and liable to reproduced.



■ Application

- Underground water purification plant for drinking water
- Filter for water purification
- Prefilter of high purity water and ultra high purity water

■ Characteristics

	SYL 0830-1	SYL 0830-2	SYL 0830-3
Iodine Number(mg/g)	>1100	>1000	>950
Moisture Content(%)	<5	<5	<5
Hardness(%)	>95	>95	>95
Packing Density(g/cc)	0.42~0.50	0.42~0.50	0.45~0.52
Ash Content(%)	<5	<5	<5
Particle Size(mesh, %)	>95(8 × 30)	>95(8 × 30)	>95(8 × 30)

# SCL 0830

## ■ Introduction

SCL 0830 Series are irregular granule type activated carbon used for removal of odor induced matters, organics, heavy metals, and residual chlorines in water purification processes.

SCL 0830 Series are produced by selected coal char and have characteristics of high total pore size areas and pore size diameter of 20~25 $\mu$ m, so exhibit excellent adsorptions and liable to reproduced.

## ■ Application

- Underground water purification plant for drinking water
- Filter for water purification
- Prefilter of high purity water and ultra high purity water

## ■ Characteristics

	SCL 0830-1	SCL 0830-2	SCL 0830-3
Iodine Number(mg/g)	>1000	>950	>900
Moisture Content(%)	<5	<5	<5
Hardness(%)	>95	>95	>95
Packing Density(g/cc)	0.42~0.50	0.42~0.50	0.45~0.54
Ash Content(%)	<12	<12	<12
Particle Size(mesh, %)	>95(8×30)	>95(8×30)	>95(8×30)

# SYL 0830W

## ■ Introduction

SYL 0830W Series are irregular granule type activated carbon used for removal of various harmful matters in sewage, industrial waste and dirty water.

SYL 0830 Series are produced by selected coconut shell char and have characteristics of high hardness and specific surface area, so exhibit excellent adsorptions and liable to reproduced.

## ■ Applications

- Removal of organic materials, odor, surfactants, agricultural chemicals etc.
- Water purification of sewage, industrial waste and dirty water
- 3rd treatment of heavy and waste water

## ■ Characteristics

	SYL 0830W-1	SYL 0830W-2	SYL 0830W-3
Iodine Number(mg/g)	>1100	>1000	>950
Moisture Content(%)	<5	<5	<5
Hardness(%)	>95	>95	>95
Packing Density(g/cc)	0.42~0.50	0.42~0.50	0.45~0.52
Ash Content(%)	<5	<5	<5
Particle Size(mesh, %)	>95(8×30)	>95(8×30)	>95(8×30)





## SCL 0830W

### ■ Introduction

SCL 0830W Series are irregular granule type activated carbon used for removal of various harmful matters in sewage, industrial waste and dirty water.

SCL 0830W Series are produced by selected coal char and have characteristics of high total pore size areas(0.6~0.9cc/g) and pore size diameter of 20~25 $\mu$ m, so exhibit excellent adsorptions and liable to reproduced.

### ■ Applications

- Removal of organic materials, odor, surfactants, agricultural chemicals etc.
- Water purification of sewage, industrial waste and dirty water
- 3rd treatment of heavy and waste water

### ■ Characteristics

	SCL 0830W-1	SCL 0830W-2	SCL 0830W-3
Iodine Number(mg/g)	>1050	>950	>900
Moisture Content(%)	<5	<5	<5
Hardness(%)	>95	>95	>95
Packing Density(g/cc)	0.42~0.50	0.42~0.50	0.45~0.54
Ash Content(%)	<12	<12	<12
Particle Size(mesh, %)	>95(8 × 30)	>95(8 × 30)	>95(8 × 30)

## SYH, SCH

### ■ Introduction

SYH, SCH Series are granule activated carbon used for heavy metals, carcinogens, agricultural chemicals, synthetic detergents in underground water to make a safe and delicious drinking waters.

SYH, SCH Series are produced by treatment of selected coconut shell(SYH 0830) and coal(SCH 0830)char with acids, so have characteristics of low ash contents and excellent drinking water tastes.

### ■ Applications

- Water purification for drinking water
- Filter for water and underground water purification
- Carbonated drinking water
- Water treatment in food industries

### ■ Characteristics

		SYH 0830	SCH 0830
Iodine Number(mg/g)		>1000	>900
Moisture Content(%)		<5	<5
Hardness(%)		>95	>95
Packing Density(g/cc)		0.45~0.52	0.42~0.52
Ash content(%)		<5	<10
pH		6.5~7.5	6.5~7.5
Particle Size	>8 mesh	<5	<5
	>12 mesh	<5	<5
	>30 mesh	<5	<5

# SP Series

## ■ Introduction

SP Series are powdered activated carbon produced by various source materials such as Sawdust, Coconut shell, Coal etc.

SP Series are used for purification and removal of odor, color induced matters in water purification plant, sewage, and industrial waste waters.

## ■ Applications

- SPC-100 : Water treatment, Glycerine, Sugar solution, Organic acids treatment, and chemical and pharmacy industry
- SPC-200 : Sugar solution and Glucose
- SPY : Waste water treatment
- SPC : Removal of color, odor and organic matters from waste water

## ■ Characteristics

	SPS-100	SPS-200	SPY	SPC
Raw Materials	sawdust	sawdust	coconut	coal
Dry Contents(%)	<5	<10	<10	<10
Ash content(%)	<8	<8	<5	<14
pH	9~11	6~8	9~11	9~11
Iodine Number(mg/g)	>1000	>950	>1000	>950
MB Number(ml/g)	>180	>140	>120	>120
Particle Size (200mesh pass %)	>90	>90	>90	>90

# SAND & GRAVEL



## ■ Introduction

Sands from Jumunjin and Gravels are high purity natural filter media which contain low dust and clay impurities, so used for filtering industrial, drinking and waste waters.

## ■ Applications

Heating Loss(%)	Gravity(g/ml)	Hydrochloric acid Solubility(%)	Cleansing Color(°)	Wear Rate(%)
<0.7	2.55~2.65	<3.5	<30	<3



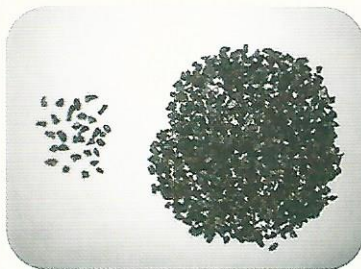
■ Characteristics

Name	Effect Diameter(mm)	Uniformity Coefficient	Name	Size(min.-max.)
Sands	0.30~0.45	<2.0	Gravels	2~5
	0.45~0.70	<1.7		5~10
	0.45~0.70	<1.6		10~15
	0.45~0.70	<1.5		10~20
	0.80~1.20	<1.6		15~30
	0.80~1.20	<1.5		20~30
	0.80~1.20	<1.4		30~60

■ Packing

- Bulk Bag(volume : 0.8~1.0m<sup>3</sup>, weight : 1.2~1.5ton)
- 30~50kg Burlap Bag(1m<sup>3</sup>=1.5ton)

# ANTHRACITE



■ Introduction

Anthracites are filter media used for water purification and have a various characteristics which developed as water, waste water treatment applications.

Compared to sands, Anthracites have more specific surface areas and pore volumes, so exhibit high filtering speed and capacity. In case of gravity filtering system, Anthracites filtering capacity tends to be more 60% effective than sands.

■ Applications

Anthracites are many used in chemical, textile, paper, food, and iron-making industries, and used for water purification in water purification plant, bathhouse, swimming pool etc.

So Anthracites filter system is suited for multi-step filtering, drinking/waste water filtering, Seawater filtering, and corrosivity/oily liquid filtering.

■ Characteristics

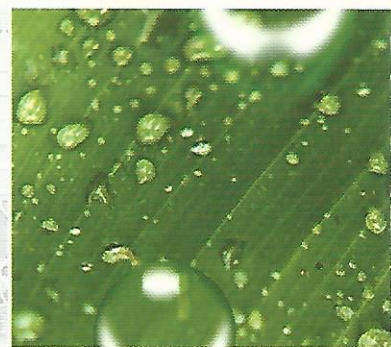
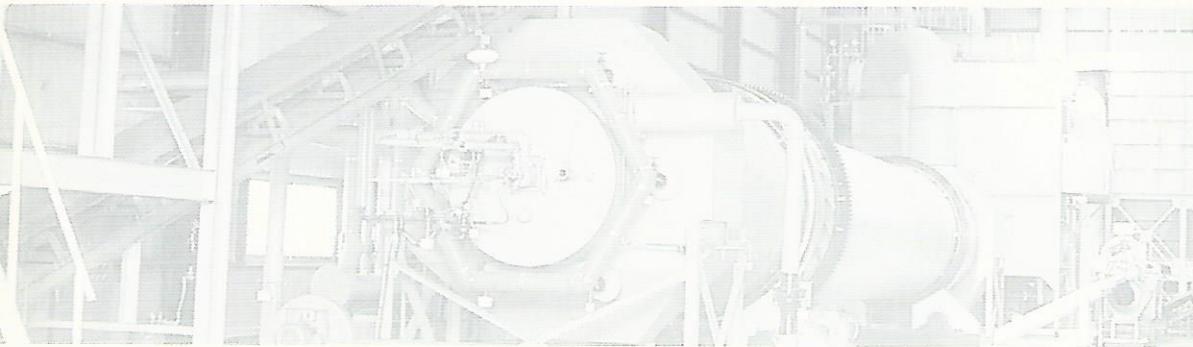
Specific Surface Area	Micro-Pore Volume	Iodine Number	SS Decr. Rate	COD Decr. Rate	Color Decr. Rate	Fixed Carbon	HCl Available rate
(m <sup>2</sup> /g)	(cc/g)	(mg/g)	(%)	(%)	(%)	(%)	(%)
3.2	0.1	36.9	77.7	26.9	48.0	70.0	<1.5

■ Packing

50 PP small packing and 1m<sup>3</sup> Bulk Bag

■ Particle size

	Large	Medium	Small
Particle Size(mm)	3~5	2~3	1~2
Effect Diameter(mm)	2.4~2.6	1.40~1.55	0.85~0.95
Uniformity Coefficient	<1.4	<1.4	<1.7



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