



Your Trusted Japanese Brand NBK Special Screws

**Solving Your Problems with a Vast Selection, Advanced Expertise,
and High-Quality Screws**



Technical Challenges Solved by NBK Screws





CONTENTS

01	Select NBK Screws by Application	P.2
02	Case Studies	P.14
03	Product Lineup	P.30
04	Services	P.32
05	Company Information	P.34

Select NBK Screws by Application



Facing Machine Design or Manufacturing Challenges?
Discover NBK's Special Screws for 20 Different Applications

01

**Vacuum**

02

**Low Outgassing**

03

**Cleanroom**

04

**Chemical Resistance**

05

**High Strength**

06

**High Specific Strength**

07

**Heat Resistance**

08

**Non-Magnetic**

09

**Captive**

10

**Increased Productivity**

11

**Electrical Insulation**

12

**Anti-Reflective**

13

**Compact and Space-Saving**

14

**Lightweight**

15

**Galling & Seizing Prevention**

16

**Prevention of Screw Drive Damage**

17

**Fixing and Positioning**

18

**Conveyance**

19

**Loosening Prevention**

20

**Sheet Metal Fastening**

Select NBK Screws by Application

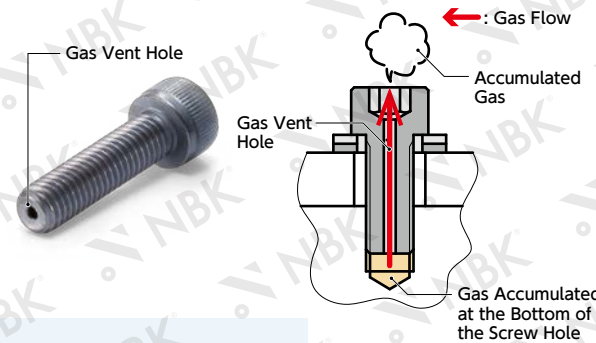
01



Vacuum

These screws are suitable for use in vacuum chambers.

They efficiently discharge gas accumulated in screw holes or drilled holes, achieving stability in vacuum levels and high vacuum. The gas vent holes in NBK's vacuum equipment screws are processed in a way that minimally affects the metal structure, reducing the risk of brittle fracture during use and the generation of outgassing in vacuum environments.



NBK's Recommendations

SVSQLG

Washer Integrated Hex Socket Head Cap Screws



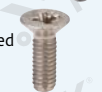
SVSH-C22

Hexagon Socket Head Cap Screws HASTELLOY C-22 Equivalent*



SVFT

Titanium Cross-Recessed Flat Head Screws



SWAS-VF-PC

Washer with Gas Vent Grooves



Learn more here



*HASTELLOY is a registered trademark of Haynes International, Inc.

02



Low Outgassing

These are screws made of materials and surface treatments that emit low levels of outgassing.

Due to their minimal outgassing, these screws are ideal for vacuum environments such as vacuum chambers used in semiconductor manufacturing. There are also titanium screws with low outgassing that have undergone brightening treatment.

■ Titanium brightening treatment



NBK's Recommendations

Low Outgassing Surface Treatment

SVS1S-PC

SUS304 Special Chemical Polishing Treatment



SVSHT

Titanium Brightening Treatment



Low Outgassing Material

SPD-H

Vespel*



SPE-C

PEEK



Learn more here



*Vespel is a registered trademark of DuPont.

03



Cleanroom

These screws are ultrasonically cleaned or IPA cleaned in a cleanroom environment and then packaged.

They are ideal for parts used in FPD manufacturing equipment, semiconductor manufacturing equipment, medical devices, and food machinery, as well as parts used in cleanrooms. Can be used immediately upon arrival, saving you cleaning process time.



Learn more here



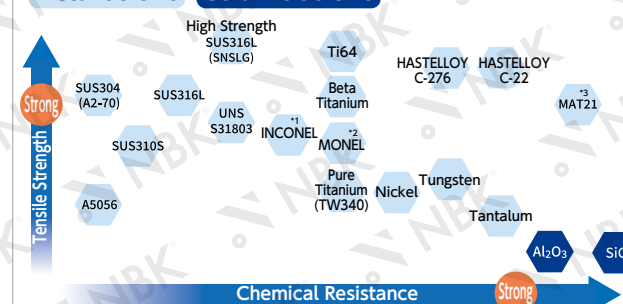
04



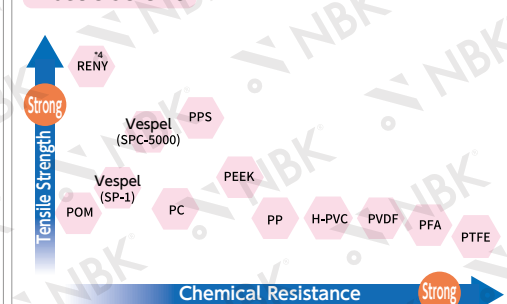
Chemical Resistance

These screws are suitable for use in corrosive environments that use wafer cleaning solutions and process gases.

Metal Screws • Ceramic Screws



Plastic Screws



Special materials and coatings prevent chemical corrosion and dissolution. Preventing corrosion reduces maintenance and equipment damage.

Learn more here



*1: INCONEL is a registered trademark of Special Metals Corporation.

*2: MONEL is a registered trademark of Special Metals Corporation.

*3: MAT21 is a registered trademark of Proterial, Ltd.

*4: RENEY is a trademark of GLOBAL POLYACETAL CO., LTD.

Select NBK Screws by Application

05

High Strength

These screws have high strength. They include screws made of particularly strong titanium, stainless steel, and plastic.

Using high-strength screws allows for smaller screw sizes while maintaining fastening force, contributing to more compact and lightweight equipment.

NBK's Recommendations

Metal

SNSLG
High Strength
Stainless Steel

SNPTG
Beta Titanium

Plastic

SPA-P
RENY

Mechanical Properties

Properties	SUSXM7	TW340 (Pure Titanium)	Ti-6Al-4V (Ti64)	Ti-15-3-3-3 (Beta Titanium)
Tensile Strength (N/mm ²)	500	340 - 510	Above 895	705 - 945
0.2% Proof Stress (N/mm ²)	210	Above 215	Above 825	690 - 835

Learn
more
here



07

Heat Resistance

These screws are highly heat-resistant among metal and plastic screws.

They can be used in high-temperature environments where there is a high risk of reduced screw strength or breakage.

NBK's Recommendations

Ceramic

SICX-SX
SiC
Usable temperature: 1500°C

Metal

SNSI
Equivalent to INCONEL 600*
Usable temperature: 600°C

Plastic

SPDC-H
Vespel SCP-5000
Usable temperature: 350°C

Learn
more
here



*Production of screws equivalent to INCONEL 718, which can be used in temperatures up to 800°C, is also possible.

06

High Specific Strength

High specific strength screws are lightweight and strong.

You can reduce the weight of your equipment while maintaining the necessary fastening strength. Ideal for applications with high demands for weight reduction, such as drones.

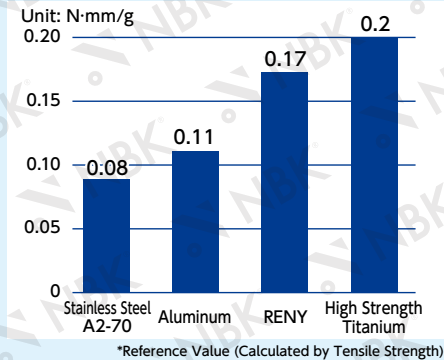
NBK's Recommendations

SNSTG
Ti64

SPA-C
RENY

SNSA
Aluminum

Specific Strength by Material



What is Specific Strength?
Explanation page here

Learn
more
here



08

Non-Magnetic

These screws have low magnetic permeability.

They are suitable for semiconductor manufacturing equipment, FPD manufacturing equipment, electronic devices, and MRI machines where magnetic interference is undesirable. In addition to bolts, nuts, and washers, non-magnetic tools are also available. These are ideal for assembling and maintaining equipment and devices in strong magnetic field environments.

NBK's Recommendations

SNS11T
Titanium
Washer Integrated Hex
Socket Head Cap Screws

SNZP
Phosphor Bronze
Micro Screws

SKMWCP-200
CFRTP
Adjustable Wrench

SKHTG
Titanium
Hex Wrench

Learn
more
here



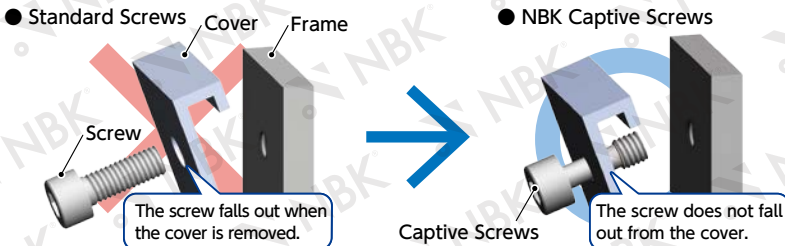
Select NBK Screws by Application

09

Captive

These screws are designed to prevent falling out.

They reduce the risk of parts falling off and getting lost. Ideal for bolts used to secure inspection covers that require frequent attachment and removal.



NBK's Recommendations

Captive Screws
SSC
Screws are retained in the panel through captive processing.



Captive Washers
SWAS-SC
By assembling these with commercial screws, it makes the screws less likely to fall off.



Learn more here



11

Electrical Insulation

These screws have excellent electrical insulation properties.

They prevent current from flowing to electrical and electronic components, thereby preventing short circuits and damage to circuits.

NBK's Recommendations

SPT-H
PTFE
Hex Bolts



SPC-F
PC
Flat Head Screws



SPE-P
PEEK
Pan Head Screws



SPEG-C
PEEK GF30
Hex Socket Head Cap Screws



SCX-N
Ceramic
Hex Nuts



SPT-W
PTFE
Washers



Learn more here



10

Increased Productivity

These are screws with a built-in washer, such as SEMS screws, or screws with a flange that provides a stable seating surface.

These screws simplify assembly work as they do not require separate washers. There is no concern about forgetting to attach washers or them falling off.



NBK's Recommendations

SNS11T
Titanium
Hex Socket Bolts with Integrated Flat Washer



SNSQLG
High Strength Stainless Steel
Hex Socket Bolts with Integrated Flat Washer & Spring Washer



SFBS
Flanged
Button Bolts



Learn more here

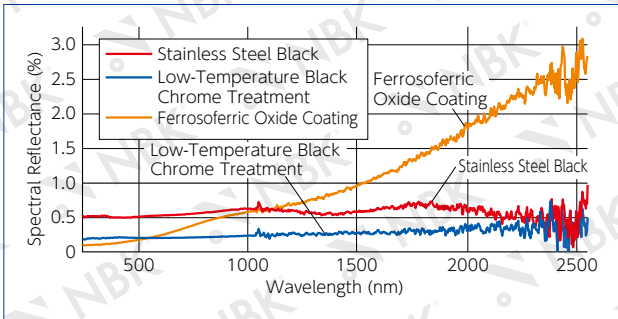


12

Anti-Reflective

These screws are suitable for use in optical equipment due to their extremely low spectral reflectance achieved through special surface treatments.

Low-temperature black chrome treatment and stainless steel black have extremely low spectral reflectance, making them ideal for optical equipment requiring anti-reflection properties.



NBK's Recommendations

SNSS-BK
Stainless Steel Black



SNSS-RY
Low-Temperature Black
Chrome Treatment



Learn more here



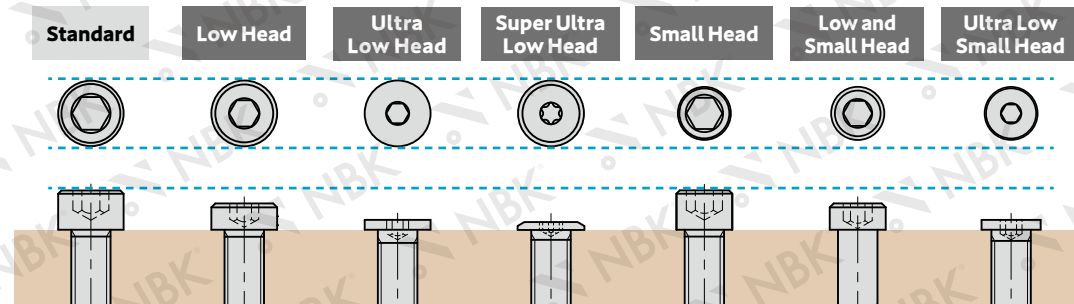
Select NBK Screws by Application

13

Compact and Space-Saving

These screws have a low head height or small head diameter, making them compact.

They are ideal for space-saving in equipment and devices, or when space for installing bolts is limited.



Scan for the comparison table of screw head dimensions here



Learn more here



14

Lightweight

These screws are made from lightweight materials.

They can reduce the weight of equipment and lessen the dynamic load. Ideal for applications requiring weight reduction, such as automobiles, aircraft, spacecraft, medical devices, and robots.

NBK's Recommendations

Metal

SNSA
Aluminum



SNSTG
Ti64



Plastic

SPC-C
PC



SPA-C
RENY



Learn more here



15

Galling & Seizing Prevention

These screws have surface treatments that prevent galling during tightening.

By reducing the friction coefficient of the thread surfaces with plating or coatings, the required axial force can be achieved with lower tightening torque. As a result, the generation of friction heat during tightening is minimized, effectively preventing galling and seizing. There are surface-hardened screws that do not cause contamination, as well as screws with gold, fluorine, MoS₂, and PTFE coatings.

NBK's Recommendations

SNSS-PN
Surface Hardening Treatment



SNSS-FC
Fluorine Coating



SNSS-MO
MoS₂ (Molybdenum Disulfide) Coating



SNSS-RY
Low-Temperature Black Chrome Treatment



SNSS-TF
PTFE Coating



SNSS-AUS
Gold Coating (Gold Purity: 99.99wt%)



Learn more here



16

Prevention of Screw Drive Damage

These screws can prevent cam-out and reduce damage to the recesses.

NBK's Recommendations

SSTS
Ultra Low Head Bolts with Hexalobular Recesses



Hexalobular Recesses that Efficiently Transmit Tightening Torque

SEQS
Cross Recessed Screws



Specially Designed Cross Recesses to Prevent Cam-Out

Learn more here



Select NBK Screws by Application

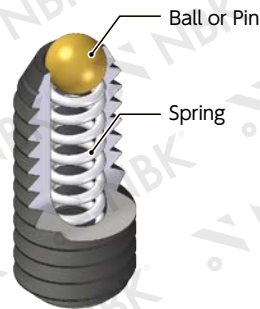
17

Fixing and Positioning

These screws and plungers are suitable for applications such as positioning and jig fixing.

► Ball Plungers

When pressure is applied, the ball/pin retracts, and the built-in spring is compressed. When the pressure is removed, the spring's compressive force returns the ball to its original position.



Check the Video



► Clamping Screws

A mechanical component that uses the thrust of a screw to fix and position workpieces.



Learn more here



19

Loosening Prevention

These screws are designed to prevent loosening.

Bolts with nylon patches use friction to suppress reverse rotation of the screw. Eccentric Lock Washers, used in combination with hex nuts, greatly prevent loosening. Lock nuts have friction rings to prevent loosening.

NBK's Recommendations

SSHS-ALK
Bolt with Nylon Patch



SWAS-EW
Eccentric Lock Washers™



SWUS
Lock Nuts



Learn more here



18

Conveyance

These screws allow for the smooth conveyance of heavy objects.

The main ball is surrounded by multiple sub-balls, allowing the main ball to rotate 360° in any direction. With a low friction coefficient, they allow workpieces to be conveyed with minimal force.

NBK's Recommendations

BRUSS-S
Made of Stainless Steel



BRUHP-P
Made of Plastic



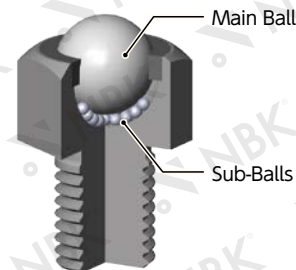
BRUPS-N
Press-Fit Type



BRPSS-N
Plunger Type



BRDSF
Downward Mounting Type



Learn more here



20

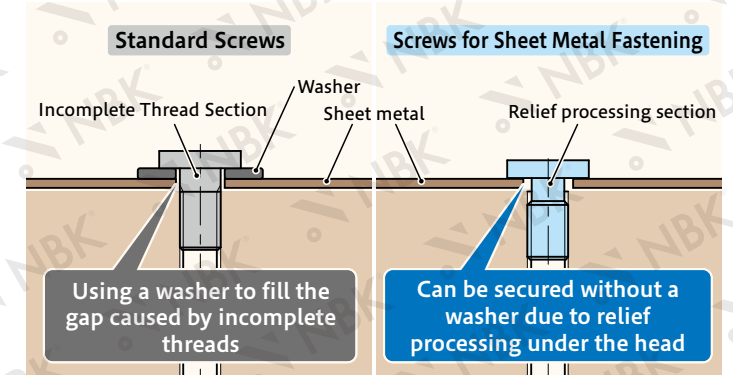
Sheet Metal Fastening

These screws can securely fasten thin sheets without gaps.

Thanks to the relief processing under the screw head, they can be tightened completely, allowing even 0.1mm thin sheets to be fixed. This eliminates the need to adjust gaps with washers, thereby improving the efficiency of the assembly process.

NBK's Recommendations

SSHS-UC
Hex Socket Ultra Low Head Bolts for Sheet Metal Fastening



Learn more here



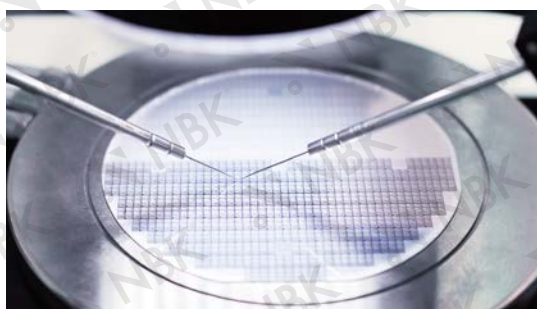
Problem-Solving Case Studies



Here are examples of how NBK screws have solved customers' issues.

By Industry

Introducing industry-specific problems and solutions by equipment and process!



Case Studies on Solving Semiconductor Manufacturing Equipment Issues

Solutions for special environments such as vacuum, high temperature, and chemical adhesion are explained by equipment and process!

» P.16



Case Studies on Solving Food Machinery Issues

Introducing ways to improve workability and hygiene required in the food and packaging industry.

» P.22



Case Studies on Solving Medical Device Issues

Providing tips on ensuring cleanliness and safety in biochemical analyzers, MRI machines, and more!

» P.24

By Problem

Introducing problems in equipment design and on-site work, along with solutions!

- 01 Preventing gaps between the sheet and screw when fastening thin sheets ... P.26
- 02 Removing damaged screws P.26
- 03 Improving workability for fixing and positioning P.27
- 04 Reinforcing places where bolts are frequently removed P.27
- 05 Implementing theft and tamper prevention measures P.28
- 06 Countermeasures against screw loosening P.28
- 07 Preventing foreign object contamination and complying with CE marking P.29
- 08 Maintaining high strength in screws even under high temperature ... P.29



Case Studies on Solving Semiconductor Manufacturing Equipment Issues

Solutions for special environments such as vacuum, high temperature, and chemical adhesion are explained by equipment and process!



1 Inside the Equipment

01

Tools that can be used even in narrow working spaces are required

Tools optimized for working in narrow spaces are available

Tools with reduced height dimensions are available. Required working space is decreased, so device/equipment structure can also be made more compact.

NBK's Solution Tools for Extremely Limited Access Spaces

SKX-N



SKND



02

Tools that can be used even in locations where magnetization must be avoided are required

Non-magnetic tools are available

Suitable for assembly and maintenance of equipment and devices in environments with strong magnetic fields. They can also be used on devices for which magnetization must be avoided.

NBK's Solution Non-magnetic Tools

SKHTG



SKMWCP



03

Screws that will not affect communication are required

Solutions with plastic screws of various shapes and materials

Conventional metal screws may affect LoadPort and FOUP communication. The use of plastic screws prevents disruption of stable communications.

NBK's Solution Plastic Screws

SPE-C



SPE-MF



04

Screws that can be used in limited spaces are required

Screws with extremely thin heads are available

Products made of highly corrosion-resistant SUS316L, pure titanium, and so on are also available.

NBK's Solution Low Profile Screws

Q **SSHS** **SSHL** **SSHT**



05

Equipment must be firmly connected

Washers which can correct an alignment mismatch between the bolt and seating surface, occurring frequently when connecting equipment, are available

When connecting two pieces of equipment, the use of spherical washers absorbs any bolt tilting, enabling reliable fastening.

NBK's Solution Spherical Washers

Q **SQWS**



2 Vacuum Chambers

01

Screws in places unreachable by hand need to be tightened

Tools with screw holding function are available

Tools which retain hex socket head cap screws are available. Ideal for narrow spaces where screws cannot be retained by hand during assembly/maintenance of equipment, or for preventing screws from falling into devices during maintenance.

NBK's Solution Hexagon Screwdriver with Screw Holding Function

Q SKCD



02

Washer fallout must be prevented

The use of integrated washer type screws is recommended

Integrated washer type screws are available in order to prevent washer fallout during equipment assembly or maintenance. Washer loss inside vacuum chambers, etc., can be prevented.

NBK's Solution

Washer Integrated Hex Socket Head Cap Screws - High Strength Stainless Steel

SVSQLG



NBK's Solution

Special Chemically Polished Bolts with Integrated Washers

SVSI1S-PC



03

Screws that can retain wafers are required

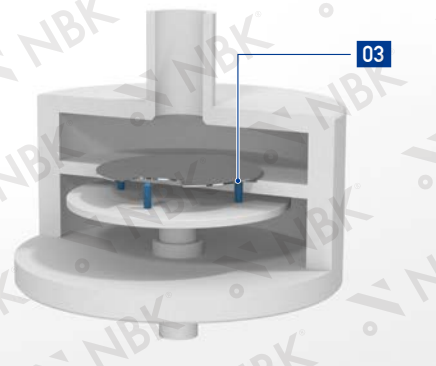
Screws with ceramic ball tips are available

Clamping screws with ceramic ball tips are available. Made of ceramic, they have excellent heat resistance.

NBK's Solution

Clamping Screws

SCSS-CE



03

07

Screws that retain high strength even in high-temperature environments are required

We offer screws with excellent heat resistance. Screws made from various heat-resistant materials are available. Select according to the operating environment.

NBK's Solution Heat Resistant Screws



SNSI

SCX-C

04

Increased degree of vacuum in equipment is required

Screws which support equipment vacuuming are available

Screws that support the evacuation of gas trapped in the bottom of screw holes or drilled holes are available.

NBK's Solution Screws for Vacuum Equipment

Q SVSS SVSLG SVSQS



05

Reinforcement is required for places where bolts are frequently removed

Female threads can be reinforced by using an insert

These high-strength stainless steel integrated types can be used for firm fastening or in areas where bolts are frequently fastened and removed. Ideal for reinforcing female threads in plastic, aluminum, or quartz, as well as for repairing damaged female threading.

NBK's Solution Keyed Female-Thread Reinforcing Inserts Q SHINS



06

Screws must be protected from chemicals

Screws with excellent chemical resistance and screws with head coating only are available

We offer screws made from various materials with excellent chemical resistance.

NBK's Solution Chemical Resistant Screws



SNSMT



SCAP-PT

08

Stainless steel screws must be prevented from galling & seizing

Screws with optimal surface treatments for each particular application are available

Special Surface Treated Screws can be used as a countermeasure against stainless steel screw galling & seizing.

NBK's Solution Special Surface Treated Screws

Q SNSL-PN



3 Equipment Exterior

01

CE marking compliance is required

Screws which don't fall out when the cover is removed are available

Fixed guards must be secured with fasteners that can only be opened or removed using a tool. By using captive screws, the screws can be retained in the fixed guard when the fixed guard is removed, allowing compliance with CE marking.

NBK's Solution Captive Screws 



02

Only certain workers should be able to remove screws

Screws requiring dedicated tools for removal are available

Tampering can be prevented by using these screws where only certain workers should be able to remove screws.

NBK's Solution Security Screws

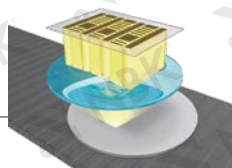
 SRFXS-SET



4 Equipment by Manufacturing Process

Semiconductor Lithography Equipment

Photolithography process



Improved equipment accuracy is required

Even the small screws used at joints enable exposure accuracy to be improved by suppressing the influence of reflection.

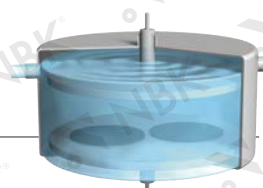
Required characteristic: **Anti-Reflective**

Low Temperature Black Chrome Treated Screws 
Black Stainless Steel Screws

Anti-Reflective Screws 
Product list here ▶

Etching Equipment

Etching process



Resistance to high temperatures and chemicals is required

For environments where various gases and solvents are used at high temperatures, screws with excellent heat resistance and chemical resistance are effective.

Required characteristic: **Heat Resistance**
Chemical Resistance

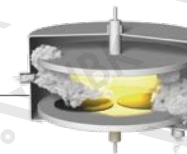
Ceramic Screws 
Cover Caps (Ceramic) 
MAT21 Screws 
HASTELLOY Equivalent Screws 
SUS316L Screws 
Titanium Screws 
Special Surface Hardened Screws 

Heat Resistant Screws 
Product list here ▶

Chemical Resistant Screws 
Product list here ▶

Coating Equipment Sputtering Equipment

Film Formation Process



Resistance to high temperatures and chemicals is required

For environments where various gases are used at high temperatures, screws with excellent heat resistance and chemical resistance are effective.

Required characteristics: **Heat Resistance**
Chemical Resistance

Ceramic Screws 
SUS316L Screws 
Molybdenum Screws 
HASTELLOY Equivalent Screws 
Nickel Screws 
INCONEL Equivalent Screws 
Titanium Screws 

Heat Resistant Screws 
Product list here ▶

Chemical Resistant Screws 
Product list here ▶

Physical Inspection Equipment

Inspection/evaluation process



Improved degree of vacuum is required

The degree of vacuum can be further improved by removing air trapped within the screw hole.

Required characteristic: **Vacuum**

Screws with Ventilation Hole  

Increased inspection accuracy is required

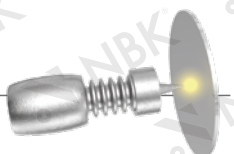
Required characteristic: **Non-Magnetic**

Plastic Screws: PPS 
Titanium Screws 
Phosphor Bronze Screws 



Ion implantation Equipment

Ion implantation process



Improved degree of vacuum is required

There are screws that prevent galling caused by heat cycles in environments of 1000°C or higher.

Required characteristics: **Heat Resistance**

Special Surface Hardened Screws  

Tantalum Screws  

Tungsten Screws  

Improved equipment accuracy is required

Non-magnetic components are effective as fasteners to prevent ions from deflecting due to the magnetic properties of the part.

Required characteristics: **Non-Magnetic**

Phosphor Bronze Screws  

Titanium Screws  

Tantalum Screws  

Electrical Inspection Equipment

Inspection/evaluation process



More compact equipment is required

We have small diameter screws of M2.6 and less, including S0.6 up and M1 up.

Required characteristics: **Space-saving**

Micro screws  

Icon Legend:  Heat Resistance |  Chemical Resistance |  Vacuum |  Anti-Reflective

 Non-Magnetic |  High Strength |  High Specific Strength |  Lightweight |  Galling & Seizing Prevention |  Space-saving

Case Studies on Solving Food Machinery Issues

Introducing ways to improve workability and hygiene required in the food and packaging industry.

Food Packaging Machinery

01

Female thread damage when replacing cutters or squeegees must be prevented

Reinforce female threads to prevent damage

Integrated stainless steel with high strength makes them effective in areas where bolts are frequently inserted and removed.

NBK's Solution

Keyed Female-Thread Reinforcing Inserts Q **SHINS**



02

Foreign matter contamination must be prevented

Safety comes first for food production. These products are effective in preventing fallout or loss of parts. HACCP and CE Marking compliant products are also available.

Keep screws from falling into equipment or materials

Screws with structures like this will not fall out of the panel even when removed, because the relief cutting in the threads catches on the screw hole.

NBK's Solution

Captive Screws Q **SSC**



Washers prevent screw fallout

The washers can simply be assembled to commercially available screws to achieve fallout prevention countermeasures. After assembly, they will be unlikely to fall off the screws.

NBK's Solution

Captive Washers Q **SWAS-SC**



NBK's Solution

Hexagon Socket Captive Screws comes with Captive Washer Q **SSC-SET**



Common Issues and Solutions in the Food and Packaging Industry

01

Screws must be protected from chemicals

We offer screws made from various materials with excellent chemical resistance.

Chemical Resistance of Metals

Material	Chemical Resistance
MAT21	High
Equivalent to HASTELLOY C-22	
Equivalent to HASTELLOY C-276	
Equivalent to MONEL 400	
Titanium	
Equivalent to INCONEL 600	
Duplex Stainless Steel	
SUS316L HiMo	
SUS310S	

Chemical Resistance of Plastics

Material	Chemical Resistance
PTFE	High
PFA	
PVDF	
H-PVC	
PP	
PEEK	

SCAP-PT

PTFE cover cap protects the screw head from chemicals



SNHS-HTF

PFA coating on the bolt head with excellent chemical resistance



NBK's Solution

Screws with excellent chemical resistance and screws with head coating only are available

Chemical Resistant Screws



Chemical resistance varies depending on usage conditions. Always carry out tests under the same conditions in advance.

02

Eliminating the inconvenience of arranging for cleanroom washing and packaging is required

Products are washed and packed in cleanrooms. Ideal for use as components to be incorporated into semiconductor/FPD production equipment, food industry machines, medical equipment, etc.

Ultrasonic cleaning (supports rust-resistant materials such as stainless steel)

Ultrasonic Cleaning Stage 1	Ultrasonic Cleaning Stage 2	Ultrasonic Rinsing	Pure Water Rinsing	Drying	Packing
-----------------------------	-----------------------------	--------------------	--------------------	--------	---------

IPA wash (for easily rusted materials such as iron)

IPA Immersion Stage 1	IPA Immersion Stage 2	Drying	Packing
-----------------------	-----------------------	--------	---------

NBK's Solution

Cleanroom washing/packing services are available

Cleanroom Washing/Packing Service



Case Studies on Solving Medical Device Issues

Providing tips on ensuring cleanliness and safety in biochemical analyzers, MRI machines, and more!



1 Biochemical Analyzers



01

Component corrosion prevention is required

Highly corrosion-resistant material is available, ideal for areas exposed to chemicals or frequently cleaned

We offer screws with excellent chemical resistance.

NBK's Solution
Chemical Resistant Screws



02

Simpler cleanroom support is required

Cleanroom washing/packing services are available

Assembly to equipment is possible without separate washing.

NBK's Solution
Cleanroom Washing/
Packing Service



2 CT Scans/MRIs

01

CT Scans

Equipment must not be affected by microwaves

The use of plastic screws with excellent insulating properties is recommended

NBK's Solution Plastic Screws Q **SPT-H**



MRIs

Equipment must not be affected by magnetism

Non-magnetic screws are recommended

NBK's Solution Titanium Screws Q **SNSTG**



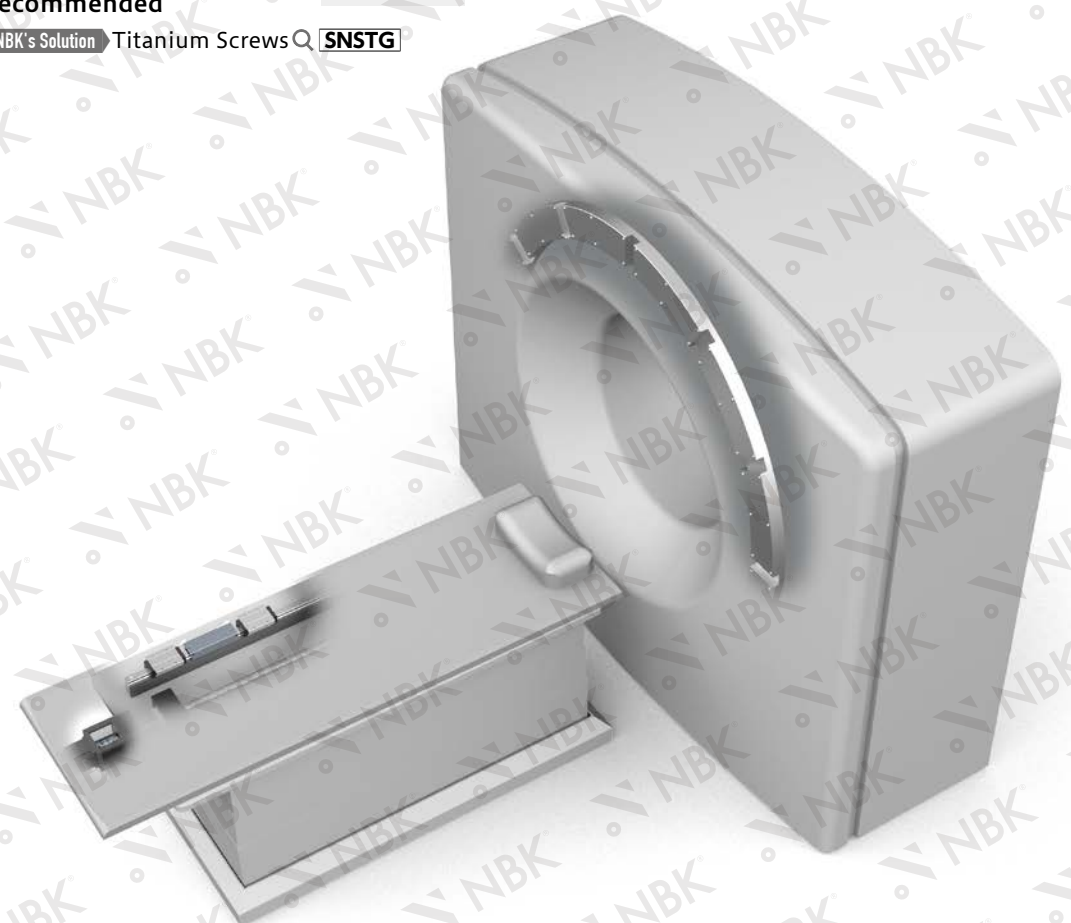
02

Tools are strongly attracted to the magnetic field, posing a danger

Non-magnetic tools are available

Non-magnetic titanium alloy hexagon keys can be used for assembly in environments with strong magnetic fields.

NBK's Solution Titanium Hexagon Keys Q **SKHTG**



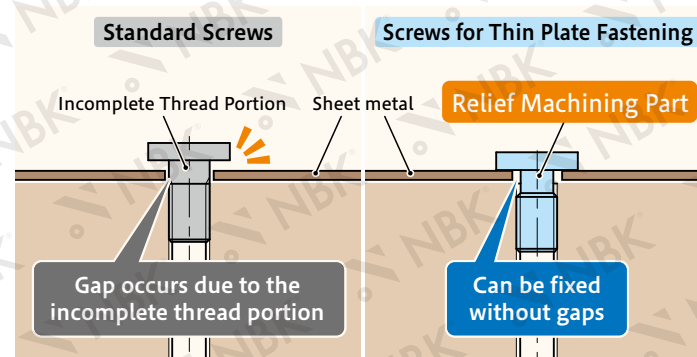
Problem-Solving Case Studies By Problem

Introducing 8 cases where NBK screws solved problems in equipment design and on-site work!

01

Preventing gaps between the sheet and screw when fastening thin sheets

With common screws that have incomplete threads, a gap may occur because the screws cannot be fully tightened when fixing thin plates. By using screws designed for fixing thin plates with relief machining under the head, it is possible to fix thin plates without any gaps.



NBK's Solution Use screws suitable for fixing thin plates

Recommended Products

Hexagon Socket Ultra Low Head Bolts for Thin Plate Fastening



SSHS-UC



02

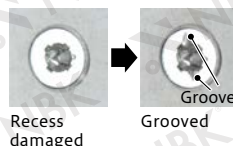
Removing damaged screws

There are special tools for removing damaged hex head bolts and hex nuts or stripped screws that cannot be removed with ordinary tools. Screws can be easily removed with this tool even when the corners or recesses of the head have been stripped due to using a shallow tool or the wrong size tool.

- Stripped Screw Removal Bits
- Creates grooves in the damaged recesses which can be used to turn and remove the screw.



- Stripped Hex Head Screw/Bolt Removal Sockets
- The spiral edges inside the socket firmly bite in to enable removal.



NBK's Solution Use dedicated tools for removing damaged screws

Recommended Products

Damaged Screw Removal Tool

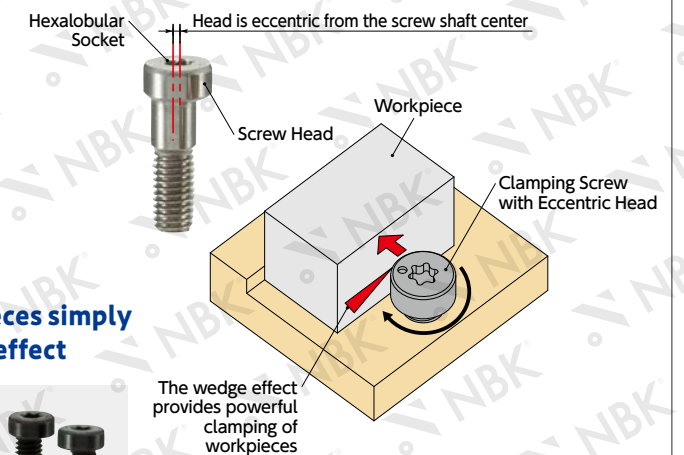


*Please inquire about the available sales regions.

03

Improving workability for fixing and positioning

When clamping screws with eccentric head are tightened, the workpiece is strongly clamped by the head, which is set off-center from the shaft center of the screw. The wedge effect creates a large clamping force with low tightening torque. Ideal for fixing linear guideway rails or workpieces.



NBK's Solution Use screws that fix workpieces simply and securely with a wedge effect

Recommended Products

Clamping Screws with Eccentric Head



SLEC



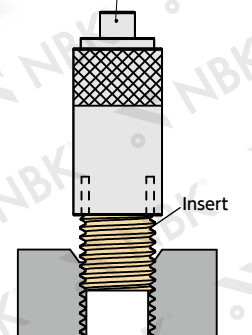
04

Reinforcing places where bolts are frequently removed

Keyed female-thread reinforcing inserts are available. The keys mechanically prevent rotation and have no risk of falling out. These high-strength stainless steel integrated types can be used for firm fastening or in areas where bolts are frequently fastened and removed. Ideal for reinforcing female threads in light metals, castings, or resin, as well as for repairing damaged female threading.



Dedicated Mounting Tool



NBK's Solution Use thread inserts to reinforce female threads

Recommended Products

Keyed Female-thread Reinforcing Inserts



SHINS



Problem-Solving Case Studies By Problem

Introducing 8 cases where NBK screws solved problems in equipment design and on-site work!

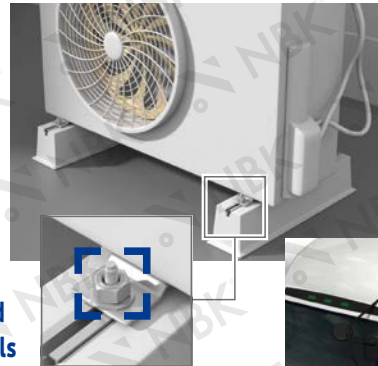
05

Implementing theft and tamper prevention measures

These nuts can be installed using commercially available tools but require a special tool for removal. Security can be enhanced without compromising the workability of mounting. Ideal for preventing theft of vehicles, batteries, outdoor units and placards, etc.

As they cannot be removed using regular commercially available tools, they also prevent tampering.

■ Outdoor unit



■ Truck battery



NBK's Solution Use nuts that cannot be removed with commercially available tools

Recommended Products

SHNRS

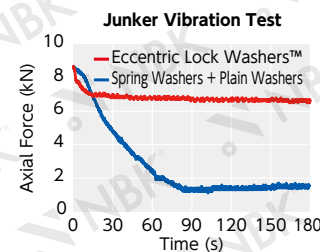
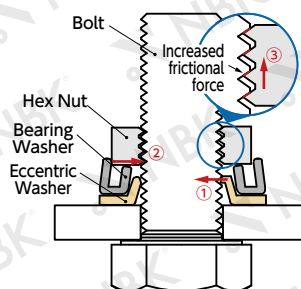
Theft Prevention Nuts



06

Countermeasures against screw loosening

Washers that prevent screw loosening in combination with commercially available hex nuts. The hex nut can be tightened by hand until tightening force is generated, making it easier to mount. The high loosening-prevention performance has been demonstrated by Junker and NAS vibration tests.



NBK's Solution Use washers that prevent screw loosening by combining with commercially available hex nuts

Recommended Products

SWAS-EW

Eccentric Lock Washers™



07

Preventing foreign object contamination and complying with CE marking

NBK has standardized products for fall prevention of parts, such as knobs, pulls and special screws. Ideal for securing protective and inspection covers that are frequently installed and removed.



Captive Washers **SWAS-SC** Hex Socket Head Cap Captive Screws **SSC**

NBK's Solution Use components with a captive mechanism

Recommended Products

Captive Series



Washer Integrated Cross Recessed Pan Head Screw **SNPI1S**

08

Maintaining high strength in screws even under high temperature

There are materials that can be used in high-temperature environments up to 1500°C.

- ▶ Silicon Carbide (SiC)
It has excellent heat resistance and chemical resistance among ceramic materials.
- ▶ Ceramic (Alumina)
Hex nuts, cover caps, and other shapes are available.



Usable Temperature:
1500°C

NBK's Solution Use special material screws that can withstand temperatures up to 1500°C

Recommended Products

Silicon Carbide Screws **SICX-SX**

Ceramic Screws **SCX-C**

Special Material Screws



About SiC (Silicon Carbide) Screws



Screws compatible with clean environments



Vented Screws, Vacuum Screws



SEMS Screws, Improved Fastening Efficiency Screws



Screws with Special Surface Treatment



Chemical Resistant Screws



Low Profile Screws, Small Head Screws



Security Screws, Tamper Resistant Screws



Functional Screws



Special Material Screws



Plastic Screws



Vibration Resistant Components



UNC Screws, UNF Screws



Captive Screws, Full Thread Screws



Micro Screws



Washers, Inserts



Plugs



Titanium Screws



High Performance Stainless Steel Screws



Screw Caps / Screw Covers



Tools



04 Services

Optional Services

Cleanroom Washing/Packing Service

Removal of foreign substances from product surfaces

About Cleanroom Washing

Ultrasonic Cleaning or IPA Cleaning

Cleanliness Level of Washing Room **ISO Class 7** U.S. Federal Standard (Fed.Std.209E) Cleanliness Class: 10,000

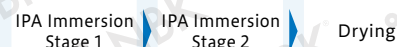


Ultrasonic Cleaning Process



Applicable to Rust-Resistant Materials Like Stainless Steel

IPA Cleaning Process



Applicable to Rust-Prone Materials Like Iron

About Cleanroom Packing

Cleaned products are packaged inside the cleanroom.

Cleanroom Cleanliness **ISO Class 6** U.S. Federal Standard (Fed.Std.209E) Cleanliness Class: 500



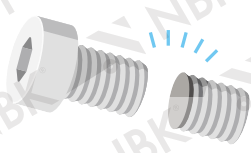
Captive Processing Service



Apply captive processing to screws for anti-drop function. For fixing screws of protective covers or inspection covers frequently attached and removed



Screw Length Adjustment Service



Cut screws to desired length in 1mm increments



Individual Sales Service

Sold by the Bag Only the Required Quantity



Special screws sold in fixed bag quantities. Orders for less than one bag or fractional quantities accepted on request



Customization Services

Even if your desired item is not within our standard range, we can customize it to meet your needs.

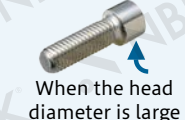
Customization Options

Choose Processing Type

Screw Tip Processing



Head Processing



Lateral Hole Processing



Vacuum Hole Processing



Choose Material

SUS316L



Pure Nickel



Silicon Carbide (SiC)



Plastic (Vespel)



Choose Surface Treatment

Special Surface Effect Treatment



Gold Coating



Silver Plating



Molybdenum Disulfide Shot



Choose Drive Shape

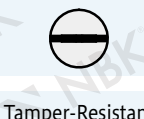
Hex Socket



Phillips



Slotted



Hexalobular



Tamper-Resistant



With Pin

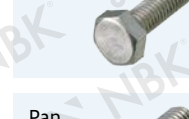


Choose Head Shape

Cap



Hex



Low Head



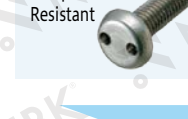
Flat



Pan



Tamper-Resistant

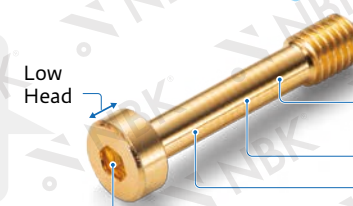


Choose Screw Thread Type & Standard



Screw Pitch: Coarse, Fine, Extra Fine
Standards: Metric, Inch (UNC, UNF, BSW)

For example, a screw with these features can be made



Equivalent to HASTELLOY C-22
Gold Coating
Captive Processing
Vacuum Hole Processing

Learn more here





Company Name

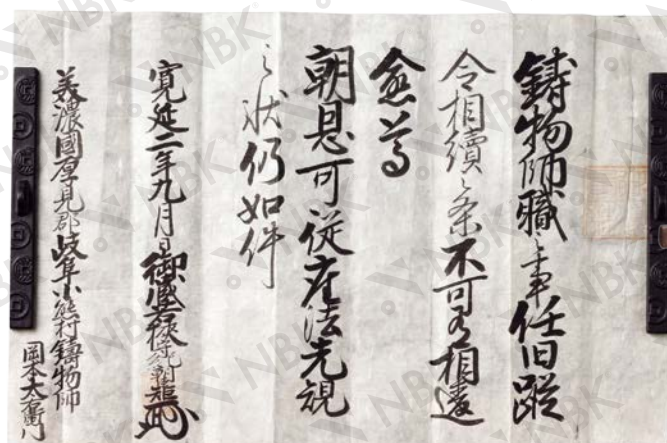
鍋屋バイテック会社

Nabeya Bi-tech Kaisha

Established

1560

Our manufacturing dates back to 1560, around the time Shakespeare was born. Our predecessors acquired advanced knowledge and technology, producing cast iron pots, kettles, lanterns, and bells. The title of "Master Caster" has been granted by the Imperial Court. The company name "Nabeya" is the trade name for this group of certified craftsmen.



Headquarters

Japan



Locations

8
locations

Details on p.40 ▶

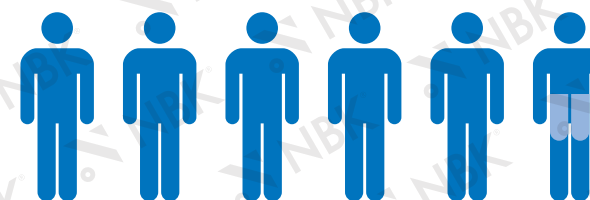
Sales Countries

20
countriesFind the
nearest
distributor
here ▶

Number of Employees

570
employees

(Total of 7 group
companies)
*As of 2024



Tradeshows

16 times
a year

*2024

We exhibit at tradeshows held in Japan, the
United States, China, Taiwan, and Korea.

For the
latest
information,
click here. ▶



List of NBK Products

We have established a production + inventory system and advanced information systems, achieving multi-variety, variable volume, and short delivery times.

A Lineup of 90,000 Products

With flexible development and responsiveness, we solve customer challenges.



Special Screws



Machine Elements



Couplings



FA Solutions



Pulleys & Sheaves



Custom Castings



Factory Equipment Parts



Grippers & Robot Stands



Linear Motion Accessories

*The available regions for sale may vary by product. Please contact us.

80,000 Customized Products

With over 20 years of experience and the high technical skills unique to a specialized manufacturer, we propose solutions that customers need.

Sushi Bar Concept®

Just like a skilled sushi chef who deftly prepares and serves what you need, when you need it.



NBK products used in various industries

We provide products and services to over **320,000** customers across a wide range of industries, including semiconductor, automotive and EV, medical, aerospace, food packaging, machine tools & factory automation, and electronics & telecommunications.



Useful technical information, including industry-specific case studies

\\Over 200 pages!\\

NBK's website features videos on product usage, product explanations, and enjoyable articles.



Read the articles ▶



NBK's Website

**Full of convenient features
to support design and
selection!**



NBK 1560
<https://www.nbk1560.com/>

Product information, CAD data, technical and customer support. Please use the information-rich NBK website.



RoHS Compliance Certificate Issuance

Speedy & Convenient

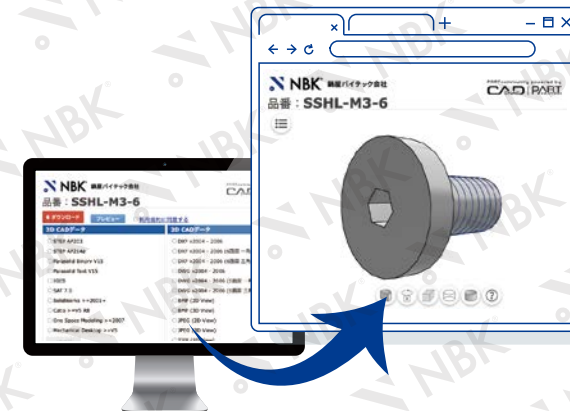
We can also issue the following upon request

- ▶ REACH Certificate
- ▶ Material Certificate
- ▶ Conflict Minerals Reporting



CAD Data Download

You can choose from various formats from the product page.



Case Study Booklet Download

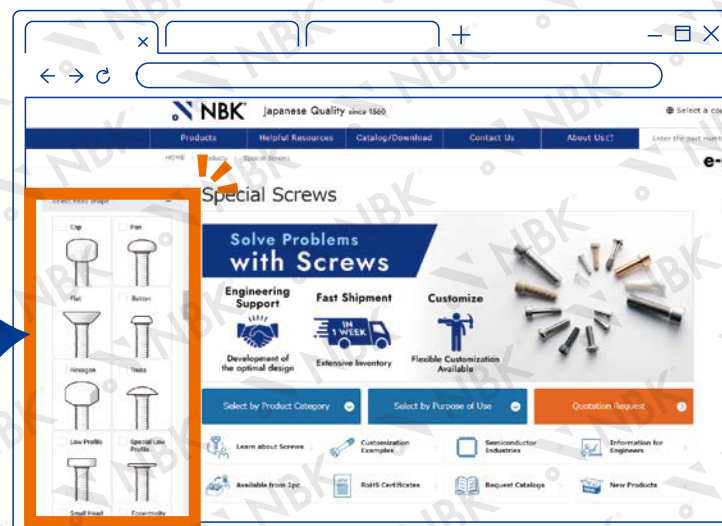
This booklet contains practical solutions to engineering challenges in various industries.



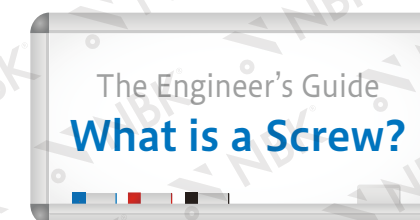
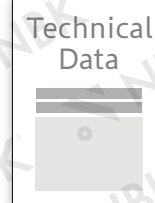
Product Search Easy and Quick

- ▶ Screw Nominal Size
- ▶ Screw Length
- ▶ Head Shape
- ▶ Drive Shape
- ▶ Pitch
- ▶ Material
- ▶ Surface Treatment
- ▶ Special Features

And more



Standards, Technical Information, Basic Knowledge



Handling of Personal Information

As a personal information handling business operator as defined by the Personal Information Protection Law, we will handle personal information collected from users appropriately in compliance with laws and other norms related to personal information protection. (For details, please refer to the NBK website.)

Popular Email Newsletter!

We send out new product and technical information useful for design every week.

Global Locations

NBK Group companies support manufacturing around the world



Headquarters, Seki Garden Factory



Mino Garden Factory



Nabeya Bi-tech (Suzhou) Co., Ltd.



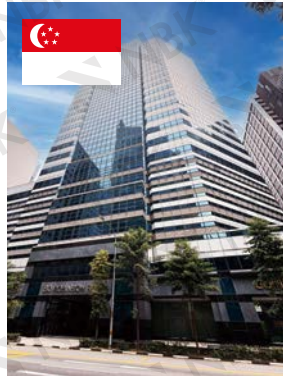
Nabeya Bi-tech (Changzhou) Co., Ltd.



NBK America LLC



NBK ASIA MANAGEMENT PTE. LTD.





Since 1560

NBK Website

Product Finder | 2D/3D CAD Data Download



<https://www.nbk1560.com/>

Q NBK screws

Customer Service

Quotations | Technical Support | Customization

NBK America LLC

phone : +1-(484) 685-7500
307 East Church Road, Suite 7,
King of Prussia, PA 19406, USA

Nabeya Bi-tech Kaisha

phone : +81-575-23-1162
Head Office / Seki Garden Factory
1, Toko-Taichi, Seki City, Gifu 501-3939, Japan
Sales Office Tokyo - Osaka - Chubu

NBK ASIA MANAGEMENT PTE. LTD.

phone : +81-575-23-7187
80 Robinson Road #10-01A,
Singapore 068898