

# Nagano's Quality Technologies and Products

## NAGANO Monozukuri Excellence 2020



Nagano Monozukuri Excellence is a certification program recognizing the advanced technologies and unique products of Nagano.

**10 technologies and products** were acknowledged in 2020.

Nagano Prefecture will promote the technologies and products globally, offer support through our projects, and work to further advance business development.

The website (Japanese only): <http://www.pref.nagano.lg.jp/sansei/sangyo/shokogyo/shisaku/excellence/top.html>

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# Ozone Generator Equipped with pureO Technology "Airvenus series"

## About the Company

Company Name	ORC Manufacturing Co., Ltd. Suwa Factory
Location	4896 Tamagawa Chino City
Representative	COO Fujimori Akiyoshi
Website (Japanese only)	<a href="http://www.orc.co.jp/">http://www.orc.co.jp/</a>

## What is pureO technology?

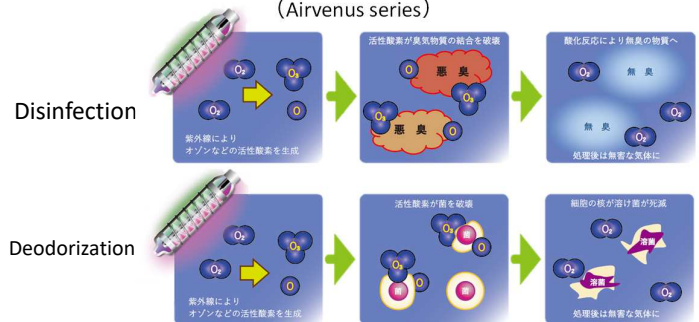
Free of toxic substances, pure ozone, which is created by UV lamp without any mercury, carries out disinfection, deodorant and washing. This is ORC's original clean technology, developed in Nagano.

## Points of Excellence

Pure ozone spreads throughout a space, eliminating or detoxifying bacteria and viruses. Because it contains no harmful NOx, the technology causes less damage to metals and resins. The technology can be safely applied to electronic devices which ozone previously could not be used for, and can be used safely in spaces where precision equipment is in place and in manned rooms.



(Airvenus series)



(Theories of disinfection and deodorization)

暴露試験結果 (金属板)	鉄板	銅板
放電式 (一般的な方式)	一般的なオゾン発生器では数時間の暴露でサビが発生します	
暴露条件	約 13ppm 0 0.5日 1日 2日 3日	0 0.5日 1日 2日 3日
pureO 当社特殊無水銀 UV ランプ方式	[No rust visible]	

(Result of exposure test to metal plates)

1

# Original Flour Manufacturing with Characteristic Local Flour

## About the Company

Company Name	Karakida Milling Co., Ltd.
Location	30-2 Shinonoiai, Nagano City
Representative	President Karakida Yutaka
Website (Japanese only)	<a href="http://www.karakida.co.jp/">http://www.karakida.co.jp/</a>

## What is original flour manufacturing?

The company produces tasty flour through processing methods which highlight the unique characteristics of seven local grains.

## Points of Excellence

The company manufactures various products to match differing consumer needs, including: single grain flours through its standard multistage roller milling; multigrain flour products via combined milling; and whole wheat and sifted stoneground single grain flours via large stone grist mills.



Stone grist mills (front: 1 m in diameter, back: 1.5 m in diameter)

Lower millstone (fixed)



Examples of flour for business use (from left: stoneground, Megumi series, Hana series)



Examples of flour for home use (from left: local flour, Sarashina Megumi, strong flour)

2

## High-Precision, High-Circularity Processing Technology for Difficult-to-Cut Materials (cooling unit parts for the Fugaku supercomputer)

### About the Company

Company Name	Kotobuki Seikou Co., Ltd.
Location	2-1-9 Osachinashikubo, Okaya City
Representative	President Kimura Kenji
Website (Japanese only)	<a href="http://www.ktm.co.jp">http://www.ktm.co.jp</a>

### What is high-precision, high-circularity processing technology for difficult-to-cut materials?

Technology which enables the processing of difficult-to-cut materials (SUS304), used to make parts joining cooling units in the Fugaku supercomputer. The processing is performed with high-precision flatness and high circularity.

### Points of Excellence

Joint parts to cooling units for heating elements in the supercomputer Fugaku's central processing unit and memory are important components in supporting its world No. 1 performance. The parts, made of corrosion-resistant stainless steel (SUS304) are sticky, prone to burring, and deformable with processing heat and residual stress from hardening. Thus it is extremely difficult to control dimensions, but the company's proven technologies have helped solve these problems. High circularity and flatness have led to strong adhesion and compatibility via thin sliding and binding parts.



Fugaku is the No. 1 ranked supercomputer in the world, achieving four crowns.



Important cooling device parts of Fugaku

3

## Functional Plating Technology

### About the Company

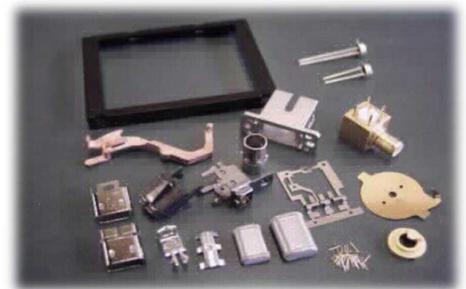
Company Name	<b>Shinko Kogyo Co., Ltd.</b>
Location	2034-37 Kazama, Nagano City
Representative	President Arai Ryoji
Website (Japanese only)	<a href="http://www.n-sinko.co.jp/">http://www.n-sinko.co.jp/</a>

### What is functional plating?

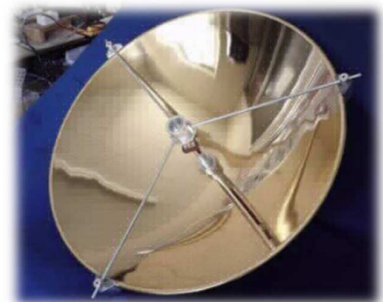
It enables adding various functions to diverse materials (metal, non-metal, resin, etc.) such as rust prevention, conductivity, solderability as well as light absorption and reflective properties across various wavelengths.

### Points of Excellence

The company has trial lines and can produce a variety of functional plating films. Manual labor processing can flexibly deal with minute and complex forms regardless of shapes of products. The company is also specialized in partial plating processing.



Processed products



Reflector from a visible light communication experiment station (plated mirror surface)

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## Auto Antifreeze Tap Post

### About the Company

Company Name	Takemura Mfg. Co., Ltd.
Location	127 Kojima, Nagano City
Representative	President Iwata Hiroyuki
Website (Japanese only)	<a href="http://www.takemura-ss.com">http://www.takemura-ss.com</a>

### What is an auto antifreeze tap post?

This enables the flow, stopping, and adjusting of water, and automatically drains without having to worry about freezing.

### Points of Excellence

When it is likely to freeze, the TE valve\* automatically works to drain water to prevent it from freezing.

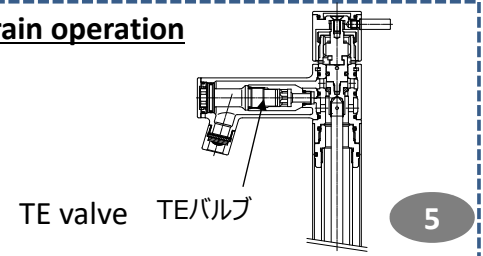
\*An original valve design lets air in by expanding elements at low temperature.



Auto antifreeze tap post



### Without drain operation



## Semi-Dried Fruits

### About the Company

Company Name	Minamishinshu Kashikobo Co.,Ltd.
Location	3291-1 Kasuga, Achi Village, Shimoina-gun
Representative	President Kinoshita Hirosuke
Website (Japanese only)	<a href="https://www.373shinshu.com/">https://www.373shinshu.com/</a>

### What are semi dried fruits?

Fruits are boiled with syrup at low temperatures in a vacuum-sealed environment, increasing tenderness while preserving their natural flavors and textures.

### Points of Excellence

Although imported dried fruits make up the majority of the market, the company is committed to using Japanese-produced fruits as materials. Via confectionary distribution channels, the company provides its products to convenience stores, supermarkets and co-op stores across Japan. The company holds a top market share in the semi-dried fruits confectionary field, bolstered by increasing health consciousness and demand for domestic produce.



(One of the company's major products, "Sliced Lemons," on the production line)



(A growing number of products are sold year round.)

## Iontophoresis Device for Dentistry "PyoCure"

### About the Company

Company Name	Narcohm Co., Ltd.
Location	1251-239 Yomogida, Saku City
Representative	President & CEO Inomata Goro
Website	<a href="https://www.narcohm.co.jp/en/">https://www.narcohm.co.jp/en/</a>

### What is PyoCure?

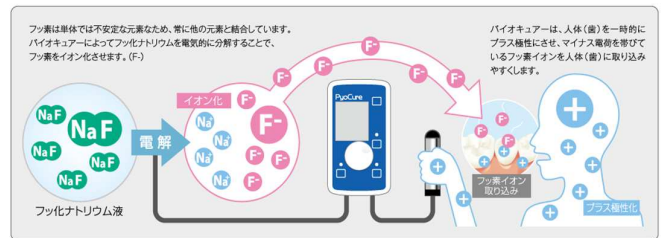
By placing a sodium fluoride-impregnated tray against the teeth and connecting it to this device, dentists can achieve highly effective fluoride treatment to increase acid resistance and decrease potential for cavities.

### Points of Excellence

Experiment results have shown iontophoresis to be able to introduce 58 percent more fluorine and lead to 32 percent less decalcification than simple coating, making it superior to traditional application methods. This device has been used not only by dentists all over Japan, but also government offices in Kitakyushu City for collective preventative treatment among elementary schoolers.



PyoCure main console



イオン導入の仕組み

Iontophoresis mechanism

## Soba-based Food Processing Technology

### About the Company

Company Name	Nikkoku Seifun Corp.
Location	1-16-2 Minamichitose, Nagano City
Representative	President Koyama Norio
Website (Japanese only)	<a href="https://www.nikkoku.co.jp">https://www.nikkoku.co.jp</a>

### What is soba-based food processing technology?

This processing technology can make various foods from soba, including: flour, noodles, tea, pasta, galettes, sweets.

### Points of Excellence

Soba flour can be adjusted for color, ingredients, and granularity, according to preference and purpose. In addition, from rollers to stone milling, there are many ways to produce it. Soba noodles can be processed from 100% soba flour to finely blended flour. Soba teas produced by patented methods have a strong, rich aroma. The company offers new uses for soba such as pasta, galettes, and sweets through its unique production methods.



Soba galette



Soba roll cake

## Polishing Machines

### About the Company

Company Name	Fujikoshi Machinery Corp.
Location	1650 Matsushiromachi Kiyono, Nagano City
Representative	President & CEO Ichikawa Daizo
Website	<a href="http://www.fmc-fujikoshi.co.jp/en/">http://www.fmc-fujikoshi.co.jp/en/</a>

### What are polishing machines?

Silicon wafers for semiconductor device materials require strict flatness. These machines remove minute unevenness and impurities formed on the surface of wafers in the previous lapping process to make distortion-free, highly flat wafers.

### Points of Excellence

The company's polishing machines enable mirror finishing for silicon wafers requiring exacting levels of flatness, capable of producing wafers without even nano\*-level distortions.

\*(1nm=1/1,000,000 mm)



Polishing machine SPM-23

## Polyethylene Tank Type Emergency Water Purifier "Cokkun Mini-Nomeruzo"

### About the Company

Company Name	Miyasaka Kogyo Co., Ltd.
Location	5568-2 Kanazawa, Chino City
Representative	Chairman Myasaka Masayoshi
Website (Japanese only)	<a href="https://mskcg.jp/">https://mskcg.jp/</a>

### What is "Cokkun Mini-Nomeruzo"?

This emergency water purifier changes undrinkable water to drinking and domestic-use water in the event of water outage in disasters, etc.

### Points of Excellence

This new type of product realizes high-performance at a remarkably low price. High-performing triple filters remove Escherichia coli and general bacteria and purify bottled water past expiration date, rainwater, bathwater, and tank water to make safe drinkable water. (Its safety has been certified by a public water-quality testing organization.) With an exclusive shower head, the product can also be used as a shower in evacuation centers or at home for sanitation.



Cokkun Mini-Nomeruzo  
MJMI-02



Multipurpose use with  
exclusive shower head (sold  
separately)  
SWMI-02

MADE IN NAGANO

掘り起こそう、足元の価値。  
伝えよう、信州から世界へ。