


MEMIONTEC
Membrane Ionexchange Technology

**The Leader in
Total Water Management Solutions**



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MEMIONTEC

Your Choice Partner for Long-Term Growth

Professionalism in Achieving Customer Satisfaction

Singapore
1991

Indonesia
1994

Regional
Vietnam
Thailand
Malaysia
Myanmar
1999

China
Wuxi
Shenzhen
Chengdu
2003

Global
Middle East
Australia
Russia



Vision:

To be recognised as the world's leader
in total water management solutions

Values:

Excellence

Novelty

Team Spirit

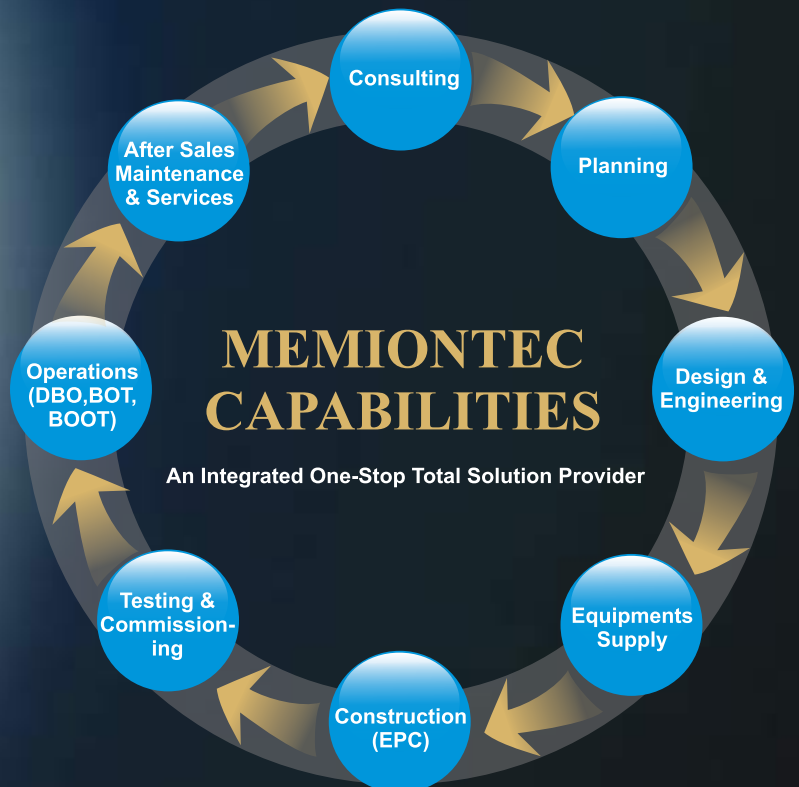
Integrity

Customer Focus

Energetic

Research & Development

At the heart of our operations is our investment in research and development. Through the use of the latest technologies and processes, our clients are assured of high standards of excellence that promise to revolutionise their business.



Company Profile

Founded more than three decades ago, Memiontec is still the energetic, forward looking enterprise that has grown with Singapore in stature and maturity as a practical innovator in harnessing the best of world class water treatment technologies to meet and fulfill our water needs for now as well as the future.

Over the years Memiontec has proven to be the reliable partner and has developed its own propriety systems by providing a total solutions that meet the strictest water treatment requirements in the industrial, municipal, commercial and institutional markets. Memiontec's comprehensive suite of integrated turnkey solution and services to meet the myriad needs of customers from diverse industries start from active listening, problem definition and process innovation to development of engineering design and operations

Being committed to quality project execution is fundamental to Memiontec success. We strive to excel in areas that offer its customers a truly customized solution that optimizes resources and attains breakthrough performances

Our technological competence and know-how put us in a good stead as a global player to create and design fully-automated as well as complete customized plants that are reliable, cost effective and are capable of accommodating future expansions.

Headquartered in Singapore, Memiontec is also strategically located in Indonesia and China with strategic partners in USA, Germany, Europe, Australia, Middle East and South East Asia.



TAY KIAT SENG
Chief Executive Officer



SOELISTYO DEWI SOEGIHARTO
Managing Director



LIM WEI KUAN
Director, Memiontec Pte Ltd



IRAWATI TAN
Director, PT Memiontec Indonesia



CHUA SIONG KIAT
Chief Financial Officer

Technology

Our highly versatile water and wastewater treatment systems have served many of our multinational corporation customers and government agencies from different parts of the world in producing pure and ultra-pure water to meet their diverse needs. These systems include:

- **Membrane Process**
- **Ion Exchange Process**
- **Filtration and Chemical Process**
- **Waste Water Process**



Membrane Process

Our propriety membrane separation system, MIT-MP, offers a wide variety of standard and customised systems engineered to achieve the following: purify water; remove dissolved solids, organic matter, bacteria, pyrogens, TOC and silica; concentrate wastes and enable clean water to be recycled or discharged into the environment.

Our membrane separation process includes:

- Brackish Water Reverse Osmosis System
- Seawater Reverse Osmosis System
- Ultra Filtration System
- Micro Filtration System

Brackish Water Reverse Osmosis System

MEMIONTEC Brackish Water Reverse Osmosis System, MIT-BWRO™, is the most effective process to remove dissolved minerals, bacteria, particles and organics from water, and is commonly used in pure water production and waste water recycling.

Seawater Reverse Osmosis

MEMIONTEC Seawater Reverse Osmosis System, MIT-SWRO™, can be used as an effective way to desalinate seawater for other uses. Increasingly, desalination of seawater is gaining popularity as a means of technical solution and relieving pressure on diminishing fresh water supplies.

Ultra Filtration(UF)/Micro Filtration(MF)

Pressurized Modules / Submerged Modules

MEMIONTEC Ultra Filtration System and Micro Filtration System, MIT-MF™ and MIT-UF™, are membrane systems specially designed with the application of advanced technologies. These systems consist of modular designs which are made of membranes characterized by high performance, high flux, low energy consumption and easy cleaning.

System Advantages

- High antifouling and high permeate performance
- Long membrane/module life
- Low energy consumption
- High stable operations/automated operations
- Maintenance friendly, flexible and economical
- Minimise chemical requirement
- Cost-effective concept to reduce overall operational cost
- Ability to meet increasingly stringent statutory requirements
- Modular design that caters to planning for future needs



Pressurized Modules



Submerged Modules



Understanding
Challenges and
Delivering Solutions



MIT-MB™ System



MIT-TWB™ System

Ion Exchange Process

Memiontec has developed specialised ion exchange membrane systems: **Demineraliser Series MIT-MB™** and **MIT-TWB™**, **Electrodeionization MIT-EDI™** and **Electro Chlorination MIT-EC™**, to effectively remove all types of ions and anions from waste water to producing pure and ultra-pure water.

Available products include:

- Water softeners
- Co-current and counter-current demineralisers
- Dealkalisers
- Degasifiers
- Organic scavengers
- Condensate polishers
- Mixed bed demineraliser
- Speciality demineraliser
- Recycling waste treatment system

Demineraliser Series MIT-MB™ and MIT-TWB™

MEMIONTEC Demineraliser Series MIT-MB™ and MIT-TWB™ are user-friendly which can be totally pre-engineered and pre-assembled for easy installations. They are skid-mounted and compact, minimise use of space and can easily be relocated if the need arises. They come equipped with micro-processor controls to ensure automatic, accurate and efficient operations. Our systems are robust and made with premium grade materials to prevent costly downtime, reduce chemical consumption and maintenance costs.

Electrodeionization MIT-EDI™

MEMIONTEC EDI Continuous Electrodeionization System
MIT-EDI™ is a breakthrough synthesis of electric dialysis technology and ion exchange technology, and can be used to produce ultra-pure water continuously without the need for chemicals. With its simple operation and compact structure, MIT-EDI™ is hailed as a green revolution in water treatment technology.

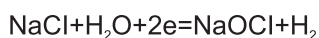
MIT-EDI™ offers the following benefits:

- Maintaining optimal water quality
- Continuous production of ultra-pure water
- Modular setup comes with automatic controls
- No need for chemicals and no production of wastewater
- No need for operation shutdown for recycling
- No recycling of components and transport of chemicals
- Compact structure and small footprint
- Simple and low operational and maintenance costs

Electro Chlorination MIT-EC™

Memiontec Electro Chlorination System MIT-EC™ generates sodium hypochlorite by combining two common consumables:

Seawater+Electricity



(Seawater+Power=Sodium Hypochlorite+Hydrogen)

The system easily controls sodium hypochlorite production and provides a powerful disinfection method for any application. This design allows for ease in service and maintenance, ensures high safety performance and cost efficiency.

Core benefits of MIT-EC™ system include:

- No hazardous materials involved
- Full automation and safe operations
- High performance with low operating and maintenance costs
- Flexible, easy to operate and space optimization
- Customized design for unique application
- One-through flow design for high efficiency
- Guaranteed performance for long term reliability



MIT-EDI™ System



Memiontec In-house Assembly



MIT-EC™ System

Filtration and Chemical Process

We provide an essential pre-treatment process to render seawater, river water, well water or effluent suitable for domestic, industrial and municipal applications. We can oversee and manage the entire process, starting from the intake all the way to the discharge or recycle point.



River Water Clarifier System

Our wide range of treatments include:

- Flocculation and coagulation process
- Sand, multimedia, activated carbon filters
- Continuous upflow sand filters
- Chlorination and dechlorination systems
- Birm, greensand filters
- Automatic self-cleaning filters
- Disposable micron and sub-micron cartridge filters and housings
- Bag filters and housings
- Chemical dosing systems



Filtration System

**Total Commitment
to meet the challenges
of the next decade**



Waste Water Process

Offering a complete range of physical, chemical and biological processes, our waste water process solutions cater to primary, secondary and tertiary treatments necessary to comply with strict standards for the discharge of effluents. Our systems can recycle and reuse waste or rinse water to recover the precious resource.

Our waste water treatment processes and products include:

- Screening
- Clarifiers aeration equipment
- Biological treatment system
- BOD/COD, colour reduction system
- Heavy metals removal
- Oil-Water separator
- PH neutralisation system
- Sludge handling equipment



Waste Recycling System
(UF+RO+UV)

Memiontec's expertise in waste water process treatment include initial investigations, pilot lab/plant studies, customise design and implementation including plant management and maintenance. Memiontec is also capable of employing the latest advance technology for treatment of secondary effluent to produce NEWater.

Industrial Waste Water



Clarifier System



Dissolved Air Flootation System



Aeration System



Sludge Handling (Filter Press)

Applications

Memiontec's Membrane and Ion Exchange Systems can be applied to a whole spectrum of treatment options for industries as follows:



- Power Plant
- Boiler Feed/High Pressure Boiler



- Food & Beverage Production
- Drinking/Portable Water



- Pharmaceutical that has to meet USP (US Pharmacopoeia) Standards



- Electronics & Semiconductors



- Wafer and PCB Manufacturing and Rinsing



- Oil & Gas Industry



- Municipalities and Townships



- Pulp & Paper Manufacturing



- Palm Oil Mill



- Petrochemical & Chemical Industry



- Water/Waste Recycling



- Swimming Pool

Other Applications

- Heavy Metal Recovery
- Waste Clarification and Recycling
- Waste Concentration
- Hospitals
- BOD, COD removal
- Plating Industry/Metal Finishing
- Marine Industry
- Solar Energy
- Textile Manufacturing
- Precision Instruments
- Hotel & Restaurants
- Batteries Water

Equipment and Components

Memiontec's stringent quality control on equipment and components ensures high quality performance and reliability.



Reverse Osmosis Membrane



UF / MF Membrane



Ceramic Membrane



EDI Module



Resin

- Cation Resin
- Anion Resin
- Mixed Bed Resin



Media

- Activated Carbon
- Anthracite / Sand
- Garnet / Gravel
- Biru / Folex



WTP & WWTP Chemical

- Anti Scalant
- Coagulant
- Flocculant



Instruments

- Conductivity Meter & Cell
- Resistivity Meter & Cell
- PH Meter & Sensor
- TDS Meter & Sensor



Cartridge Filter



Housing



Dosing Pump



UV / TOC Equipment



Stainless Steel Nozzle



Nozzle/Distributors



DAF



Filter Press



Transfer Pump



Diffuser



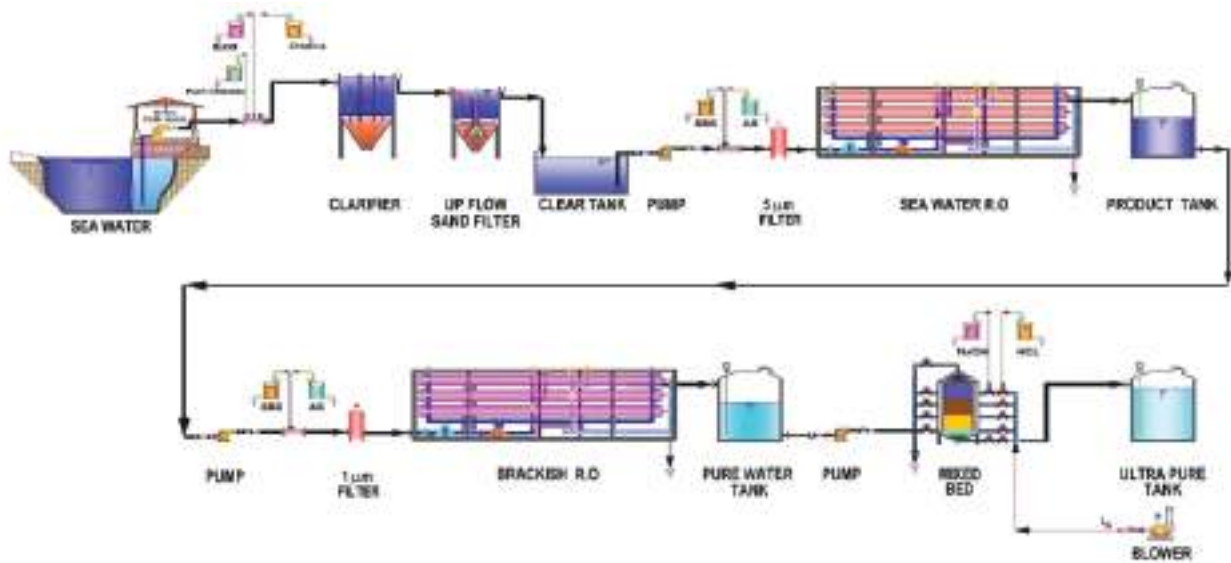
Mixer



FRP Pressure Vessel

Project References

TYPICAL POWER PLANT TREATMENT SYSTEM



Power Plants



PT.Indonesia Power

Desalination Water System
 PLTU-Tambak Lorok-Semarang
 Indonesia



PT Smart TBK

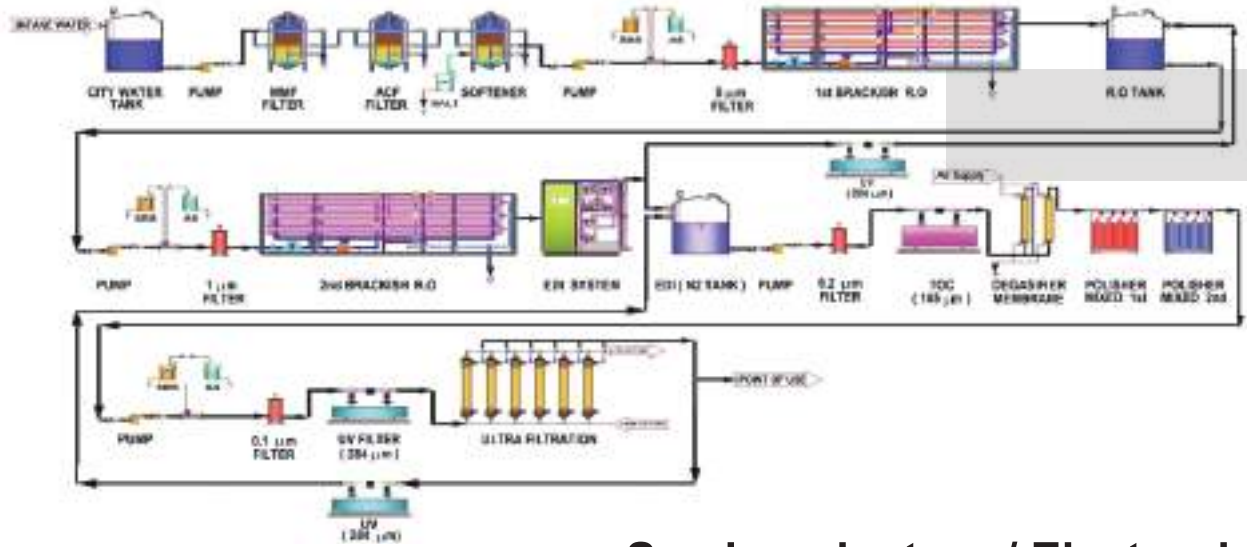
Power Plants/Refinery Mill
 Treatment System
 Tarjun - South Kalimantan
 Indonesia



PT Pindo DeliPulp & Paper Mills APP (Asia Pulp & Paper)

Water Treatment Plant
 Karawang Plant
 Indonesia

TYPICAL ULTRA PURE WATER TREATMENT SYSTEM



Semiconductors / Electronics



Gultec Ltd

Ultrapure Water Treatment System
Pretreatment+RO+Mixed Bed
Wuxi China



Flextronic Ltd

Ultrapure Water Treatment System
UF+RO+EDI+Polisher MB+
Toc+UV
Shanghai China



Compact Ltd

Ultrapure Water Treatment System
Pretreatment+RO+EDI+UV+
Toc+Polisher MB
Wuxi China

Palm Oil Mills



PT. Ciliandra
 River intake System +
 Clarifier + Sand Filter +
 Carbon Active +
 DI System
 Riau - Sumatera
 Indonesia



PT. Daria Dharma Pratama
 WTP+ DI System
 Bengkulu-Sumatera
 Indonesia



PT. Sinar Kencana Inti Perkasa (Sungai Kupang Mill)
 River intake system +
 Clarifier + Sand Filter +
 Carbon Active + DI System
 Demineralizer System
 Kotabaru -South Kalimantan
 Indonesia



PT.Kriesna Duta Agroindo
 Sand Filter + Carbon Active +
 DI System
 Demineralizer System
 Muara Wahau East Kalimantan
 Indonesia

Food/Beverages



Singapore International Airlines
 Pretreatment
 + RO + DI + Mixed Bed Polish
 Singapore



ST. John Island
 Pretreatment + Seawater
 RO System
 Singapore



Pepsico International
 Pretreatment+RO+Ozon+UV
 Vietnam



Oman Drydock Company
 Seawater RO system
 Pretreatment + chemical
 dosing + seawater RO system
 Oman



General Industries/Chemical Dosing System



Changi Newater
Singapore

**Water Authority at Khor
Fakkan and Layyah
Power Station**
Dubai

Asia Pulp & Paper
Indonesia

**Hitachi Plant
Technologies Ltd**
Singapore

Rotary Engineering Ltd
Singapore

**Kuraray Asia Pacific
Pte Ltd**
Singapore

**GE Aviation SVE
Operation LLP**
Singapore

Comprehensive Service & Maintenance/ Swimming Pool



Public Utilities Board (PUB)
Singapore



Kranji Newater
Singapore



Biopolis (Life Science Industries)
Singapore



Marina Bay Sands (MBS)
Singapore



Singapore International Airlines (SIA)
Singapore

Urban Redevelopment Authority (URA)
Singapore

JTC Corporation
Singapore

Singapore Sports Council (SSC)
Jalan Besar Swimming Pool
Toa Payoh Swimming Pool



Waste Water Treatment Plant



PT Smart Tbk.
 Refinery Tarjun - South Kalimantan
 Equalization + Flocculation +
 Dissolved Air Flootation + Aeration
 Sedimentation + Sludge Thickener+
 Filter Press
 Indonesia



**PT Indofood Sukses
 Makmur Tbk.**
 Noodle Mill - Jambi
 Equalization + Flocculation + Oil
 Skimmer + Dissolved Air Flootation
 Aeration + Sedimentation + Sludge
 Drying Bed + Filter Press
 Indonesia



**PT Hasi & Nasa(NIKE Group)
 Waste Water Treatment Plant**
 Factory Tangerang
 Equalization + Flootation +
 Clarifier + Aeration + Sedimentation
 Sludge Thickener + Filter Press
 Indonesia

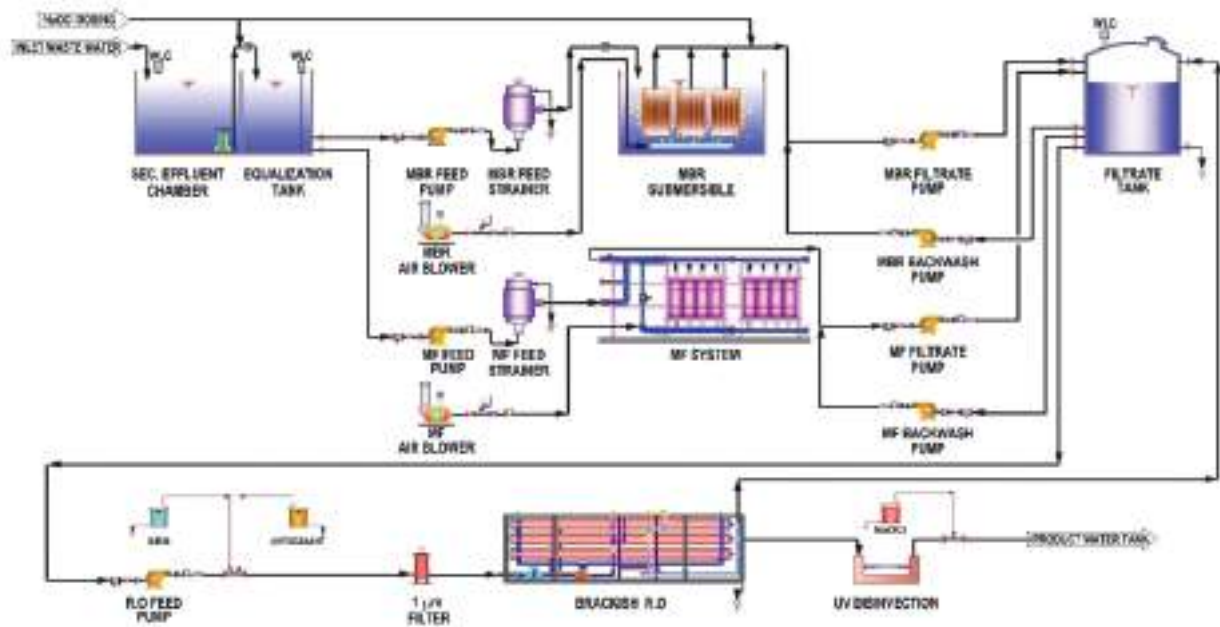


PT Indonesia Power
 PLTU Tambak Lorok, Semarang
 Cooling Tower + Heat Exchanger
 Oil Separator + Oil treatment
 + Dissolved Air Flootation +
 Chemical Injection System
 Indonesia



Waste Water Recycling Treatment Plant

TYPICAL MBR(Membrane Bio-Reactor) WASTE WATER RECYCLING SYSTEM



MEMIONTEC MIT-MBR™ is the latest state of art technology for waste water treatment, combining conventional biological processes with membrane separation. In MEMIONTEC MIT-MBR™ Modular Design/Systems, the efficiency of biological treatment has significantly improved through high concentration of sludge resulting from the selective permeability of the membrane. The better quality permeate can be used as recycled water for other purposes.



PUB Waste Water Recycling Treatment Plant
Singapore
















Technical Support & Services

With our distinguished track record, Memiontec offers our customers a full range of value added services that include: integration of past experience with the latest technology to customize solutions, cost efficient operations and well trained experienced professionals to provide round the clock problem free operations.



Customer Profile

Singapore

 Water for All: Conserve, Value, Enjoy				
Public Utilities Board (PUB) Ministry of Environment	Agri-Food & Veterinary Authority of Singapore	Singapore Sports Council	Ngee Ann Polytechnic	National university of singapore
				
Sembcorp - SUT Some	Ch2mhill	Statschipacs	Tropical Marine science institute	Marina Bay Sands
				
Systems on Silicon Manufacturing Co. Pte Ltd	Power Seraya	Heraeus	Singapore Airlines	POKKA Corpn(s) LTD

Indonesia

				
Sinar Mas Group	Wilmar Group	Ciliandra Perkasa Group	Cisadane Sawit Raya	Gajah Tunggal Group
				
Indonesia Power	PLN	Medco	PGN	Nike Group
				
Indofood Group	Aqua	Mayora Group	Indofarma	Kalbe Farma

China

				
Flextronics International	Belton Electronics (wuxi) Co., Ltd	Compart precision manufacture (wuxi)Co.,Ltd	Micron Semiconductor (xi'an) Co., Ltd	SMIC(ShangHai) CO.,LTD.
				
Illinois Tool Works	Shenzhen Selen Science & Technology Co., Ltd	Donsadson Co.Ltd	Riverstone Holdings Limited	Foxconn International Holdings Ltd
				
Pepsico International	GulTech (Wuxi) Co.,Ltd	Yawei Technology Co.,Ltd.	MIC(wuxi)Co.,Ltd	National Semiconductor



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Membrane Ionexchange Technology

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