

Aspiring always to be an environmentally friendly and trustworthy company

TAMAGAWA NEWS

2021.9
Vol. 27



NEW! Non-shaking System

VR Type Resolver “**Singlsyn**”: More than **100 million** units sold!

New Project: Exploring the Minami-Shinshu Area

～Promoting the Charm of Local Food and Culture～

NEW!

Non-shaking System

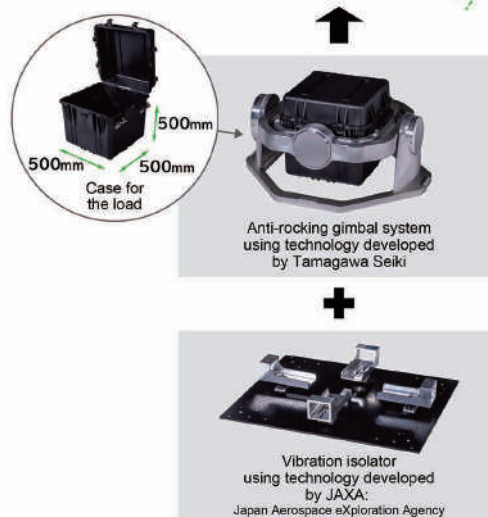
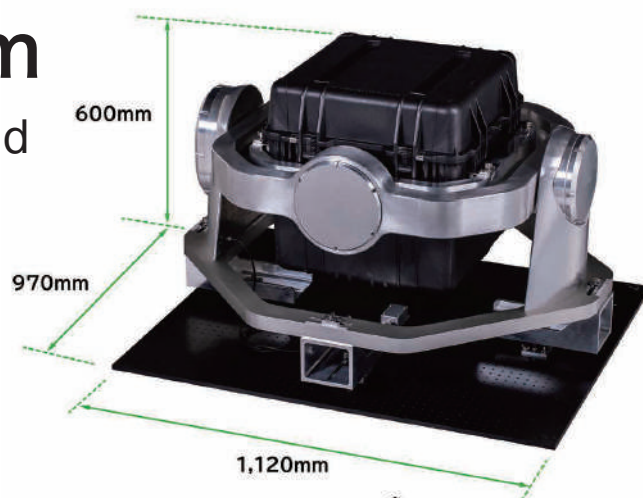
Equipment to reduce vibration and shaking of load in transportation was developed

~Expectation for transportation of biological medical products and vibration sensitive products~

In recent years, there has been an increasing needs in the transportation sector for delivering valuable and expensive loads safely without vibration or shaking. Currently, vibration isolator with flexible support materials such as springs and rubber materials have been used to protect loads. However, vibration is not necessarily reduced because vibration may be amplified due to resonance of flexible support materials. In addition, it was impossible to prevent the effects of vehicle inclination, and shaking loads by acceleration of speed-up, speed-down and turning.

The Non-shaking System is an innovative device developed to meet the needs of the transportation sector. We can reduce these vibrations and achieve quantitative transportation quality by combining JAXA's vibration isolation technology and Tamagawa Seiki's stabilization & anti-rocking technology.

The application of this system is transportation of aircraft parts, space equipment parts, precision equipment, cultural properties, and works of art that are easily affected by vibration, as well as new coronavirus vaccines, which are required to be transported in a stable and handled carefully to avoid vibration.



Characteristics

1. Vibration isolator capable of handling a wide variety of loads

JAXA's vibration isolation technology enables vibration isolators to accommodate a wide variety of loads by positioning and adjusting springs and rubber materials at optimal locations.

2. Avoiding the effects of vehicle inclination, rocking in speed-up, speed-down and turning.

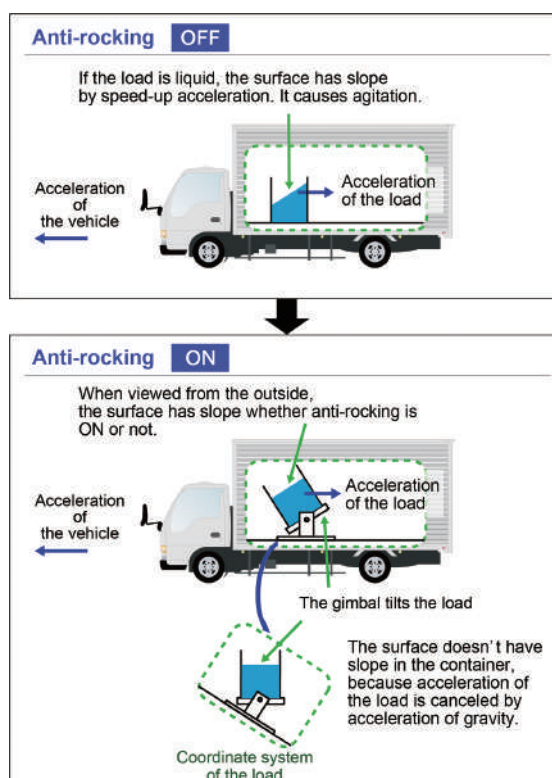
Tamagawa Seiki's stabilization technology can be applied to reduce the effects of vehicle inclination, and rocking in speed-up, speed-down and turning.

Non-shaking System URL

<https://www.tamagawa-seiki.com/products/featured/non-shaking.html>



※Non-shaking system was developed with support of JST: Japan Science and Technology agency, in A-STEP: Adaptable and Seamless Technology transfer Program through target driven R&D. For details, see the following.

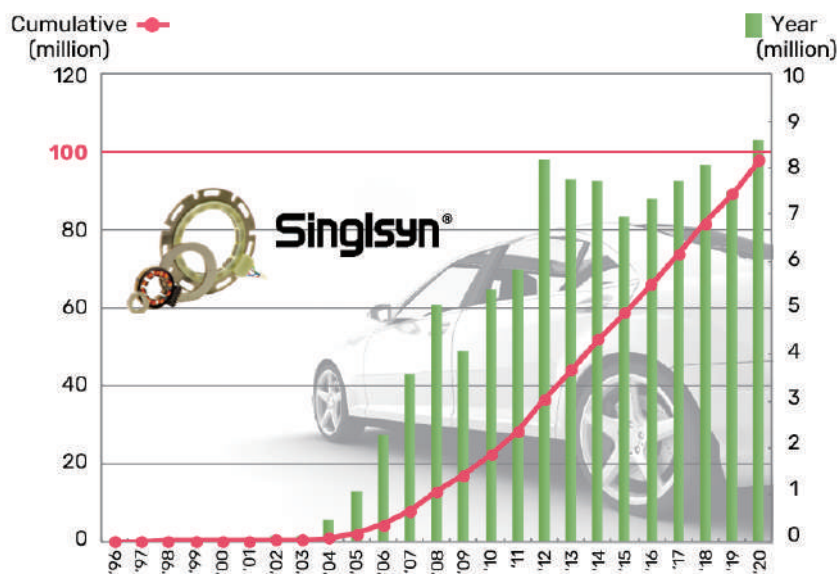


VR Type Resolver “Singlsyn”[®]

More than 100 million units sold!

In 1996, the VR Type Resolver “Singlsyn” was installed for the first time as an angle sensor for EV (Electric Vehicle). Since then, this product has become widely used in the market for angle sensors for HV (Hybrid Vehicle) and electric power steering systems in cars. After 25 years, cumulative shipments was reached 100 million units. We thank you for your continuous support through the years. Because of their structure without electronic and optical components, resolvers were originally used as sensors for special industry and defense applications with extreme environmental conditions. Therefore, mass production of these sensors was a continual challenge for us.

In the future, we will continue to further advance our technology to meet the accelerating EV market trends.



Global Shipments of VR Type Resolver

The Tamagawa Seiki Online Café

Online Cafés are held about twice a month to provide opportunities for college and graduate students who are considering working at Tamagawa to talk easily with our employees.

This is one of the events sponsored by the Iida City Recurrence Promotion Council, and is conducted as an “online internship” for students who have left Nagano Prefecture and cannot return due to the COVID pandemic.

To help students interact in an open atmosphere, we mainly set the meeting during lunch time, and talk about the challenges of finding a job, teaching at school, and the local community. At the meeting held on July 21, four university students were invited to ask specific questions about work, such as whether the sales department had an assigned target, whether they could be assigned to their desired department, and how the COVID pandemic has affected work and the market ... etc. Tamagawa’s Advertisement Section participated in the meeting and discussed day-to-day work and the workplace environment.

If you or anyone you know is interested in events like this, please feel free to contact us!



The state of the Online Café

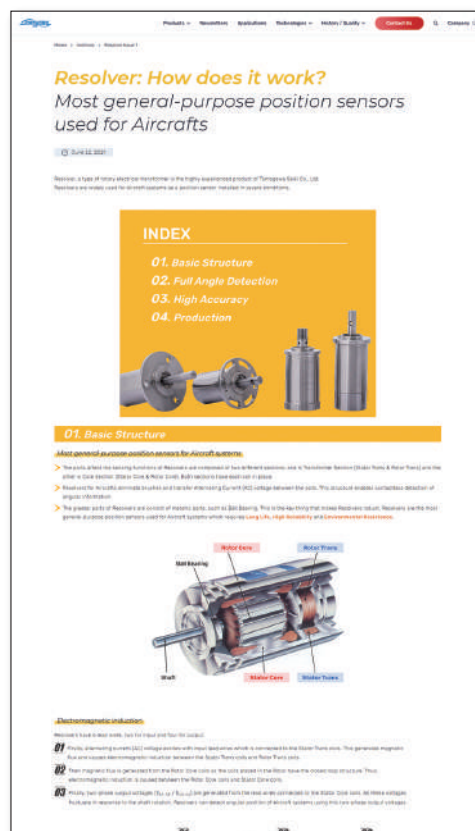
AEROSPACE PRODUCTS

Started distribution of our Newsletter!

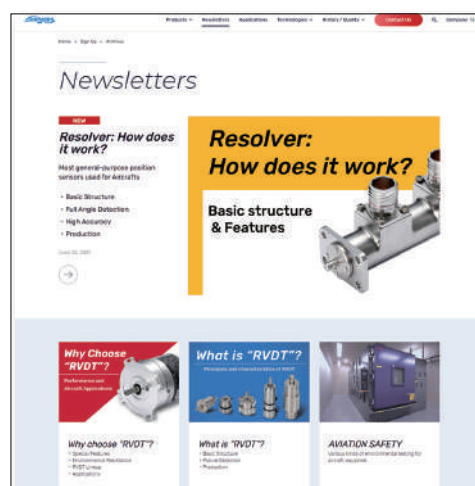
In February this year, we began the distribution of our Aerospace Products Newsletter. The Newsletter regularly delivers updates on the newest technology of commercial aircraft products that we have cultivated over the years. You can register to receive the Newsletter at our AEROSPACE website.

✉ Newsletter

Information page



Archive (past Newsletter issues)



The Newsletter introduces RVD and resolvers for commercial aircraft, as well as test facilities and equipment. In the future, we will use illustrations and graphs to explain a variety of products and manufacturing processes, including Actuators, Motors, Levers, and TQAs.

If you are interested in our products, please take a moment and sign up for Newsletter! Past issues are also available in the archive.

AEROSPACE PRODUCTS website

Newsletter registration page



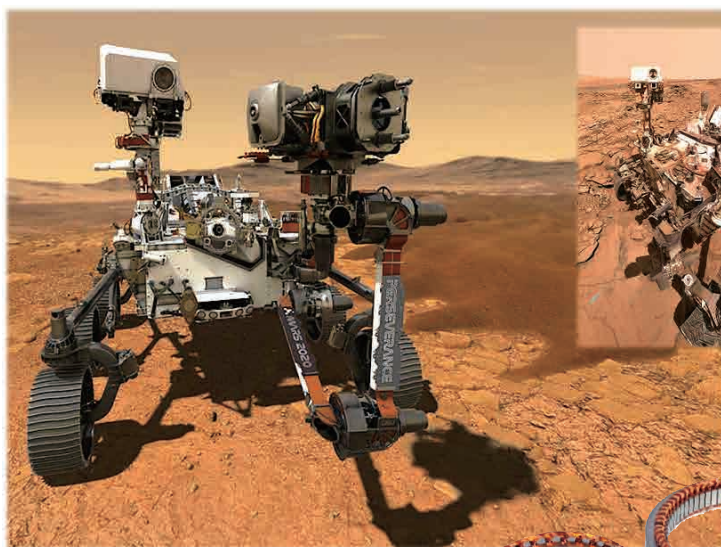
URL : <https://aircraft.tamagawa-seiki.com/sign-in/>

Resolvers now on Mars!

Tamagawa High Precision Angular Sensors has been used for Explore Missions on Mars.

The technologies for design and produce high reliable and environmental resistance Resolvers of year's experiences are applicable not only for automobile and aircraft but also for SPACE. Tamagawa Resolvers have worked at Space Station, etc.

Perseverance
Mars 2020



Credit: NASA / JPL (Space pictures)

Curiosity
Mars Science Laboratory (MSL)



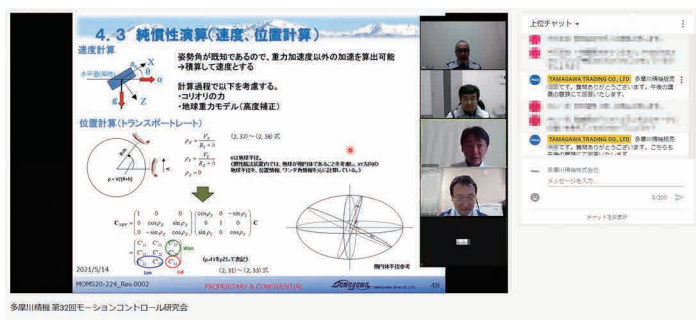
Tamagawa Seiki Co., Ltd. (Resolver pictures)

MEMS Motion Control Online Symposium

The 33rd MEMS Motion Control Symposium was held on July 30. Usually customer visits the Hachinohe No.2 Plant, where our development and manufacturing departments are located, but this year the event was held online due to the COVID pandemic. The symposium has been well received as an opportunity to deepen understanding of IMU(Inertia Measuring Unit) through lectures on the principles of IMU, attitude angle arithmetic,

GPS composite navigation operations, and introductions to measurement examples.

Unfortunately this year we were able to show demonstrations with the actual machines, but newly created videos were used for the introduction of the technology. After the seminar, we also held an online gathering where customer can freely consult with engineers.



INFORMATION 01

Domestic sales department moved to the Second Plant

On May 21, 2021, the domestic sales division (Iida Branch Office of the Nishi-Kanto Sales Office, Nagoya Sales Office and Automotive Sales Department) who were working at the Tamagawa Seiki Trading Head Office (Haba-cho, Iida City) moved to the Second Plant located in Iida City. They joined our sales team members who have returned to Iida from other prefectures as a measure against the COVID pandemic.

Also, the contact information has also changed, so please update the contact information you have!

[New Address]

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INFORMATION 02

Newly established: Legal Affairs Division!

Preserving the corporate value of the Tamagawa Seiki Group through creative legal services and contributing to the achievement of business goals

As the scope of our business expands, the risks inherent in our business have become more complex and sophisticated. To cope with these changes in the business environment, we established the Legal Section of the Sales Administration Department on May 21, 2021. Our mission is to protect corporate value and contribute to the achievement of our business objectives through creative legal services. We currently have three members ① Security Trade Control, ② Contract Review, and ③ Conflict Management (legal consultation within the company). Of these, we place particular emphasis on contract review.

A contract stipulates the rights and obligations of the past, present, and future in written text, assuming as many situations as possible

that may arise between the parties. When dealing with overseas customers, it is necessary to clarify the rights and obligations in a text. Therefore, contracts tend to be large in volume; contracts with dozens of pages are not uncommon for overseas business.

The Legal Section examines whether ① the agreement of the parties is correctly reflected and ② the rights and obligations are clearly stated. Approximately two months have passed since the Legal Section was established, and more than 30 contracts have been submitted. The contract is concluded only after agreement with the customer. We will strive to improve our services so that we and our customers will be able to achieve the agreements that will contribute to the reduction of both risks.

01

Guardian/off-frame function

Providing strategies and logic to counter conflicts through risk analysis, mitigation measures, and other means in the event of a crisis or conflict.



02

Function to maximize within the navigation/frame

Providing a "contract" perspective for defensive and offensive management decisions.



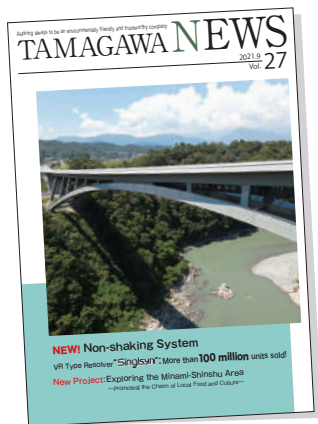
03

Creation/Expansion Function

Providing strategies and logic to enable businesses to move into unknown areas where current rules and interpretations do not envisage.



The cover of this edition



The Tenryu Gorge Bridge is a bridge that spans the San-En-Nanshin Expressway's Tenryu Gorge IC to Chiyo IC, with a total length of 280 meters and a height of approximately 80 meters. A sidewalk called the Sora Sanpo (walk in the sky) is set up beneath the highway. From the sidewalk you can enjoy the seasonal changes of scenery in the valley, the JR Iida Line, and the boats in the river.



The Tenryu Gorge Bridge



Sora Sanpo (walk in the sky)

Did you know?



~Introducing the food and culture of local areas around Tamagawa Seiki~

The Minami-Shinshu Region is located in the South of Nagano Prefecture. The region is blessed with a mild climate and a magnificent natural environment facing the Southern Alps.

Neba Village is a small village with a population of around 900 people, located at the southernmost end of Nagano Prefecture. Forests account for 92% of the village's total area. The local tree Neba cedar is characterized by its beautiful reddish core and is designated as a certified material by Nagano Prefecture. The Neba village promotes a new concept "Never Forest(a forest never seen before)".



Admired by photographers

Odon Valley



The Odon Valley, located at the uppermost end of the Yahagi River, boasts blooming azaleas from June to July, and from late October to November, the trees are brilliantly colored with autumn leaves, giving you a full enjoyment of nature. Many visitors come from the Tokai area enjoy nature on one-day trips.

▶ Approximately 10-minute drive from Route 153 to Chausuyama

The largest tree in Nagano Prefecture

Osugi (Big cedar) in Tsukize

The tree is said to be more than 1,800 years old, and it is about 14 meters around the trunk and 40.5 meters high. In November 1944, it was designated as a national natural monument. In 1989, the Ministry of the Environment's survey of giant trees confirmed that it was the largest tree in Nagano Prefecture. If you have the chance, please come see the famous tree-



also known as a powerful spiritual spot.

Specialty potato restaurant

Jinen Tei

Carefully prepared with the finest potatoes, come here to enjoy a leisurely meal while watching the mountain streams. 'Natural potato', a wild potato native to Japan, and is characterized by its thick, sticky texture. Many dishes made from the potatoes, including homemade soba noodles, are very popular. Come visit and try it out for yourself!

▶ 5643 Nebo Village, Shimoina-gun, Nagano



Neba village map

Neba Village has a wide temperature range throughout the day, and its clear waters help grow plenty of delicious agricultural products. The mini-tomatoes of Kobayashi Farm are grown using a



unique farming method and has sweet and flavorful taste. The tomato juice is also highly recommended.

It can be purchased in the Nebo Land, so please try it!



From Nebo Village
Tamagawa Motortronics Co.,Ltd. Yuji Katagiri

Inquiries Nebo Village Hall

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<http://nebamura.jp>

[Nebamura search](#)



YouTube



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