



Company Profile

Kansai Electronics Co., Ltd.

Company Profile

Greetings

Our company was founded in February 1968, with the aim of selling as well as giving technical support to high-voltage DC power supply, radiation detector and measuring instruments that are necessary in developing CRT technology and semiconductor technology, and importing and researching nuclear power measuring technology in Japan. Since its establishment, we have been serving as the exclusive Japanese agent for good-standing manufacturers of high-voltage power supply and radiation measuring instruments from all over the world including the United States, the United Kingdom and Germany. We have been delivering superior products that meet the needs of various research institutions and companies, and at the same time have always been striving to introduce and import the latest technical products. With the development of new technology and the appearance of new markets, we have added the following as our new business items: electrical measuring equipment for calibrating electric related instruments, precise temperature measurement device, LSI manufacturing peripheral equipment, stable isotope, etc.

Based on the technology and experience we have accumulated since our establishment, we have been developing and manufacturing radiation measuring instrument and high-voltage DC power supply as our original products, which are highly received by our customers. Recently we have been successful in manufacturing a nanofiber mass-production machine, which is receiving a lot of response from various industries. We will continue to strive to keep delivering new products to our valued customers.



Kansai Electronics Co., Ltd.
President and CEO

Kunihiro Shinji

Outline

Company name	Kansai Electronics Co., Ltd.
Founded	February 21 st , 1968
Capital	10,000,000 yen
Address	[Tokyo Head Office] Techno FRONT Morigasaki #208 509 4-6-15 Omori-Minami, Ota-ku, Tokyo 143-0013 TEL +81-3-6423-2858 FAX +81-3-6423-2857 [Minamisoma Research Center] 65-1 Minamihara, Hansaki-aza, Odaka-ku, Minami-souma-shi, Fukushima 979-2162 [Osaka Office] 3-15-14 Honmachi, Toyonaka-shi Osaka 560-0023 TEL +81-6-6857-3515 (main number) FAX +81-6-6857-3519
Main banks:	Shinjuku West-exit Branch / Sumitomo Mitsui Banking Corporation Shinjuku South-exit Branch / Mizuho Bank Kamata Branch / Higashi-Nippon Bank

Main Lines of Business

Kansai Electronics Co., Ltd. (Japan)	Radiation measuring instruments, Nanofiber mass-production machines, Modular type high-voltage DC power supplies, Box type high-voltage DC power supplies, Rack mountable high-voltage DC power supplies, Power supplies for semiconductor manufacturing equipments, Designing and fabrication of all sorts of analog circuits, Biomass regenerated fuel production devices, Round wood dryers
--------------------------------------	--

High-voltage related products

GAMMA High Voltage Research Inc. (U.S.A.)	Modular type high-voltage DC power supplies, Box type high-voltage DC power supplies, Rack mountable high-voltage DC power supplies, DC high-voltage dividers
Bellnix Co., LTD (Japan)	DC-DC converters
Applied Kilovolts Ltd. (U.K.)	Digital high-voltage meters, High-voltage power supplies
Amphenol Alden Products Company (U.S.A.)	High-voltage connectors
Reynolds Industries, Inc. (U.S.A.)	High-voltage plug · socket, High-voltage cable
Behlke Power Electronics GmbH (Germany)	High-performance high-voltage semiconductor switches

Electrostatics related products

Monroe Electronics Inc. (U.S.A.)	Electrostatic voltmeters, Electrostatic fieldmeters, Surface resistivity / Resistant meters, NanoCoulomb meter (charge measuring instrument), Ionizer performance analyzer (charged-plate monitor)
----------------------------------	--

Radiation measurement related products

LND Inc. (U.S.A.)	Ionization chambers, Geiger-Muller tubes, Proportional counters, Fission counters
VacuTec GmbH (Germany)	Ionization chambers, Geiger-Muller tubes, Proportional counters, Radiation measuring instruments
Amptek, Inc. (U.S.A.)	X-ray detectors, Preamplifiers, Pocket MCA
Oxford Instruments Analytical Oy (Finland)	X-ray detectors, Ultra-thin X-ray windows
Astimex Scientific Ltd. (Canada)	X-ray microanalysis standards
Zinsser Analytic Ltd. (U.K.)	Plastic scintillators, Glass scintillators, Liquid scintillators
Arizona Carbon Foil, Inc. (U.S.A.)	Ultrathin metal foils carbon foils
Oak Ridge National Lab. (U.S.A.)	Stable isotopes, Targets
Chemotrade GmbH (Germany)	Stable isotopes
Panmure Instrument (U.K.)	Precision rotary manipulators, Ultrahigh vacuum goniometers

Scientific measuring instrument related products

Sifam Tinsley Instrumentation Ltd. (U.K.)	Decade resistance boxes, Resistance measuring instruments, Milli ohmmeters, Micro ohmmeters, Marine cable test instruments
MacIntyre Electronic Design Associates, Inc. (U.S.A.)	One-dimensional Gauss meters, Three-dimensional Gauss meters, Magnetic flux meters
Mingeo Environmental Geophysics Ltd. (Hungary)	Absolute magnetometers

Business Items

High-accuracy high-voltage DC power supplies, High-voltage measuring instruments, Charge measuring instruments, High-voltage connectors, Proportional counters, CdTe detectors, Moessbauer effect measuring devices, All sorts of electrical calibration instruments, Helium pressurizing devices, Nanofiber mass-production machines, Round wood dryers, All sorts of built-in type high-voltage DC power supplies, Electrostatic voltmeters / Electrostatic fieldmeters, Surface resistivity / resistance measurement instruments, Radiation measuring instruments, Plastic / glass scintillators, Multichannel pulse height analyzers, All sorts of stable isotopes, Electrical measuring equipments, Gauss meters, Gross leak testing machines, Biomass regenerated fuel production devices

Main customers

National and public institutions, research institutions, etc.

National Institute of Radiological Sciences
Japan Atomic Energy Agency
Japan Aerospace Exploration Agency
National Institute of Advanced Industrial Science and Technology
National Research Institute of Police Science
High Energy Accelerator Research Organization
Institute of Physical and Chemical Research
Technical Research and Development Institute Japan Defense Agency
Institute for Molecular Science
National Institute of Technology and Evaluation
Japan Electric Meters Inspection Corp., and others

Universities

Hokkaido Univ., Akita Univ., Tohoku Univ., Niigata Univ., Gunma Univ., Saitama Univ., Chiba Institute of Technology, The Univ. of Tokyo, Tokyo Institute of Technology, Tokyo Univ. of Science Keio Univ., Waseda Univ., Meisei Univ., Tokyo Metropolitan Univ., Gakushuin Univ., Musashi Institute of Technology, Tsukuba Univ., Nihon Univ., Chuo Univ., Kanagawa Institute of Technology, Tokai Univ., Shizuoka Institute of Science and Technology, Kanazawa Institute of Technology, Nagoya Univ., Nagoya Institute of Technology, Kyoto Univ., Ritsumeikan Univ., Nara Institute of Science and Technology, Osaka Univ., Osaka Prefecture Univ., Osaka City Univ., Osaka Electro-Communication Univ., Kinki Univ., Kansai Univ., Kansei Gakuin Univ., Kobe Univ., Univ. of Hyogo, Okayama Univ., Okayama Univ. of Science, Kochi Univ., Hiroshima Univ., Kyushu Univ., Fukuoka Univ., Kyushu Sangyo Univ., Kyushu Institute of Technology, Miyazaki Univ., Univ. of the Ryukyus, and others

Companies

ULVAC, Inc., Achilles Corporation, Asahi Kasei, Iwatsu Electric Co., Ltd., Osaki Electric Co., Ltd., Omron Corporation, Orix Rentec Corporation, Oki Electric Industry Co., Ltd., Canon Inc., Kyocera Corporation, Konica Minolta Inc., Nippon Steel Corporation, Sharp Corporation, Shimadzu Corporation, New Chemical Trading Co., Ltd., Junkosha Inc., Stanley Electric Co., Ltd., Sumitomo Metal Mining Co., Ltd., Sumitomo Heavy Industries Ltd., Seiko Epson Corporation, Seiko Instruments Inc., Sekisui Chemical Co., Ltd., Sony Corp., Daikin Industries Ltd., Dai Nippon Printing Co. Ltd., Chino Corporation, Teijin Ltd., Denki Kagaku Kogyo K.K., Tokyo Denshi Kogyo Co., Ltd., Toshiba Corporation, Toshiba Hokuto Electronics Corporation, Tokyo Electron Ltd., Toray Industries, Inc., Nikon Corporation, IBM Japan, Ltd., Japan Airlines Co., Ltd., NEC Corporation, Victor Company of Japan, Ltd., Nihon Gosei Kako Co., Ltd., Nissin Electric Co., Ltd., Nissin Ion Equipment Co., Ltd., Hitachi, Ltd., Hitachi Taga Technology, Ltd., Hitachi Plant Construction, Ltd., Fujifilm Corporation, Fuji Xerox Co., Ltd., Fuji Electric Co., Ltd., Fujitsu Ltd., Horiba, Ltd., Panasonic Corporation, Mitsubishi Electric Corporation, Mitsubishi Precision Co., Ltd., Mitsubishi Materials Corporation, Yamaha Motor Co., Ltd., Yokokawa Electric Corporation, Ricoh Co., Ltd., and others

Product Information

High-Voltage DC Power Supplies

Rack mountable · box / tabletop type · module / built-in type
DC-DC converters
High-voltage ~ 500kV
High power ~ 120kW
High stability / low ripple ~0.001%



Electrostatic Instruments

Voltmeters measuring instruments Electrostatic voltmeters ·
Electrostatic fieldmeters
Resistance measuring instruments Surface resistivity / Resistance
meter
Ionizer performance evaluation instruments Charge plate monitor
Charge measuring instruments Nanocoulomb meter · Faraday cup



DC High-voltage Measurement Instruments · Dividers

High-voltage dividers (10kV, 30kV, 100kV, 200kV, 250kV, ~ 500kV)
High-voltage meters (40kV, 60kV)
Handheld high-voltage meters (40kV)



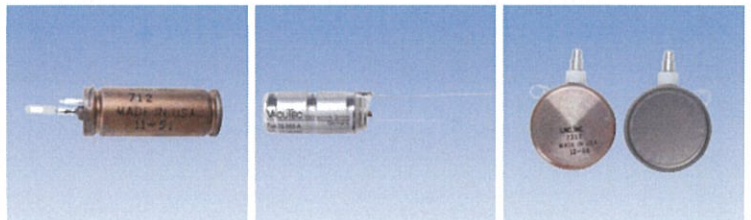
Radiation Measuring Instruments

Survey meters
Surface contamination measurement instruments device
Gamma ray spectrum measuring instruments device
System for measuring radioactivity radiation in food
Beta-ray water monitoring system



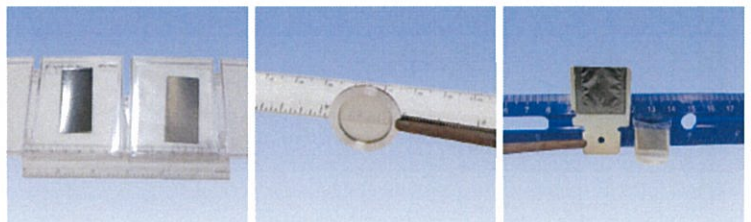
Radiation Detectors

Geiger-Muller tubes (GM tubes)
Scintillators
NaI (TI) · CsI (TI) · SrI2 (Eu)
Plastic / Lithium glass



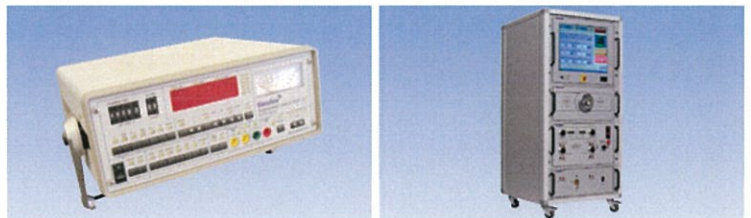
Thin Films · Stable Isotopes

Carbon foils · Stable isotope targets for accelerator · Thin film for
radiation window (beryllium · polymer)
Stable isotopes (metal single unit · oxide · powder · granule · ingot)



Submarine Cable Test instruments

Used for detecting any defects and checking the state of submarine
cables
Test instruments for short distance
Test instruments for long distance
Submarine cable terminal unit
Submarine cable locating system



Helium Pressurizing Devices · Gross Leak Inspection Machines

Helium Pressurizing Device (HP2015P)
· Equivalent to MIL-STD883.
· Wide range of helium pressurizing device...1 tank to 12 tanks...offered
· Fully automatic
Gross Leak Inspection Machine (F700D)
· Easy visual inspection of leaking spots
· Temperature variable from 80 to 125°C



Contact us for technical matters including troubleshooting and calibration.



We are aiming to promote the development of applied technologies for a wide variety of applications.

Nanofiber, is considered to be a new revolutionary material of the third millennium. Reports imply that market analysts anticipate the market for nanofiber materials to be "the fastest growing market in the coming decade".

With its unique performance, nanofiber can be used in many areas in ways that have never been seen before.

Its fiber diameter has a vast specific surface area, and when a little over 1 gram of nanofiber is connected end to end, its length would be the equivalent to one revolution around the earth equator.

Nanofiber is expected to be applied in a wide variety of ways such as in insulation material, sound absorbing material, oil absorbing material (oil recovery), thermal insulator, apparel fabric, agriculture material, decontamination / virus protection, air filter, water retaining material (greening), water absorbing sheet (medical), etc.

Features of Nanofiber

1 Excellent insulation

Fiber diameter: ϕ less than $\phi 1 \mu\text{m}$
 Weight: **0.05g/cc** **Light-weight**
 Thermal conductivity: **0.03 W/mk** **High-insulation**

2 Excellent oil-in-water separation capacity with high water-repellent and lipophilic properties Can absorb oil 40 to 50 more times its own weight

3 Minimal filter pressure drop Energy saving effect

Applications of High-Performance / Future-Oriented, Highly Functional Material

Sound Absorbing, Insulation Materials

Sound absorbing material New sound absorbing material in vehicles, Sound improvement, Noise prevention
 Insulation material New thermal insulation building material to take the place of glass wool, Insulation for industrial pipes
 Light-weight / enhances workability / low in cost

Thermal Insulation

Bedding (duvet) Thermal effect equivalent to down, Light yet warm, Suitable for business use, Cost is lower than down
 Heat insulating package High value added to storage and shipping, Package, protective material

Agriculture Material

Seeding sheet Increases productivity and cuts costs for agricultural products
 Watering adjustment Making water retention adjustment possible for stable production management
 Greening Improvement of dry soil / expansion of green space

Oil Absorption

Oil absorbing sheet Oil wash water, only absorbs oil, revolutionary oil-filter, Make use of grease trap washing

High-performance Apparel Fabric

Winter clothes Fashionable and comfortable heavy winter clothing, Thin yet warm
 Sportswear Excels in water-resistivity and permeability

Decontamination, Virus Protection, Air Filter

Mask Setting us apart from conventional pollen-allergy prevention products, Prevents from inducing allergy
 Air filter Prevention of PM2.5, ventilator filter, make use of air washer

Nanofiber Mass-production Machine

[Specifications]

1. Name: Melt Spinning Machine (Model: KNT type)
2. Production process: This Melt Spinning Machine mass-produces long fibers by melting polymer resin which is extruded from a fine nozzle under high pressure. The fibers can be between 300 to 900 nm depending on the polymer materials used.
 - (1) Material management: Pay extra attention to temperature, humidity, and contamination when storing materials.
 Environment temperature: 10°C to 40°C
 - (2) Feed raw material into the equipped machine hopper according to the determined operation time (automatic feeding optional).
 - (3) Nozzle management: Maintenance free except for clogging due to impurity, etc.
3. Operating time: Approx. 10 hours per day, one-year guarantee.
4. Machine external dimensions: length 1,820mm; height 1,542mm; width 515mm
5. Cylinder center height: 1,090mm
6. Machine body weight: 390kg
7. Rated input voltage: AC 200V / 3-phase / 50/60Hz (specifications applied within Japan)
8. Power consumption: Total 14kW
9. Air consumption: 0.2MPa 536l/min
10. Machine body material: Stainless



Nanofiber Oil Absorption Test Conducted at Chemicals Evaluation and Research Institute, Japan (CERI)



1. Client Kizaki Electronics Co., Ltd.
2. Reception date June 17th, 2015
3. Subject Performance Test, etc., based on the type approval test standards of the Ministry of Land, Infrastructure, Transport and Tourism
4. Sample K-NF002

Tested at a third party organization

Table 5. Results of K-NF002 Oil absorption test				
No.	Sample weight (g)	Non-woven fabric weight (g)	Weight after oil absorption (g)	Absorbed amt. of oil (g)
1	1.0	0.6	53.8	53.2
2	1.0	0.6	54.4	53.8
3	1.0	0.5	58.2	57.7
Average	1.0	0.6	55.4	53.8

Absorbs amount of oil more than 53.8 times its weight.

We conduct prototype experiment of new materials at our headquarter development section.

Contact



Head Office: Techno FRONT Morigasaki #208-508

4-6-15 Omori-Minami, Ota-ku, Tokyo 143-0013

TEL +81-3-6423-2858 FAX +81-3-6423-2857 URL www.kansaidenshi.co.jp

Osaka Office / Minami-Soma Research Center

We exhibited Nanofiber Mass Production Unit for “N-EXPO 2015 Tokyo”



N-EXPO 2015 TOKYO

The 24th New Environmental Exposition 2015 Tokyo

N-EXPO 2015 / GWPE 2015

Date: May 26 (Tue.) to 29 (Fri.) 2015.

Venue: Tokyo International Exhibition Center (TOKYO BIG SIGHT),
East Halls 1 to 6 and outdoor.

Organizer: Nippo Business Co., Ltd.

Specifications

1 Name: Melt spinning unit KNT series

2 Manufacturing Method: Melt blown spinning

Producing in large quantity of continuous fibers with the diameters around 500-900 nm by the processes of melting polymers and blowing molten polymers using high velocity air through the nozzle with fine holes.

[1] Management of materials:

The temperature, the humidity and the waste of the materials in storage should be considered. Operating environment temperature of the raw material is in the range of 10-40 °C.

[2] Feeding of materials:

The material is put into the hopper installed on the unit.

Depending on operation hour the material should be fed in the hopper.

[3] Management of nozzles:

Cleaning of nozzles should be made for the nozzle which is not possible of visual inspection.

3 Operating time: 10 hours per day (one year warranty)

4 Outside dimension:

1,820mm (length) x 1,542mm (high) x 515mm (width)

5 Position of cylinder: 1,090mm (height)

6 Weight: 360kg (main body)

7 Input voltage: AC200V/3 phase,
50/60Hz (for the specification in Japan)

8 Power consumption: 14kW

9 Air consumption: 0.2MPa 536ℓ/min

10 Material of main body: Stainless steel

Nanofiber Mass Production Unit

Nanofiber mass production spinning is finally realized

This is the Nanofiber mass production unit that no other ones accomplished !
The applications of Nanofiber will be expanded.

Kansai Electronics has been researching and developing Nanofiber. Fibers called Nanofiber pass air but get absorption power by the intermolecular force of each fiber. (See the photo of 5000 fold below) So far mass production of Nanofiber was not ensured and the cost of Nanofiber was too expensive to progress the applications. But melt-flow method made it possible to release the Nanofiber mass production unit around 500 nanometer.

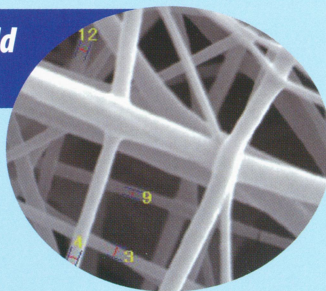
The applicable kinds of fibers are from typical chemicals such as polyurethane, polypropylene and polyethirene to biodegradable PLA and they are spinnable to Nanofiber.

The shape of the Nanofiber are processable to like cotton or sheet depend on the applications and the melt-flow type Nanofiber production unit, which configure only 0.5 x 1.8 x 1.5 m, made it possible to produce 5kg of nanofiber per an hour volumely.

Since Kansai Electronics can provide Nanofiber satisfied to the applications materially and shapely, your proposals are widely sought.

This is the photo of Nanofiber of 5000fold by microscope, which we manufactured.

Extended Nanofiber of 500nm of 1g is equivalent to 5000km, which correspond to the distance more than from Hokkaido to Okinawa. Since Nanofiber obtains the property of "huge surface area", it's the material which can develop a lot of new products potentially.



We'll popularize the development of the applications of the new material "Nanofiber", which expects to apply to the wide applications.

Sound absorption, Heat insulator

Sound absorption

new sound absorption for car, improvement of sound noise, sound suppression

Heat insulator

new heat insulator for constructions instead of glasswool
Heat insulation for industrial piping, Light weight, workability up and low cost

Oil absorption

Oil absorption sheet

Absorption only oil from oil washing water, Innovative oil filter
Re-use of Greasetrap

Lagging material

Bedding

Lagging effect instead of down, warm and light, suit to businesswork, lower cost than down

Lagging package

storage and transportation of high value added goods
Package and protective material

High performance apparel

Snowsuit

fashionable and comfortable snowsuit, Warm and light

Sportswear

excellent water repellent and breathability

Agriculture materials

Young seeding sheet

High productivity and cost down of agricultural products

Affusion adjustment

Ensure of water retention adjustment and stable production management

Plant trees

Improvement of dry soil, Expansion of greenery

Decontamination, Defense against virus, Air filter

Mask

Differentiated products against Pollinosis
Prevention from allergy inducibility

Air filter

Prevention from PM2.5, Ventilation filter, Application to air Cleaner

The Feature of the Nanofiber by the melt-flow spinning technology

The benefit 1

Excellent insulation performance

Diameter of the fiber :
less than 0.1 micro meter

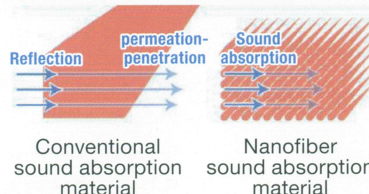
Weight : 0.05g/cc

light weight

high heat insulation

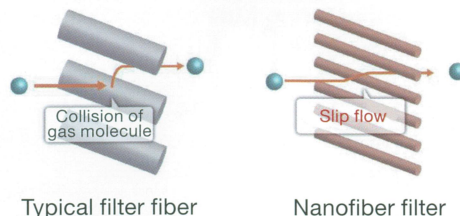
Thermal conductivity : 0.03W/mk

In case of same volume Nanofiber which has wider surface area (has a lot of small porous) is profitable.



The benefit 3

Little pressure loss of filter



The benefit 2

High capability of oil and water separation
by excellent water repellent performance and lipophilicity
Oil absorption capability of 50fold of own weight

Kansai Electronics Co., Ltd.

#208 • 509 Techno Front Morigasaki 4-6-15 Minami Omori Otaku Tokyo 143-0013 Japan TEL +81-3-6423-2858

Outline of the Nanofiber Project

as of January 1st, 2016

Introduction

Since the establishment of our company in 1968, we have been engaged in business centering around radiation measuring instruments and physical and chemical appliances. This coincided with the time right after the commercial reactor of the Tokai Nuclear Power Station had started its operation for the first time in Japan in 1965, so we can say that we have indeed been following the same path as that of the development of nuclear power generation in our country.

At the time of our establishment, there was no major Japanese manufacturer which manufactured radiation measuring instruments, which led us to be in an agency agreement with major Western manufacturers of radiation measuring instruments. On the one hand we had been selling products to research institutions such as Japan Atomic Energy Research Institute (current Japan Atomic Energy Agency) and universities such as the University of Tokyo and Kyoto University, but on the other hand, we had been accumulating know-how relating to radiation measuring and manufacturing technology of various measuring instruments as a result of satisfying various customers' requests such as remodeling, troubleshooting, calibration and adjustment. The many achievements we have made are results of not only direct orders from research institutions but also by taking orders as primary subcontractor of major electronic appliances manufacturers.

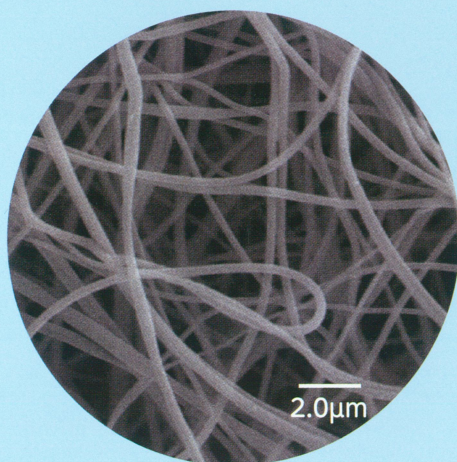
Product Development to date

Up until now we have been placing the manufacture and sales of radiation measuring instruments and physical and chemical appliances as our core business, but as a way of expanding into new business, we have also started developing a device which will manufacture the state-of-the-art nanofiber material, by making use of our manufacturing technology know-how.

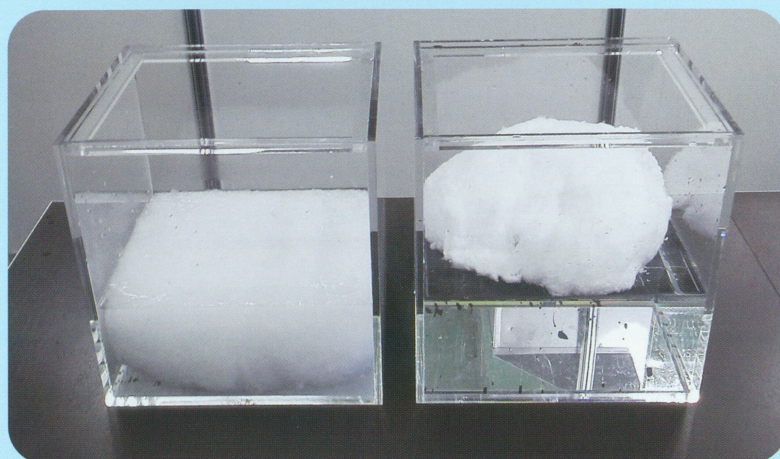
Currently we have succeeded in manufacturing a machine which will mass-produce nanofiber material (patent pending) and have introduced it into the market. We have achieved the fastest mass production speed (production speed) in Japan, and for that we are receiving attention from various industries.



Nanofiber manufacturing apparatus
(N-Expo 2015)



Micrograph of nanofiber



Testing the lipophilic / hydrophilic properties of nanofiber
(left tank : hydrophilicity = surfactant, etc. added,
right tank : lipophilicity = no addition)

Future Developments

Nanofiber can be applied in a variety of ways because of its many properties such as sound absorption, thermal insulation / heat-retention, oil absorption, filtering effect, etc. It is expected to be applied not only in ways to solve environmental problems (air pollution, water pollution, soil contamination, noise pollution, etc.), but as construction material, apparel fabric, agriculture material, etc.



Test results for filtering effect
(Nanofiber trapping dust)



(Oil added to tank)



(After oil absorption)

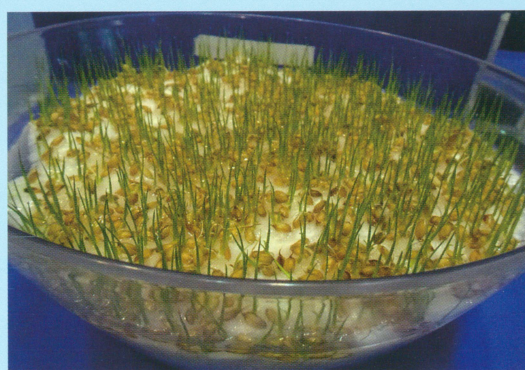
Nanofiber oil absorption test

Currently, processing of nanofiber to meet the various needs are sought after from various industries. Following are some examples of nanofiber processing (patent pending) that we are undertaking:

- Filtering material for environmental purposes (especially for PM2.5 etc.)
- Insulation material / heat-retaining material / soundproof material
- Agriculture application using biodegradable material
- Pretreatment filter for semiconductor and chemical plants



Nanofiber processed into a sheet
at laboratory level (4cm x 4cm)



Seedling culture (agriculture application using biodegradable material)

Suggestions for joint research, etc.

Together with various companies from different industries, we are currently undertaking joint research for developing products or manufacturing equipment to meet the diverse needs. With our success and experience, we will keep striving to provide joint research etc., based on individual client's needs.

Trial production tests for new materials are available upon requests at our lab.

[Contact]

Kansai Electronics Co., Ltd.

Techno FRONT Morigasaki #208・509

4-6-15 Omori-Minami, Ota-ku, Tokyo 143-0013

TEL +81-3-6423-2858 FAX +81-3-6423-2857 URL www.kansaidenshi.co.jp

Osaka Office / Minamisoma Research Center