

Nara Prefecture

NISHIMOTO DENKI CORPORATION (Nara City)

Manufacturing of lead PIN for electronics devices through press technologies

Fujii Precision Industries,Ltd. (Nara City)

Ultrahigh-speed and high precision processing through a chuck using pneumatic pressure

Showa Corporation (Ikoma City)

Development type company that is familiar with any titanium processing

Manufacturing of lead PIN for electronics devices through press technologies

NISHIMOTO DENKI CORPORATION

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Establishment: 1983
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<http://www.nisimotodenki.com/>



Shinichiro Nishimoto
President

The company is a company to make technological proposals that can fully utilize multiforming press technologies through craftsmanship, and promptly respond to high-mix low-volume production.

Lead PIN for nano-sized and miniaturized electronics devices

Accompanying high integration of semiconductors and compactification of electronics components, lead PIN tends to be more miniaturized and more compact. Users request article specially made to orders from mass-production items and a short-time delivery. Therefore, improvement of technology and quality is desired.

Ability of proposal responding to high-mix low-volume production

The company holds facilities for precision processing technology necessary for pressing, cutting works, and header (machine, mold, and material) in-house. Thus, in response to user needs in a flexible manner, the company has a proposal ability concerning miniaturized processing processes such as replacement of cutting works by pressing on a case-by-case basis, and has strength in specializing in the technology of manufacturing process.

Strategic cultivation of human resources that support manufacturing sites

The said company can manufacture various products through skillfulness of engineers in regards to multiforming press which is particularly a main facility. Thus, the impact granted by the skills of engineers is large. Thus, as a managerial policy of the company, the company engages in skill succession such as employee education in a strategic manner.



Ultrahigh-speed and high precision processing through a chuck using pneumatic pressure

Fujii Precision Industries, Ltd.

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Establishment: 1977
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Masayoshi Kameda
President

The company develops the world's first air balloon chuck for machine tools that dissolve the impacts of centrifugal force based on ultrahigh-speed rotation (thousands or several tens of thousands per minute) and realizes ultrahigh-speed and high precision cutting works.

Predicted on-site needs

On site concerning a precision lathe processing, accompanying digitization of information equipment and high precision and miniaturization of electronics devices, "tools should not bend soft processed items such as aluminum and plastic resin should and should continue to accurately grab objects even at the ultrahigh-speed rotation." This was an important issue.

Development of the world's first tools (chuck) that fixes the objects through using of pneumatic pressure

The company devises a balancer based on its own analysis, and developed an air balloon chuck through using of pneumatic pressure (method that operates pawls that holds materials and tools through giving pneumatic pressure from inside the chuck of machine tools and inflating of metallic films) for the first time in the world. Impacts given to the retentive members concerning centrifugal force occurred by ultrahigh-speed rotation are dissolved and a complete balance is realized.



Installation of processing machine



Balloon chuck



Video drum

For example, due to accuracy improvement of a video head, the company contributes to realization of clear video images. Therefore, the company aims at a very important position such as processing and examination in various fields of optical devices, automobiles parts, and cellular phones.

Challenges to the advanced system of machine tools

In the midst of decreasing in demands concerning ultrahigh-speed and high precision processing technology, the company performs technical compatibility with domestic makers involving machine tools since it is essential to improve the technology of the entire system of machine tools including cutting tools (blades) and a main body of machine as well as a single unit of chuck. Through this, the company engages in technical development in a positive manner.

**Development type
company that is familiar
with any titanium
processing**

Showa Corporation

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Establishment: 1967
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Teruki Takayasu
C.E.O. and President

Titanium is used for various purposes of uses based on the superior nature because it is light, strong, and resistant to corrosion. Due to its good prospects for the future, many major companies participate in its development. In the midst of it, the company performs development of various purposes using titanium materials based on its unique technologies as its advantage.

Familiarity concerning titanium processing technology and realization of the product that was considered not to be feasible

The company responds to almost all processing processes of cutting, bending, pressing, welding, and machining of titanium and use titanium as an electrode. And the company produces various “only one excellent products” such as heat exchanger made of titanium, ultrahigh-vacuum containers, pressure vessels, and devices for atomic energy.

Utilization of titanium regarding architectural structures and realization of a product through technologies based on familiarity

Recently, the company pays attention to photocatalytic function of titanium oxide, and developed the technology that causes photocatalytic function on a surface of titanium metals that were considered impossible in the past , jointly with laboratories of government and universities. Moreover, the company developed a product and application of titanium that covers and protects concretes such as architectural structures, jointly with a major general contractor. The company made a success of the development. The company has acquired patent rights in various fields.

Establishment of an unparalleled brand in the industry

The main purposes of business of the company are contract works of components and processing. Thus, it is difficult to indicate the market share through the numeral values. The company has gained confidence with the parties of the industry that the company can realize even complicated processing. And even though the company is a small and medium-sized enterprise, the company has established a brand of “titanium’s Showa.”



Pressure vessel
made of titanium



Insoluble electrode

Brake disk made
of titanium



Processed goods
made of titanium

