



Contributing to  
the Global Environment and  
the Society of Tomorrow

C©R P©R A T E P R © F I L E

**NIPPON PILLAR PACKING CO., LTD.**



Based on our unique fluid control technologies,  
we are advancing boldly into the future, exploring unknown possibilities.

Since its founding in 1924, Nippon Pillar Packing Co., Ltd. has supplied various high-function products as a sealing manufacturer, such as mechanical seals, packings and gaskets.

Our superior products are used in a broad range of industrial fields, including electric power, water supply & sewerage systems, petroleum refining, petrochemical, marine vessels, automobiles and electronics, playing an important role in each respective field. By making full use of the advanced material engineering, design engineering and machining technologies accumulated throughout its long history in the field of sealing technology, Nippon Pillar has developed a wide variety of fluid control-related equipment for semiconductor/liquid crystal manufacturing equipment. Products in these new fields have acquired a high reputation in both domestic and overseas markets.

The Company maintains an ISO 9001-compliant quality assurance system and ISO 14001-compliant environment management system. These are just a part of its efforts to continue to remain competitive and meet customers' expectations in the 21st century.

Based on its superior fluid control technologies and products, Nippon Pillar Packing Co., Ltd. is committed to developing more advanced and sophisticated material engineering and high-precision processing technologies, to continue to provide innovative products to critical industries, including those of information communication, new energy and the environment.

Kiyohisa Iwanami  
President

Company mottos have served as guidelines for the conduct of all employees since its founding in 1924.

"Quality first," "Through cooperation and harmony," and "Continuation of research"—these are the company mottos that have been handed down to us from our founder. These spirits are still alive in corporate business activities and serve as guidelines governing the daily practices of all employees of Nippon Pillar Packing, a vibrant company advancing into the future.



### Management Philosophy

1. We contribute to making the Earth a more comfortable place to live and to creating a rich social environment.
2. We aim to become invaluable and irreplaceable to our customers by providing innovative, high-quality products.
3. We strictly observe all laws/regulations and social rules and carry out fair and sound business activities.



PILLAR MIND

# Contributing to a healthier environment and sustainable future

## Our mission as a fluid sealing manufacturer

People continued to seek greater convenience  
As a result, an array of environmental problems  
To create a truly affluent society and a sustainable  
all companies must address environmental  
We at Nippon Pillar have always contributed to  
protection through our advanced sealing  
We have developed technologies and products  
the environment, including gaskets for preventing  
CAA (US Clean Air Act)-compliant seals.  
"Environmental protection" and "corporate growth"  
our business activities, we are committed to

and economic efficiency in the 20th century  
confronts the world today  
future,  
conservation seriously  
environmental  
technology.

for various applications that help protect  
air pollution and

—with these two themes at the core of  
helping create a better society.



### Origin of company name

Our first product, the patented "Pillar Packing No.1," was developed in 1924. The company's name "Pillar" was derived from the fact that this original packing was pillar-shaped. Likewise, we are determined to remain a pillar of the industry.



### Eco-friendly product development

[Low-creep PTFE gasket]

Seat gasket with excellent corrosion resistance and heat resistance, produced by mixing the filling material using the company's proprietary production technique. Three types of low-creep PTFE gaskets are available for different applications and products. Low-creep PTFE gasket contains no asbestos fibers and is compliant with the US FDA Standards; this is an environmentally friendly product.





## Products

# Offering technological expertise and reliability in a wide variety of fields

Since its founding, Nippon Pillar has continued to develop and improve technologies for preventing leakage. Today, Nippon Pillar products, embodying its proprietary know-how are applied not only to the field of fluid control, but also to buildings and structures such as nuclear power plants and airports, space rockets and vessels as well as advanced information equipment. We continue to make the utmost effort to improve product quality so as to provide unsurpassed reliability and safety to a widerange of industries.

### MS Mechanical Seals

Nippon Pillar has provided various types of mechanical seals with secure high gas-tightness since 1951 when the Company first developed a mechanical seal to prevent the leakage of hazardous fluids. These mechanical seals are applied in a wide range of industries, including petroleum refining, chemical, paper milling, steelmaking, water supply and sewerage, food processing and ship building. Nippon Pillar's mechanical seals are fully compliant with JIS and ISO standards and deliver a stable performance even under the harshest operating conditions.



### GP Gland Packing/Gaskets

Highly reliable packing/gaskets designed to prevent leakage of fluids. Nippon Pillar's outstanding sealing technology, accumulated since the Company released its first product, a pillar-shaped packing for use in vessels, is applied to provide maximum sealing performance for pipe joints, machine parts with connecting surfaces and movable parts of valves and pumps.



### PF PILAFLO®

A series of fluorocarbon resin products with superior low friction, chemical resistance and weather resistance properties. Owing to their excellent chemical stability to acid and alkali, Pilaflo products are widely used in leading-edge industries such as the semiconductor, liquid crystal, construction, and information and communication industries. Pilaflo is one of Nippon Pillar's core products, with production volume steadily increasing.





# MS

## Mechanical Seals

Mechanical seals consist of a spring-pushed movable sliding ring and a stationary sliding ring, the surfaces of which are kept in intimate contact with each other to prevent fluid from leaking out of rotary machine shafts.



### Pillar Cassette Seal®

Pillar Cassette Seals are general-purpose mechanical seals that can be applied for a wide variety of fluids, including fresh water, high viscosity fluids, and coagulable fluids. Owing to its cartridge type construction, these seals do not require any special skill for installation.



### Pillar KE Seal®

Pillar KE Seals are innovative seals of Nippon Pillar's original design in which one of the sliding rings has a sharp knife-edge surface. These seals are most suitable for sealing high-viscosity, coagulable fluids.



### GHB Seal

GHB seals are standard static seals widely used for process pumps in oil refineries and petrochemical plants. These seals are applicable for shafts running at high circumferential speeds.



### Pillar ARII Seal®

Pillar ARII Seals are mechanical seals used for large-capacity river water pumps. Consisting of movable and stationary rings of split construction, these seals allow easy maintenance.



### Pillar Phoenix Seal®

Pillar Phoenix Seals are non-contact type seals with a sealing surface grooved in a phoenix feather pattern. These seals are mainly used for compressors, blowers, and other high-speed, high-pressure machines.



### PEC® Seal

PEC seals are non-contact type gas seals used for machines that handle a toxic gas or inflammable gas that must not be allowed to leak into the atmosphere or a gas containing powder.



# GP

## Gland Packing/Gaskets

### 【Gland Packing】

Having a rectangular cross section in general, gland packing is a general term for packing glands after they have been packed in a stuffing box. Gland packing is used for sealing the rotating or reciprocating shaft of a pump, valve, or other machine.

### 【Gaskets】

"Gasket" is a general term for seals to be used for sealing stationary portions, such as pipe joints and machine parts with connecting surfaces. Because of Nippon Pillar's proven and reliable technologies, our gaskets are widely used in various industrial fields, including nuclear power plants, oil refineries, and petrochemical plants.



Pillar No. 6315CH



Pillar No. 6710CL+No. 6616CL



Pillar No. 6720+No. 6610CL

### Pillar Foil® Packing Series

Pillar Foil packing is a long life, highly reliable product range that Nippon Pillar was the first to develop in the world. Owing to its excellent sealing performance, the packing of this series has been widely used in high-temperature and high-pressure applications. "Pillar Foil" is a registered trade name for products containing expanded graphite as the main constituent.



Pillar No. 6501L



Pillar No. 4536WL

### Non-Asbestos Gland Packing

With a wide selection of gland packing series to choose from, including those made of carbon fiber, carbonized fiber, PTFE fiber, and aramid fiber, Nippon Pillar is ready to meet a variety of customer needs. Among these packing series, Pillar No. 6501L, carbonized fiber-base packing, has become a synonym for general-purpose non-asbestos packing because of its excellent performance and easy-to-use features. Since its introduction on the market, this packing has achieved a higher amount of sales than any other models especially for rotary machine applications.



Pillar No.2603-EEE

Pillar No.2303-EEE



Pillar No 6633

Pillar No.5650

### Spiral Wound Gasket

Spiral wound gaskets exhibit the most reliable performance because they allow an optimal combination of component materials that can seal the fluid satisfactorily under variable working conditions.

### Non-Asbestos Sheet Gasket

Owing to their high chemical and heat resistant properties, these non-asbestos sheet gaskets are an alternative to conventional asbestos joint sheets. They can be used as common sealing for various kinds of fluids.



# PF

## PILAFLON®

"PILAFLON" is a registered trade name of Nippon Pillar's fluorocarbon resin products. The Pilaflon meets a variety of customer needs in various industrial fields including electronics (semiconductors and crystal liquid displays), civil engineering and construction, and information and communication.



### Super 300 Type Pillar Fitting®

Super 300 Type Pillar Fittings are highly resistant to chemicals. To keep the component materials extremely pure, these fittings are produced in a clean room in which the necessary ambient conditions are strictly controlled.



### Pillar Spela® 300 Bellows Pump

Pillar Spela 300 bellows pumps minimize pressure pulsation inside the pump bodies to allow the fluid to flow smoothly. They have been serialized to meet a variety of operating conditions, such as capacity and working temperature.



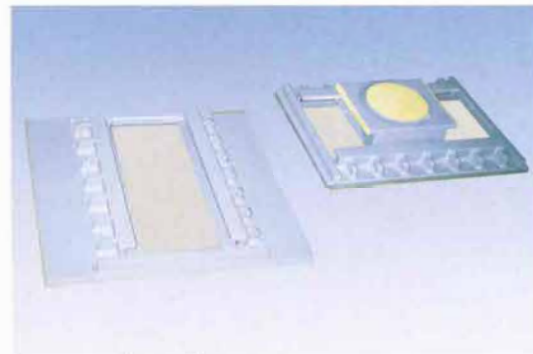
### CMP Slurry Pump

CMP slurry pumps are high-performance pumps that prevent secondary coagulation and the resulting accumulation of slurry inside the pump bodies. Made of fluorocarbon resin, these pumps prevent particle generation and are self-cleaning.



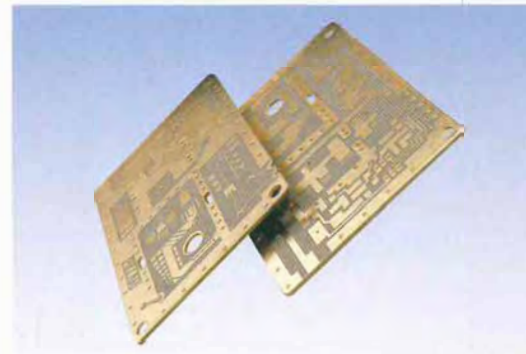
### Tube Type For Welding and Bend Tube Piping (PFA Tubing)

These types of Tube Type For Welding and Bend Tube Piping, which are made from PFA (raw material of fluorocarbon resin) tubing, demonstrate excellent heat resistance and electrical characteristics. They are used in various industrial applications, especially semiconductor production processes.



### Antiseismic Sliding Bearing/UNI-TON® Bearing

Provided with rolling and sliding functions, UNI-TON bearings absorb the force exerted on the supporting members of seismically isolated structures, roofs of buildings, connecting bridges, and other structures.



### PILLAR PC-CLAD®

PILLAR PC-CLAD is a fluorocarbon resin substrate for high-frequency circuit applications developed by fully integrating Nippon Pillar's advanced coating technologies. This substrate is widely used for mobile phones, antennas, and other electronic devices.



## Research & Development

# Seeking new values— Strengthening our research and development efforts to develop new materials

Nippon Pillar owns the patent on many products. To bring new technologies and products to market, our R&D team carries out numerous tests and experiments in which actual operating conditions are simulated. As a result of extensive research and development efforts, we have developed many leading-edge products that demonstrate superior performance, including fluorocarbon resin film substrates, which are used in mobile phone and satellite dish antennas, new energy-related components, and sliding bearings for earthquake isolation/protection. To evolve our technologies and products even further, we will continue to focus on research and development, making the fullest use of the latest testing and verification equipment and technologies.



### 3D-CAD

Our original product design process makes full use of 3D-CAD systems to ensure optimum functionality, cost effectiveness and design.





**Sliding bearing testing machine**

Sliding bearings are important components that support buildings and other structures over extended periods. This machine is mainly used to test the friction coefficient and other characteristics of sliding bearings as well as for shipping inspections.



**Rotary gland packing testing machine**

This testing machine is used to test prototype rotary gland packing under the anticipated working conditions, thereby verifying its sealing performance.



**Special-purpose pump seal testing machine**

This testing machine is used to develop and evaluate new mechanical seals for high-concentration slurry pump and other special-purpose pump applications.



**Heavy-duty pump seal testing machine**

This testing machine is used to develop and evaluate new mechanical seals for pumps that are to be used in nuclear and thermal power plants.



**Product testing laboratory for compatibility with semiconductor/liquid crystal display production equipment**  
Equipped with a neutralizing system, this laboratory tests the resistance of Pillar products against various kinds of chemicals for semiconductor production.



Production  
System

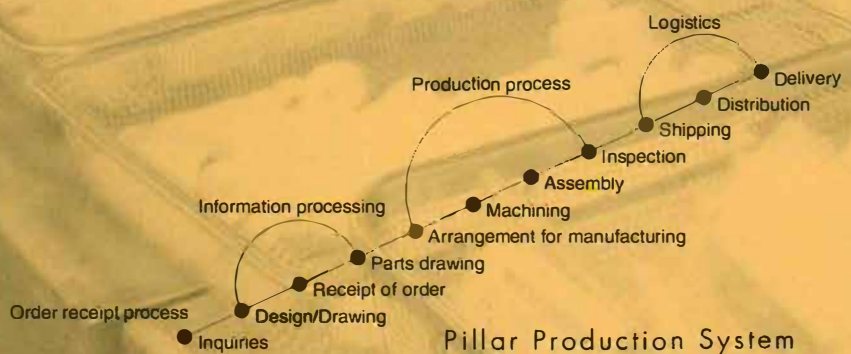
## Achieving a high level of customer satisfaction through our highly efficient integrated production system

Most of Nippon Pillar products are used as key components in equipment and machinery for various industries, ranging from semiconductor and liquid crystal display to electric power, petroleum, automobile, chemical, marine vessel, construction and civil engineering, food and pharmaceuticals. Since exact specifications vary depending on the application, the design and production process is undertaken according to the customer's specific specifications. To meet the needs and requirements of each customer as accurately as possible, we produce our own raw materials, as needed. Our highly efficient and effective integrated production system is one of our strengths, enabling us to produce high quality products.



Clean booth—Fitting product  
assembly line

Fitting products are assembled and packaged  
in a strictly controlled Class 100 clean room  
environment



Pillar Production System





## | Sanda Factory |



The Sanda Factory is located in Sanda City, Hyogo Prefecture, with a site area of approximately 43,000 m<sup>2</sup>. Provided with all production plant functions, including research and development facilities, engineering, quality assurance, production, and logistics, this plant mainly produces mechanical seals and gland packing. This plant is also working on enhancing Nippon Pillar's technological capabilities even further in order to respond promptly to customer needs by developing new products.



### | Sanda Factory | Gland packing braiding machines

The latest models of gland packing braiding machine are used to produce non-asbestos graphite fiber gland packing (Mark III and other models). Nippon Pillar developed this gland packing ahead of the competition.



### | Sanda Factory | Mechanical seal composite finishing machine

This machine intensively and simultaneously finishes high-precision metal components of mechanical seals.

## | Fukuchiyama Factory |



The Fukuchiyama Factory is located in Fukuchiyama, Kyoto Prefecture, with a site area of approximately 39,000 m<sup>2</sup>. This factory produces tube fittings and other Pilaflon series products that are to be used in semiconductor and liquid crystal display production equipment, as well as products made of silicon carbide (SiC) and other fine ceramics. The factory has three clean rooms for the production of products requiring high levels of cleanliness.



### | Fukuchiyama Factory |

Clean room for producing products that are to be used in semiconductor and liquid crystal display production equipment

Highly clean tube fittings and other products that are to be integrated into semiconductor and liquid crystal display production equipment are produced in a clean room under severe quality control.



### | Fukuchiyama Factory |

Clean room for assembling products that are to be integrated into semiconductor and liquid crystal display production equipment

Pumps, valves, and other products are processed, assembled, inspected, and packaged in clean boxes on a through-processing line established in a clean room.

## | Kyushu Factory |



With a site area of approximately 18,000 m<sup>2</sup>, our Kyushu Factory is located in the Kumamoto Second Technopark in Koshi City, Kumamoto Prefecture, where many semiconductor production plants are in operation. The Kyushu Factory engages in the design, production and assembly of the Pilaflon series of products, most of which are employed in semiconductor production equipment.



Quality  
Assurance

## Offering global standard quality products to our customers in various industries

We have established our own quality assurance system at every process stage from product development, design and production to sales and after service, on the basis of the quality assurance standards required for nuclear power stations. In February 1995, we first acquired ISO 9001 certification as a Japanese seal manufacturer. We will do our utmost to continue to provide high quality products to our customers.



Analytical scanning electron  
microscope

This microscope irradiates the surface of a substance with an electron beam and detects the reflection signals to form an image of signal intensity distribution on the surface. The image can be enlarged thus making it possible to observe the surface condition of the substance in minute detail.





### Fluorescent X-ray

Irradiation of a substance with an X-ray produces fluorescent X-rays (an X-ray characteristic to an element). Fluorescent X-rays make it possible to qualitatively (type) and quantitatively (composition) analyze the substance.



### Thermal analyzer

This analyzer is used to measure the dependence of the mechanical properties of substances in regard to temperature effects, such as thermal expansion/contraction coefficients.



### X-ray diffraction

Irradiation of a substance with an X-ray produces a diffraction line characteristic to the substance. This makes it possible to analyze the crystalline structure of the substance and thereby identify it.



### Three-dimensional measuring machine

The photograph shows a CNC three-dimensional measuring machine at work in a thermostatic chamber. This machine automatically measures the dimensions of a product according to a programmed sequence, thereby playing an important role in the quality assurance of our products.



### ISO 9001 certification

In February 1995 Nippon Pillar's Head Office and Sanda and Fukuchiyama factories achieved ISO 9001 certification, for compliance with the renowned international quality standard that guarantees quality management of development, design, production and other processes.



## International Accomplishments

High international recognition and our worldwide activities prove the quality and superiority of our technologies and products.

Always anticipating the needs of the times, Nippon Pillar has continued to provide technologies and products that lead the industry. The Company has won a world-renowned prize, "The Du Pont Plunkett Prize," for its innovative products. The Company carries out business and other related activities both in and outside Japan, including participation in exhibitions held in Japan, the US, Europe and other areas throughout the world. Nippon Pillar brand is internationally recognized for its originality and quality.



### Plunkett Award

"Super Fitting" (Pilaflon) seals that are internationally recognized for their quality and innovative technology, have won the Du Pont Plunkett Prize three times.



### ACHEMA

Nippon Pillar exhibited at AACHEMA, the world's largest exhibition of plant engineering and process equipment held in Germany. Our advanced technologies gained international attention.



### SEMICON WEST (U.S.A.)

Premier annual international exposition for the semiconductor and related industries. Nippon Pillar participates in this exhibition not only to advertise its products, but also to collect the latest information on the semiconductor industry. In addition to SEMICON WEST, the Company exhibits its products at SEMICON exhibitions held in Japan, China, Taiwan and Europe.





In an effort to fulfill its social responsibilities, Nippon Pillar maintains an appropriate environmental management system.

We, at Nippon Pillar, have remained fully committed to contributing to sustainable development and growth of society through our corporate activities to offer environmentally friendly products for controlling fluids, including gases and liquids, and accelerate the process to a low-carbon society. While we started publishing the annual environmental report in 2002, the report was renamed the CSR report in 2009. In the report we inform our stakeholders of our CSR activities at large, covering our social and economic initiatives as well as environmental activities, and communicate our determination to continue our efforts to further improve our activities.



Our two factories achieved ISO 14001 certification. We are still augmenting our environmental protection measures.

Since its founding, Nippon Pillar has contributed to creating a safe and clean global environment. To promote more effective environmental protection management, we have introduced the ISO 14001 environmental management system in the Sanda and Fukuchiyama Factories. We apply the ISO 14001 system to control all business activities, including production processes, to achieve harmony between our business activities and protection of the global environment.



ISO 14001 Certificate

We are promoting environmental protection through active community involvement.

As part of its efforts to promote environmental protection, Nippon Pillar organizes various events and programs that encourage active community involvement. Such programs include regular neighborhood cleanup programs, volunteer activities around the factories, and environmental classes and hands-on environmental programs for students. We are determined to promote environmental protection activities in cooperation with local communities.

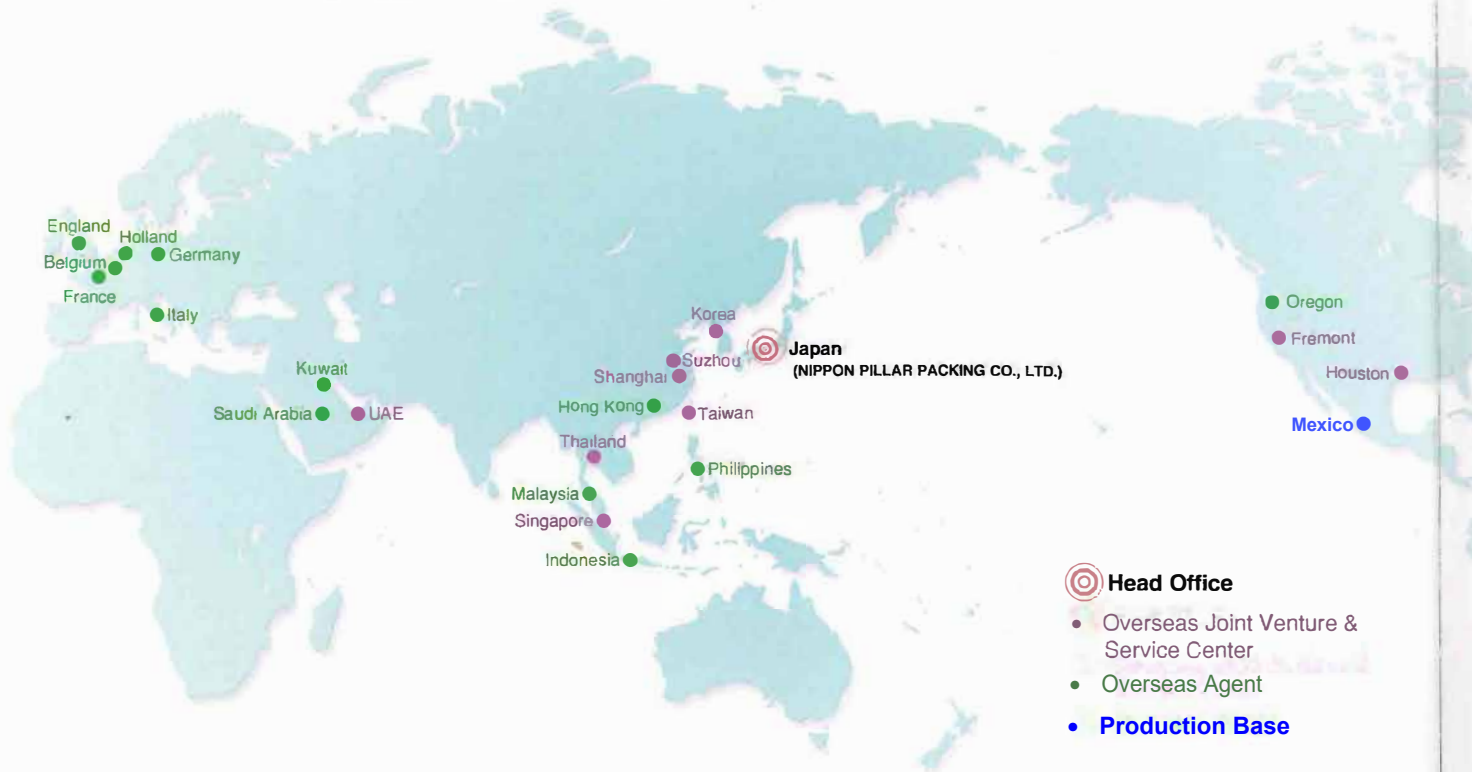




## Network

# Serving as a bridge for technology exchange on a global scale

Nippon Pillar is an international enterprise, with business operations in virtually every part of the world. We are not just supplying our customers with products, but we conduct extensive business activities around the world. We are continually expanding our national and international network through the establishment of joint ventures, business tie-ups and technical cooperation, and actively introduce the latest technologies developed within and outside Japan. To propel further growth of the company, we are committed to developing, producing and marketing the highest quality products possible throughout the world.



NIPPON PILLAR  
SINGAPORE PTE. LTD.



NIPPON PILLAR CORPORATION  
OF AMERICA HOUSTON OFFICE



NIPPON PILLAR CORPORATION  
OF AMERICA FREMONT OFFICE



NIPPON PILLAR  
MIDDLE EAST FZE



NIPPON PILLAR  
(THAILAND) CO., LTD.



TAIWAN PILLAR  
INDUSTRY CO., LTD.



SUZHOU PILLAR  
INDUSTRY CO., LTD.



SHANGHAI PILLAR  
TRADING CO., LTD.



KOREA PILLAR  
PACKING CO., LTD.





Head Office



Tokyo Branch



Sanda Factory



Fukuchiyama Factory



Kyushu Factory

Developing innovative products that lead the industry—our commitment to innovation has remained unchanged since the company's founding.

## 1924

Kaju Iwanami invents alloy Pillar Packing, a cylinder gland for marine reciprocating engines, and establishes Nippon Pillar Packing Industries. [May 22]

## 1926

Constructs factory in Yodogawa Ward, Osaka, commences full-scale production of sealing packing for industrial use.

## 1932

Commences production of gaskets for automobile and marine internal combustion engines. [Jun.]

## 1948

In conjunction with business expansion policy, Pillar Packing Works reorganized into a joint-stock company Nippon Pillar Packing Co., Ltd., with a capital of 2 million yen. [May 22]

Tokyo Office established. [Oct.]

## 1951

Develops and commences production of Japan's first mechanical seal (shaft sealing device).

## 1952

Develops vertical gasket for flange use in high-temperature/high-pressure piping. [Oct.]

Commences production of fluorocarbon resin products (under the Pilaflon product name). [Oct.]

## 1961

Succeeds in the development of carbonized fiber.

## 1967

Phase One construction of Sanda Factory (gland packing/vertical gasket plant) completed. [Aug.]

## 1970

Phase Two construction of Sanda Factory completed. The entire Mechanical Seal Division and part of the Pilaflon Division moved to the new factory. [Oct.]

## 1974

Marks the 50th anniversary of its founding. [May]

## 1980

New head office building completed. [Jul.]

## 1984

Listed as specially designated stock on the second section of Osaka Securities Exchange. [May 8]

Marks the 60th anniversary of its founding. [May]

## 1985

New PF (Pilaflon) production building (with clean room) and expansion of the MS coupling plant completed at Sanda Factory. GPF production centralized at Sanda Factory. [Apr.]

## 1988

Mid- to long-term management plan "Jump 3K-98" launched. (1988 is a preparation period; the actual start-up of the plan takes place in April 1989.)

## 1989

Fukuchiyama Factory completed in Fukuchiyama City, Kyoto Pref. [Nov.]

## 1993

Nippon Pillar Singapore Pte. Ltd. established as a sales base in Southeast Asia. [Jun.]

## 1994

Marks the 70th anniversary of its founding. [May]

## 1995

Obtains ISO 9001 Certification (International Quality System Management Standard) [Feb.]

Listed as common stock on the second section of Osaka Securities Exchange [Sep. 1]

## 1996

Building No. 1 of Fukuchiyama Factory No. 2 completed. [Aug.]

## 1997

A joint venture company, Rienfu Pillar Co., Ltd. (present Taiwan Pillar Industry Co., Ltd.) established in Taiwan. [Apr.]

Tannan Sasayama Dormitory completed in Tannan-cho (present Sasayama City) Hyogo Pref. [Apr.]

## 1999

Building No. 2 of Fukuchiyama Factory No. 2 completed. [Mar.]

Medium-term management plan "Action 2000" launched. [Apr.]

Nippon Pillar Corporation of America established in California, U.S.A. [Sep.]

Obtains ISO 14001 Certification (International Environment Management Standard), [Sep.]

## 2001

Listed on the second section of the Tokyo Stock Exchange. [Jan. 9]

Listed on the first sections of the Tokyo Stock Exchange and Osaka Securities Exchange. [Mar. 1]

Medium-term management plan "Action 2003" launched under the slogan "Strive to create a new market." [Apr.]

## 2002

Fukuchiyama Factory No. 3 completed. [Jul.]

## 2003

Building No. 3 of Fukuchiyama Factory No. 2 completed. [Feb.]

Suzhou Pillar Industry Co., Ltd. established in China. [Dec.]

## 2004

Medium-term management plan "Challenge III" launched under the slogans:

"Reform of Business Structure," "Reform of Consciousness," and "Reform of Action." [Apr.]

Marks the 80th anniversary of its founding. [May]

Kyushu Factory completed in Kikuchi-gun (present Koshi City), Kumamoto Pref. [Dec.]

## 2007

Medium-term management plan "Breakthrough (BT) vision 09" launched. [Apr.]

Shanghai Pillar Trading Co., Ltd. established in Shanghai, China. [Apr.]

## 2008

Building No. 2 of Fukuchiyama Factory No. 1 completed. [Aug.]

## 2011

Medium-term management plan "Breakthrough (BT) vision 13" launched. [Apr.]

## 2014

Medium-term management plan "Breakthrough (BT) vision 16" launched. [Apr.]

Marks the 90th anniversary of its founding. [May]

## 2015

Nippon Pillar Middle East FZE established in Dubai, UAE. [Apr.]

Nippon Pillar (Thailand) Co., Ltd. established in Bangkok, Thailand. [May]

## 2016

NPK Fluid Control Systems Mexico S.A. de C.V. established in Jalisco, Mexico. [Mar.]

## 2017

Head office moved to Nishi Ward, Osaka. [Mar.]





**NIPPON PILLAR PACKING CO., LTD.**

7-1, Shinmachi 1-chome,  
Nishi-ku, Osaka



This brochure is printed on  
recycled paper with  
eco-friendly vegetable oil ink.