



PRODUCT OVERVIEW

Solution & Technology Introduction

Our Company

NIKKEN Kosakusho Europe are leading suppliers of elite precision engineering products.

With research and development located at the NIKKEN Innovation Centre Europe (NICe), distribution and service operations at the Euro Centre, NIKKEN operates in high stature manufacturing environments covering aerospace, medical, oil and gas, motor sport, power engineering as well as the mould and die sectors.

Creative and innovative, NIKKEN Europe are at the forefront and number one choice for precision manufacturers, Original Equipment Manufacturers (OEMs) and Tier One suppliers.

NIKKEN's market leading solutions include:

- Performance CNC Rotary Tables
- High Accuracy NC Tooling Solutions
- Tool Presetters
- Spindle Optimisation Solutions
- Custom Workholding & Fixturing

NIKKEN's extensive product range, combined with technical expertise, training and after sales service, come together to deliver a superior end-to-end experience that allows our customers the opportunity to successfully compete in the global marketplace.



NIKKEN Innovation Centre Europe (NICe)



“ Opened in late 2015, The **NIKKEN** Innovation Centre is of Global importance, we take projects from our parent in Japan, from our customers around Europe and around the globe and we develop practical solutions. Looking in to the future we see more and more opportunities in those areas, in new material fields and new processes. ”

Tony Bowkett - CEO
NIKKEN Kosakusho Europe



Our History

NIKKEN Kosakusho Europe is a subsidiary of NIKKEN Kosakusho Works Limited, Japan, with principle activities covering the import and distribution of the complete NIKKEN product range.

With operations across three continents, offices in over 70 countries and a 15,000 product range, NIKKEN has earned and maintained a reputation globally for producing quality products.

Our people are at the heart of our operations. Our goal is the same where ever our team members may be: to uphold a unified standard of quality performance and excellence in our products and to our customers.

NIKKEN Kosakusho are continually striving to improve technology through research and development, innovation and industry knowledge to ensure that our customers can compete and win in their demanding market sectors.



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TOOLING SOLUTIONS

NIKKEN has been developing and manufacturing Tooling Systems for over 60 years.

We offer a wide range of high-rigidity and high-accuracy products that can handle all kinds of machining applications, including a milling chuck series, a collet chuck series, a tool holder series with dampening mechanisms, and boring systems.

With innovation at the heart of what we do, NIKKEN is constantly researching and developing solutions to ensure our customers stay ahead in their markets.

Our unique manufacturing process, which includes carbonizing and sub-zero treatment, guarantees high-rigidity and high-accuracy tooling and sets our products above any others on the market.

NIKKEN also offer a range of SK Output Angle Heads (Alberti) which incorporate our TiN Bearing Nut technology allowing for improved tightening and accuracy to deliver better all-round performance.



Slim Chuck

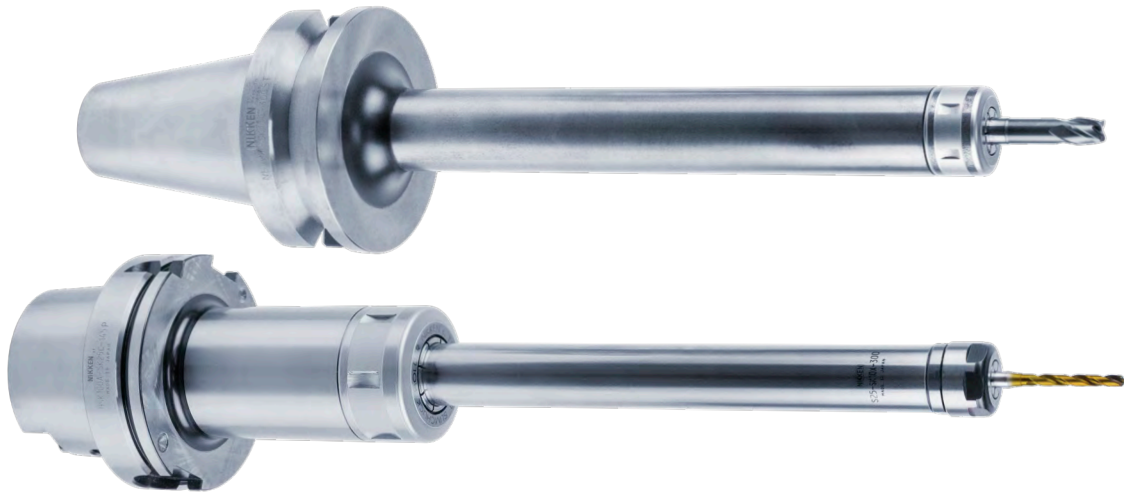
The Slim Chuck incorporates NIKKEN's exclusive TiN (Titanium Nitrided) Bearing Nut technology. This allows for improved tightening and accuracy thus delivering better all-round performance.

Clamping Range -

Ø0.7 ~ 25.4mm

Shank -

BT/MBT/NBT/HSK/
IT/NIT/POLYGON

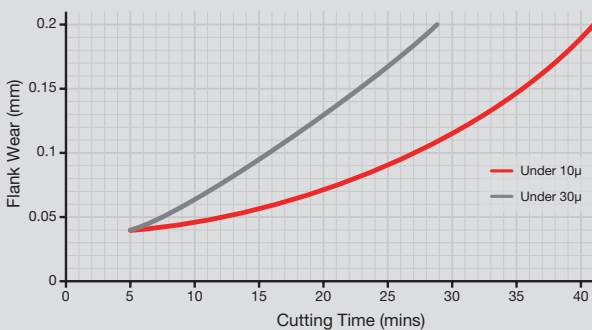


FEATURES

- Slim and compact body and nut
- 8° Collet with square shoulder location
- Superior gripping torque
- Unique TiN Bearing Nut
- Simple, compact and versatile

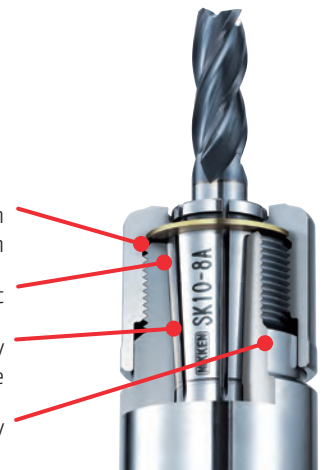
Run-out Vs. Wear (+30% Life)

To consider the effect that physical run-out contributes to decreases in tool life and increased wear, our Zero-Fit Slim Chuck was adopted to actually apply and exaggerate the run-out whilst profile cutting Ti 6Al-4V.

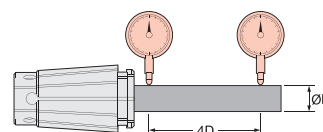


TiN Bearing Nut

- Simple & compact design for high speed rotation
- TiN Bearing Nut
- 8° taper collet for accuracy & gripping torque
- Special coating for high efficiency



Collet Concentricity (SK)



Collet type	Max run-out	
	At nose	At end
Standard	1µ	5µ
P	1µ	3µ
A	1µ	3µ



Mini-Mini Advanced Alpha Chuck

MMC

Our latest NIKKEN Mini-Mini Advanced Alpha Chuck is simply the most effective product for reduced diameter machining or components and applications where confined access or tight spaces can prove problematic.

Clamping Range -
Shank -

Ø1 ~ 12mm
BT/MBT/NBT/HSK/
IT/NIT/POLYGON



SK/MMC Sleeves

Available for auto machines

FEATURES

- Compact construction with no external nut
- Improved internal mechanism
- Clamp/unclamp with single wrench
- 8° Collet with pilot location
- New HSK "AT" direct draw bar variant

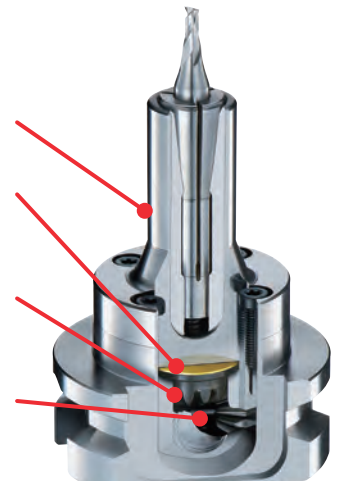
3xD Trochoidal 25mm Slot NBT40-MMC12C-120-AA



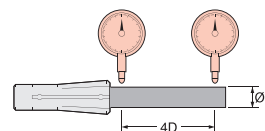
Wedco Endmill	12mm Twist 09012005
Depth of cut	36mm
Width of cut	1mm
Cutting Speed	350m/min
Chip Thickness	0.055mm
Feed	0.099mm/tooth
Speed	9,284rpm
MRR	162cm ³ /min

Latest Generation Alpha Clamping

- Optimised materials and heat treatment process
- Smooth clamping/unclamping from twin TiN bearing arrangement
- Added support for draw bar gear with one piece construction
- Improved gear design for increased transmission efficiency



Collet Concentricity (MPK, PMK, VMK)



Max run-out	
At nose	At end
1µ	3µ



X-Treme Milling Chuck

Our unique X-Treme Milling Chuck solution provides ultimate performance, control and reliability to meet the requirements associated with challenging components, applications and materials.

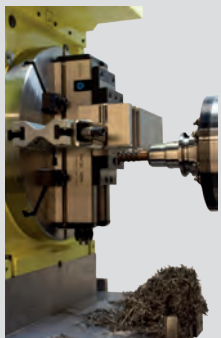
Clamping Range - **Ø12 ~ 42mm**
 Shank - **NBT/HSK/NIT/POLYGON**



FEATURES

- Designed specifically for demanding applications and materials
- Front nut clamping and accuracy based on Multi-Lock
- Interchangeable face seal and internal stopper
- Positive clamping and retention of tool shank - zero end-mill movement

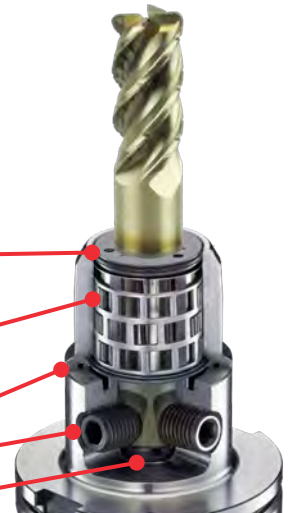
X-Treme 'Full-Slot' Process NBT50-C25EX-115 - Ti 6Al-4V



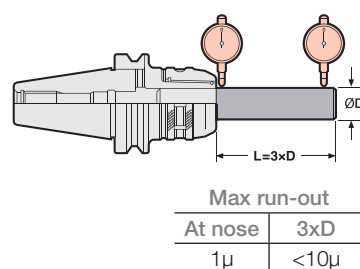
Endmill	25mm Rippa
Depth of cut	50mm
Width of cut	25mm
Cutting Speed	35m/min
Feed Per Tooth	0.07mm
Feed	187mm/min
Speed	446rpm
MRR	234cm ³ /min

Total Cutter Security

- Dual mode face sealing options
- World renowned multi roller construction
- Mechanical face contact
- Unique bolt retention system
- Dual mode location stopper



Run-out Accuracy



Multi-Lock Milling Chuck

The Multi-Lock is an efficient and versatile milling solution but also has a versatility to meet the requirements of various applications. The chuck can be utilised as a superior base holder or, with our expansive precision collet range, grip and adapt to numerous other cutting requirements with negligible loss of clamping power.

Clamping Range - **Ø2 ~ 42mm**
 Shank - **BT/MBT/NBT/HSK/IT/NIT/
 POLYGON**

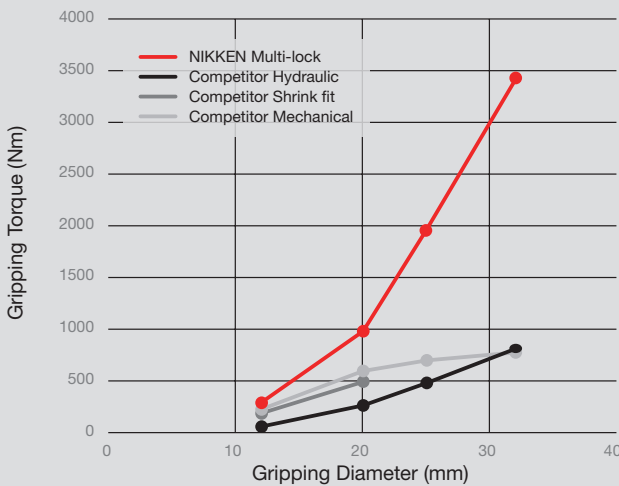


Multi-Lock Accessories
 Extended capabilities with collets
 and coolant options

FEATURES

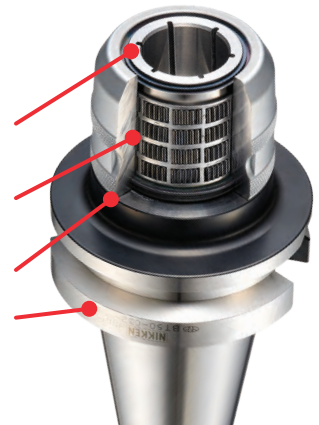
- High accuracy and rigidity
- Ultimate gripping torque
- Nose and root clamping
- Zero axial movement
- Perfect as a base holder

Gripping Torque Comparison

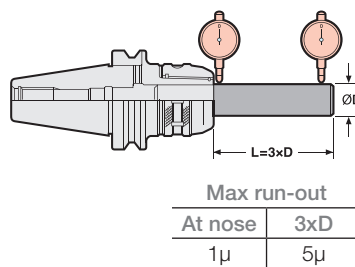


Multi Roller System

- Unique slotted bore for improved gripping
- World renowned multi roller construction
- Mechanical face contact
- Optimum rigidity and performance from NIKKEN's innovative heat treatment process



Run-out Accuracy

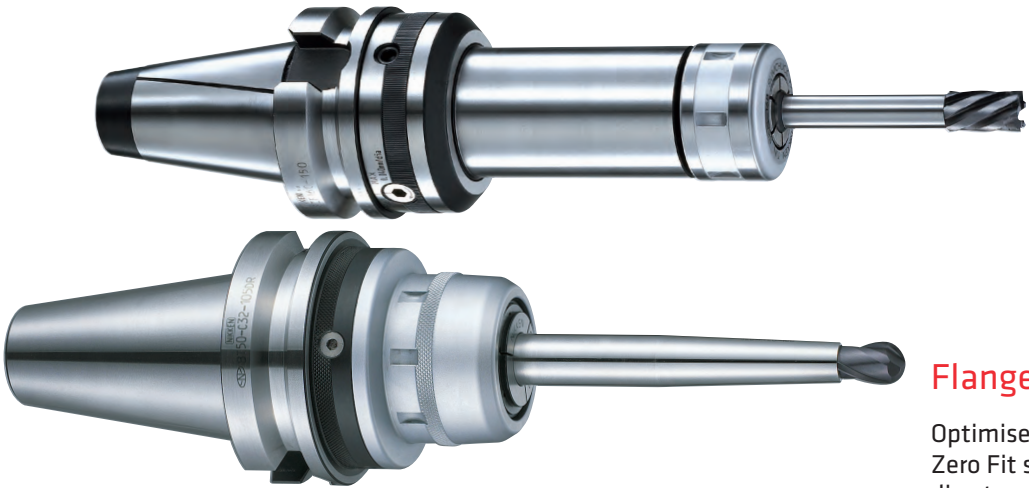


Zero Fit Holder

When a machine tool has been in operation for 2~3 years, the run-out accuracy of the spindle can decline. The NIKKEN Zero Fit Holder allows correction of any such error back to the “as-new” run-out of 0.001~0.002mm.

Typical run-out can be in the region of 21 microns - when this is reduced to 3 microns, the tool life can be improved by approximately 5 times.

- Clamping Range CZF - Ø2 ~ 42mm
- Clamping Range SZF - Ø0.7 ~ 25.4mm
- Shank - BT/MBT/NBT/HSK/IT/NIT/POLYGON



Flange Mount Zero Fit

Optimise prismatic work pieces with our Zero Fit solutions for direct mounting on Rotary Table face plates.



FEATURES

- 2 variants - Slim Chuck (SZF) and Multi-Lock (CZF)
- Easy to use cam adjustment and locking system
- Available with Single Cam or new Multi Cam design
- Simple optimisation of extended length applications

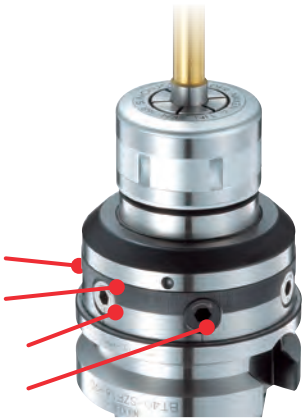
Zero Fit Life Test - BT40-SZF16-90 - Ti 6Al-4V

Time - 17sec	Endmill	12mm
Passes - 1	Depth of cut	20mm
Power - 14%	Width of cut	1.2mm
Run-out - 1µm	Cutting Speed	110m/min
Time - 5min 6sec	Chip Thickness	0.07mm
Passes - 18	Feed	1362mm/min
Power - 14%	Speed	2918rpm
Run-out - 1µm	MRR	33cm ³ /min
Time - 10min 12sec		
Passes - 36		
Power - 15%		
Run-out - 1µm		

Time - 17sec	Endmill	12mm
Passes - 1	Depth of cut	20mm
Power - 14%	Width of cut	1.2mm
Run-out - 1µm	Cutting Speed	110m/min
Time - 5min 6sec	Chip Thickness	0.07mm
Passes - 18	Feed	1362mm/min
Power - 14%	Speed	2918rpm
Run-out - 1µm	MRR	33cm ³ /min
Time - 10min 12sec		
Passes - 36		
Power - 15%		
Run-out - 1µm		

Multi Cam Adjust System

- Twin locking screws
- Balanced adjustment ring
- Fine Adjust Cam (x2)
- Master Cam



Angle Heads - NIKKEN SK

T90cn/T90

NIKKEN are delighted to be able to offer a wide range of Angle Heads and attachments utilising our advanced SK Collet System and patented TiN Bearing Nut. This technology improves tightening and accuracy to deliver better all round performance.

Clamping Range -
Shank -

Ø0.7 ~ 25.4mm
BT/MBT/NBT/HSK/
IT/NIT/POLYGON



FEATURES

- Cast iron bodies (GS600), 100% machined, to provide long life, thermal stability and stress resistance
- Where possible, mono block spindles for better accuracy and performance
- Special gear material with four-key drive system
- Double high precision, preloaded, angular contact bearings
- Special low friction sealing system with double mechanical seal

Alberti Solutions

Extensive standard and specials range also available for any application to suit both machining centre and lathe processes.



Centre through and coolant through the pin options are fully compatible with NIKKEN's new SK Coolant Collets

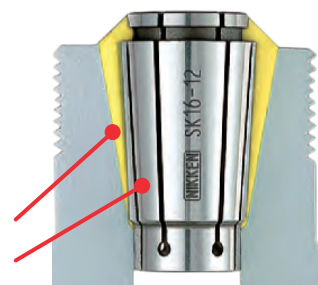


Increased Gripping Power & Rigidity

8° taper and wedge increases torque and concentricity

16° Standard ER Collet

8° NIKKEN SK Collet



Major Dream Holder

MDSK

NIKKEN's Major Dream System provides the optimum 'damped' tool holder solution. Using NIKKEN's revolutionary micro-dampening mechanism it is suitable for both heavy-duty and high-speed machining.

Clamping Range -
Shank -

Ø3 ~ 25.4mm
BT/MBT/NBT/HSK/
IT/NIT/POLYGON

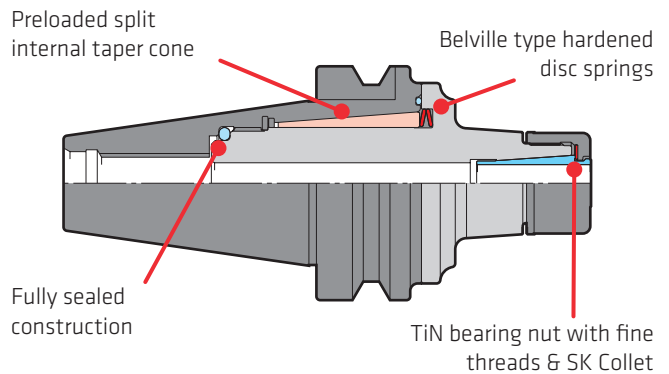


Major Dream Pro End-Mill

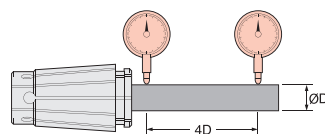
The NIKKEN Pro-End Mill is a two piece milling solution designed to offer improved performance on numerous applications including slotting, profiling, pocketing and ramping.



Internal Dampening Mechanism



Collet Concentricity (SK)



Collet type	Max run-out	
	At nose	At end
A	1µ	3µ



Anniversary VC Holder

VC

VC is our solution for tougher milling and drilling processes. Incorporating many proven features and construction elements from the Slim Chuck, we have enhanced the whole product with a focus on performance.

Clamping Range -
Shank -

Ø3 ~ 12 mm
BT/MBT/NBT/HSK/



FEATURES

- Strengthened nut and increased body wall thickness
- More suited to the demands of milling processes
- 8° Collet with pilot location
- Superior gripping torque
- Unique TiN bearing nut with finer threads for greater contact

GH Handle

The VC Holder features a symmetrical ground nut. To accommodate simple and effective clamping and unclamping our GH Handle features a roller bearing cam system to grip the outer diameter. Also suitable for all other NIKKEN high speed options.



Increased Milling Capability

Stronger wall construction with fine threads for improved clamping and rigidity

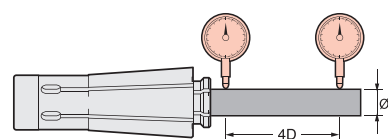
TiN Bearing Nut

8° taper collet for accuracy & gripping torque

Pilot diameter for increased collet support during milling processes



Collet Concentricity (VCK)



Max run-out	
At nose	At end
1µ	3µ



ZMAC Advanced Boring

Our ZMAC Advanced Boring Heads feature a double-contact shoulder support and provide excellent reliability and performance for deep hole boring and high-speed boring operations.

Modular Range -
Large Range -
Shank -

Ø15.9 ~ 180.5mm
Ø140 ~ 595mm
BT/MBT/NBT/HSK/

FEATURES

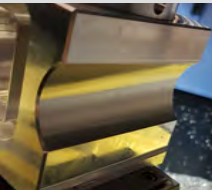
- Unique double contact support
- High precision with simple micron adjustment
- Superior stability and rigidity
- Available as modular solution or "blade type" system for larger diameters
- Light alloy version available for higher speeds

Insert Choices

We provide an extensive range of inserts and geometries to cater for a wide range of materials and applications.



Intermittent Aluminium Half Boring



Cutting Diameter/Depth	46mm/105mm
Surface Speed	400m/min
DOC Radial	0.75mm
Feed Per Tooth	0.1mm

Fine Boring Solution

- Cartridge fully supported throughout travel
- Coolant through capability as standard
- Hardened cartridge thread (HRC50-55) with precision grinding to ensure easy micro adjustment



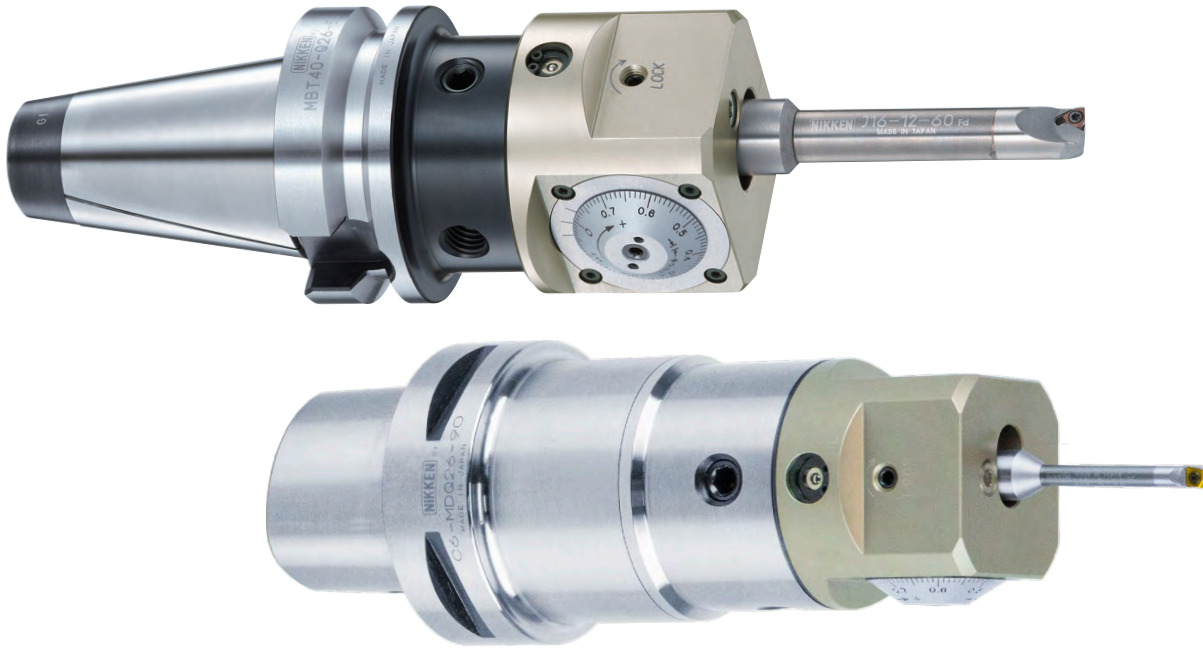
DJ Boring

DJ

Adopting two sizes of head and an ever increasing range of boring bits, the DJ Boring System provides the versatility and range to cater for smaller diameter boring processes. The system allows micron accuracy and caters for any requirement by simply replacing the boring bit itself.

Boring Range -
Shank -

Ø3 ~ 50mm
BT/MBT/NBT/HSK/
IT/NIT/POLYGON



FEATURES

- Versatile and easy to use
- Carbide boring bits negate vibration
- Straight forward accurate adjustment
- Compatible with alternative boring bits
- New DJ 8 reduction sleeve - 16mm to 10mm

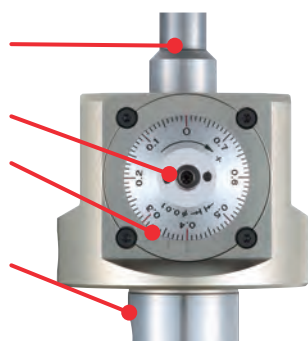
Versatility in Boring

Extensive range covered by a wide variety of boring bits

Easy to set micron accuracy

Graduation main dial is 0.01mm/dia. Vernier reading is 0.005mm

Available for any machine spindle by using a NIKKEN Q26 modular base holder



DJ Boring Bits

A versatile range of boring bits with carbide dampening are available from stock, either individually or included within complete sets.



RAC Advanced Boring

NIKKEN RAC Boring Heads feature a precision ground serration, giving perfect contact and balance between the holder and head. The RAC system provides the rigidity and stability to cater for larger diameter boring operations including roughing and semi-finishing.

RAC/BAC

Modular Range -
Large Range -
Shank -

Ø25 ~ 130mm
Ø130 ~ 580mm
BT/MBT/NBT/HSK/
IT/NIT/POLYGON

FEATURES

- Both cartridges support each other to negate cutting forces
- Suitable for double cutting and stepped cutting (option)
- Cartridges available to suit various insert styles

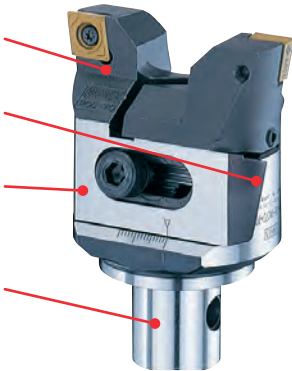
RAK/RPC Arbor & Blade

From Ø130~580mm, our balance cut blade system is adopted. This solution features many of the characteristics of standard RAC with the rigidity necessary for larger diameters. Also available for ZMAC, with balance weight, both options can be configured for high pressure coolant.



Performance & Rigidity

- Double cutting with twin, self supporting cartridges
- Precision ground "V" form slideways (NIKKEN scam)
- Numerous cartridge options for different materials and processes
- Available for any machine spindle by using a NIKKEN Q26 modular base holder



eMAC Digital Boring

EMAC

The NIKKEN eMAC Digital Boring System is a fine boring head with a digital display indicating the radial slide traverse. The target adjustment can be achieved easily, quickly and precisely.

Modular Range -
Shank -

Ø6 ~ 200mm
BT/MBT/NBT/HSK/
IT/NIT/POLYGON



Digital Adjustment

Single button operation for 'On' & 'Reset', and to change between mm/inch

Adjust screw

Digital display resolution Ø2µm

Available for any machine spindle by using a NIKKEN Q26 modular base holder



eMAC Aluminium Full Boring



Cutting Diameter/Depth	60mm/ 20mm
Surface Speed	400m/min
DOC Radial	0.75mm
Feed Per Tooth	0.1mm

Rotary Table Capabilities

NIKKEN's world renowned CNC Rotary Table range provides proven performance, reliability and accuracy benefits for any application or requirement which others simply cannot hope to emulate.

Using our own unique developments, manufacturing processes and construction techniques (for example, the Carbide Worm Screw and Ion Nitrided Hardened Worm Wheel system) our solutions allow the optimum capabilities to be achieved for your process.

With an extensive range of sizes and configurations available, all fully supported by our extensive global network, you can be sure to find the perfect product to meet any demand.

Single Axis, Twin Axis, Multi-Spindle, Standard Drive, High Speed Drive, Direct Drive capabilities are all available from stock. These can be configured and supplied for control directly by the CNC Machine or by integrating our exclusive Alpha 21 and EZ controllers to provide precise positioning and also full Macro B control (Macro B – Alpha 21 only).

NIKKEN can also provide a complete and expansive range of accessories exactly engineered and customised to suit both the machine tool and the component. These options include a wide variety of chucking solutions, vices and gripping choices, bespoke trunnions & workpiece fixturing along with a wide variety of NIKKEN manufactured rotary work supports and tailstocks to cater for all production expectations.



NIKKEN Rotary Table Construction Considerations

1. Worm Wheel - The fine pitch of the NIKKEN worm wheel contributes to 4 arc second repeatability. NIKKEN's unique construction shrink fits the worm wheel onto the solid faceplate and quill body.

The NIKKEN worm wheel and screw system in conjunction with the tables higher speed rates create a hydro-static high pressure oil film, virtually eliminating the wear between the gears.

2. Worm Screw - The NIKKEN worm screw is a combination of special hardened steel and custom made carbide. As a consequence, and ultimately a benefit, friction between the screw and worm wheel is eliminated.

The thread ground carbide worm gear and honed steel worm wheel are hand matched and paired to maintain maximum thread engagement and rotation accuracy (this also adds to the rigidity overall).

3. Casting - NIKKEN Rotary Tables utilise fine grain high-density Grey Cast Iron. These castings offer long-term stability, low distortion with high strength and rigidity. The castings are rough machined, after which a period of 30 days is allowed for the casting to stabilise before the rotary table is prepared for and put through the finish machining process.

4. Faceplate - Our design features a much shorter distance from the faceplate to the gear. This means that greater torsional forces can be sustained. Braking is applied directly to the spindle which is of a mono block construction incorporating the faceplate, adding greater rigidity overall.

5. Radial Bearing System - Located directly under the edge of faceplate is the Radial Bearing System. This position maximises load distribution. We also incorporate a Teflon seal in lieu of an 'O' Ring. The bearings are hand picked and matched (in increments of 1 micron) between rotary table and faceplate assembly, insuring the utmost rotation accuracy and elimination of unnecessary movement between the two parts.



Alpha 21 Controller

Our optional Alpha 21 provides indexing and positioning in two ways. The program can be held in the Alpha controller and commanded using M Codes from the CNC Machine or alternatively, depending on the CNC Controller, a Macro B CNC program can be utilised to allow optimum control from the CNC itself. The main advantage is that both the CNC table and controller can, in most cases, be easily transferred between machines and processes.

NIKKEN I/O

NIKKEN are leading the way by utilising the latest, cloud-based technology to access big data during the lifetime of our products. Providing you with full Industry 4.0 compliance, we've created a new passive, continuous, condition monitoring system (NIKKEN I/O) that runs day in, day out to ensure that you are kept up-to-date on the running of your NIKKEN products. Being able to sense and predict failure is a major asset to both the end user – in maintaining uptime of machines, and to NIKKEN itself – to research and develop our products for the future.



HOW I/O WORKS

1. Sensors inside the rotary table send real time data wirelessly while in production.
2. A receiver on the workshop floor receives this data, performs the required processing, and enters it into a database.
3. NIKKEN I/O uses a standalone web-based dashboard, providing rich, customisable data visuals with an at a glance flagging system, so you can see the beginning of an issue before it becomes a fault.
4. Running over wi-fi, NIKKEN I/O can be connected to any local network, or even as a global cloud-based solution.



SERVICING STANDARD

Servicing Base Plugin as standard:

- Backlash measurement
- Collision detection
- Oil condition monitoring
- Current measurement shows actual power draw of rotary during production
- Measurement of motor temperature gives indication of overheating.

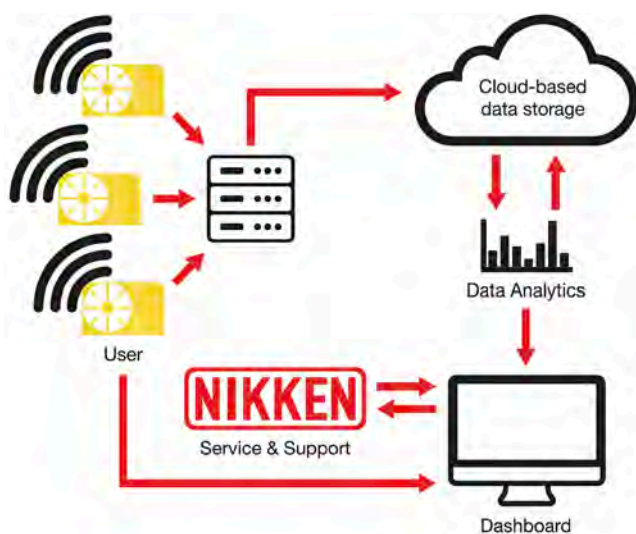
ADDITIONAL OPTIONS

- Dynamics Plugin:

Vibration monitoring provides frequency information to aid operators in reducing vibration uniquely on the rotary workpiece.

- Digital Signature Plugin:

NIKKEN I/O Servicing system data is opened to user. Bespoke system can identify process issues before inspection – reducing scrap and rework.



Single Axis CNC Tables

NIKKEN's small to medium single axis CNC Rotary Table range is designed to cater for a wide variety of processes, applications and machine tools where positional accuracy, reliable/repeatable performance and stability are key. Usable either as a direct CNC driven full forth axis or with the addition of our Alpha 21 controller (for either positioning or more complete control with Macro B) our solutions can be adapted to virtually any machine or process.

Our large single axis and Big Bore CNC Rotary Table options provide the performance demanded by larger scale processes, applications and machine tools. Here we excel with all the benefits and characteristics of the smaller range but with increased rigidity and considerations applied to the construction. Again usable either as a direct CNC driven full forth axis or with the addition of our Alpha 21 this range extends capabilities and expectations such components and requirements.

Compact 4th Axis Range

Table Diameter - Ø105 ~ 200mm
 Clamping Moment - 480 ~ 900Nm
 Rotation Speed - 22.2 ~ 66.6min⁻¹



NCT200 Compact 4th Axis Table

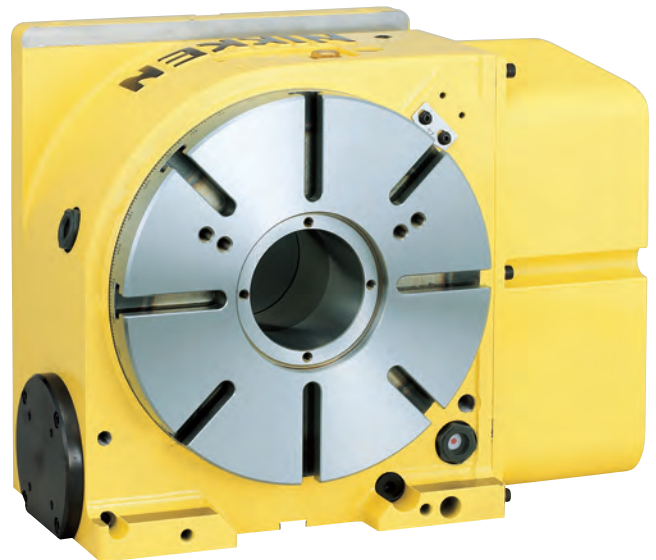
Diameter of Table	200mm
Clamping System	Air
Clamping Moment	900Nm
Minimum Increment	0.001°
Indexing Accuracy	±20sec
Max Work Load on the Table	V=100Kg / H=200Kg
Driving Torque	200Nm

FEATURES

- Mono block high performance main spindle
- Ion nitrided worm wheel HV1100
- Special steel/carbide worm screw system
- Dynamic high pressure oil film effect (Z series)
- Bespoke work-holding available
- Long life durability and performance from entirely NIKKEN manufactured components

Mid Range 4th Axis Range

Table Diameter - Ø260 ~ 400mm
 Clamping Moment - 2030 ~ 4408Nm
 Rotation Speed - 16.6 ~ 66.6min⁻¹

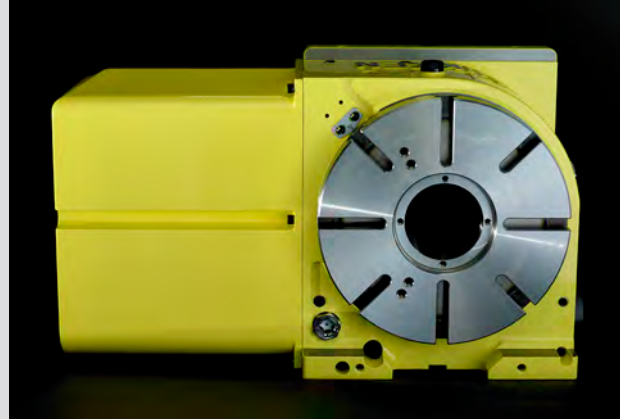


CNC260 Mid Range 4th Axis Table

Diameter of Table	260mm
Clamping System	Air/Hyd
Clamping Moment	2030/3010Nm
Minimum Increment	0.001°
Indexing Accuracy	20sec
Max Work Load on the Table	V=175Kg / H=350Kg
Driving Torque	192Nm

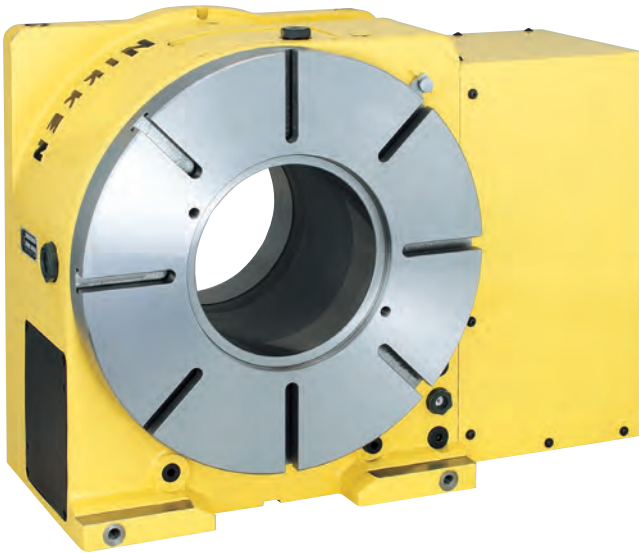
NEW NCT250 Rotary Table

Our NCT250 features a detachable faceplate system to provide versatility, a larger worm wheel for increased performance and the latest generation motors for simpler integration. The table provides much improved accuracy and a clamping torque of 900Nm, from a 250mm diameter table, our new NCT is the rotary to beat!



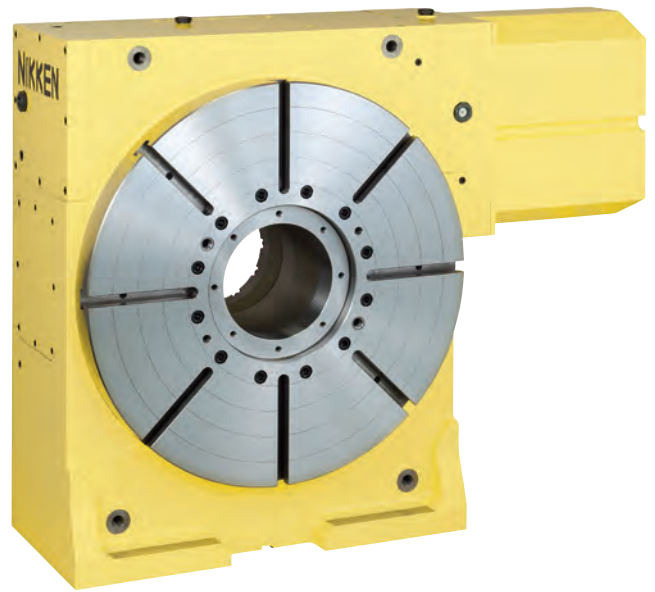
Big Bore 4th Axis Range

Table Diameter - $\text{\O}350 \sim 800\text{mm}$
 Clamping Moment - $5979 \sim 15563\text{Nm}$
 Rotation Speed - $5.5 \sim 33.3\text{min}^{-1}$



Large 4th Axis Range

Table Diameter - $\text{\O}500 \sim 1600\text{mm}$
 Clamping Moment - $10364 \sim 146952\text{Nm}$
 Rotation Speed - $2.7 \sim 33.3\text{min}^{-1}$



CNCB450 Big Bore 4th Axis Table

Diameter of Table	450mm
Clamping System	Hyd
Clamping Moment	7401Nm
Minimum Increment	0.001°
Indexing Accuracy	15sec
Max Work Load on the Table	V=350Kg / H=700Kg
Driving Torque	576Nm

CNC803 Large 4th Axis Table

Diameter of Table	800mm
Clamping System	Hyd
Clamping Moment	27067Nm
Minimum Increment	0.001°
Indexing Accuracy	15sec
Max Work Load on the Table	V=2000Kg / H=4000Kg
Driving Torque	3168Nm

Twin Axis CNC Tables

NIKKEN's small to medium twin axis CNC Rotary Table range is designed to cater for a wide variety of processes, applications and machine tools where positional accuracy, reliable/repeatable performance and stability are key. Usable either as a direct CNC driven full forth axis or with the addition of one or even two of our Alpha 21 controllers (for either positioning or more complete control with Macro B) our solutions can be adapted to virtually any machine or process.

Our large twin axis CNC Rotary Table options provide the performance demanded by larger scale processes, applications and machine tools. Here we excel, with all the benefits and characteristics of the smaller range, but with increased rigidity and considerations applied to the construction. Again usable either as a direct CNC driven full forth axis or with the addition of our Alpha 21 this range extends capabilities and expectations such components and requirements.

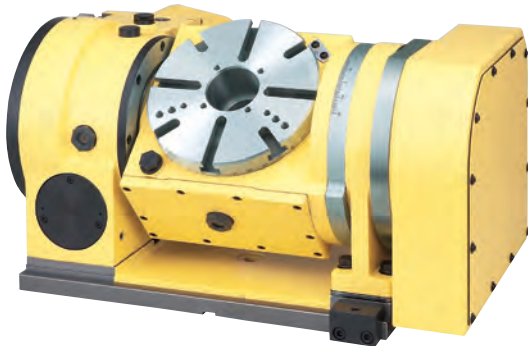
TRIAG

NIKKEN are approved dealers for the entire range of work-holding products and accessories from Triag. The range is expansive, providing increased scope and capabilities for any part or requirement.



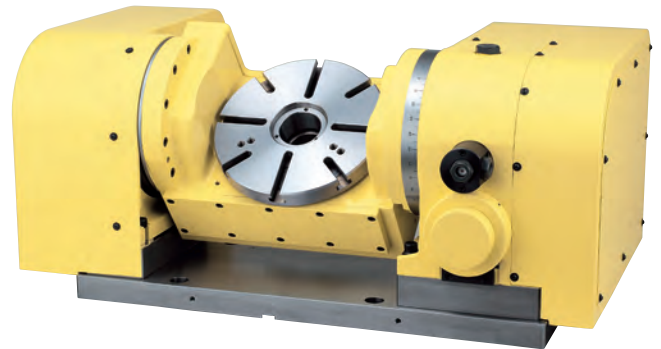
Compact 5th Axis Range

Table Diameter - **Ø90 ~ 200mm**
 Clamping Torque - **205 ~ 612Nm**
 Rotation Speed - **11.1 ~ 44.4min⁻¹**



Mid Range 5th Axis Range

Table Diameter - **Ø230 ~ 350mm**
 Clamping Torque - **490 ~ 4900Nm**
 Rotation Speed - **5.5 ~ 33.3min⁻¹**



5AX-201 Compact 5th Axis Table

Diameter of Table	200mm	
Clamping System	Air/Hyd	
Clamping Torque	Rotary 303/588Nm	Tilting 303/612Nm
Minimum Increment	0.001°	
Indexing Accuracy	Rotary 20sec	Tilting 60sec
Max Work Load on the Table	0-30° 60Kg	30-90° 40Kg
Driving Torque	72Nm	

5AX-250 Mid Range 5th Axis Table

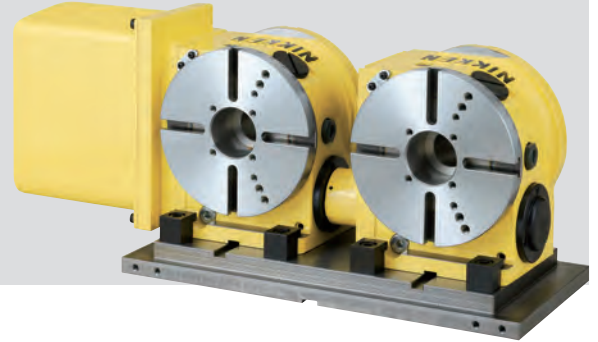
Diameter of Table	250mm	
Clamping System	Hyd	
Clamping Torque	Rotary 588Nm	Tilting 4900Nm
Minimum Increment	0.001°	
Indexing Accuracy	Rotary 20sec	Tilting 60sec
Max Work Load on the Table	0-30° 80Kg	30-90° 50Kg
Driving Torque	144Nm	

FEATURES

- Mono block high performance main spindle
- Ion nitrided worm wheel HV1100
- Special steel/carbide worm screw system
- Ultra precision index accuracy available as an option
- Long life durability and performance from entirely NIKKEN manufactured components
- Bespoke work-holding available

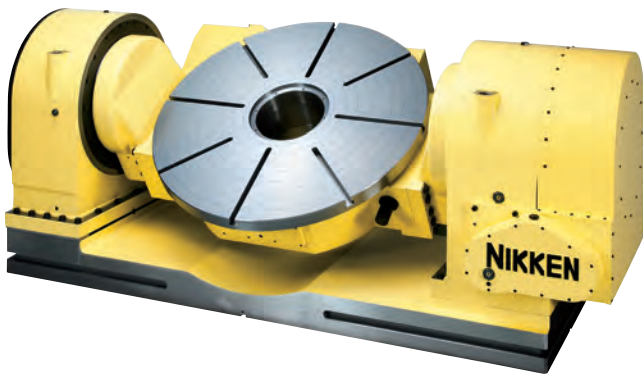
Extended Scope

To further enhance your productivity, in addition to our standard range of rotary tables, we also provide a choice of multi-spindle options. Available for both our single axis and twin axis rotaries we have a wide range of diameters and pitches to suit any demand.



Large 5th Axis Range

Table Diameter - $\varnothing 550 \sim 1200\text{mm}$
 Clamping Torque - $3430 \sim 19600\text{Nm}$
 Rotation Speed - $5.5 \sim 25\text{min}^{-1}$



Direct Drive 5th Axis Range

Table Diameter - $\varnothing 80 \sim 130\text{mm}$
 Clamping Torque - $75 \sim 910\text{Nm}$
 Rotation Speed - $33.3 \sim 200\text{min}^{-1}$



5AX-1200 Large 5th Axis Table

Diameter of Table	1200mm	
Clamping System	Hyd	
Clamping Torque	Rotary 14700Nm	Tilting 19600Nm
Minimum Increment	0.001°	
Indexing Accuracy	Rotary 20sec (±5)	Tilting 60sec (±10)
Max Work Load on the Table	0-30° 2500Kg	30-90° 1500Kg
Driving Torque	3168Nm	

5AX-DD100AF Direct Drive 5th Axis Table

Diameter of Table	90mm	
Clamping System	Air	
Clamping Torque	Rotary 75Nm	Tilting 205Nm
Minimum Increment	0.001°	
Indexing Accuracy	Rotary 20sec (±5)	Tilting 60sec (±10)
Max Work Load on the Table	0-30° 20Kg	30-90° 10Kg
Driving Torque	Rotary 35Nm	Tilting 130Nm

TOOL MANAGEMENT

Our strategic alliance with Elbo Controlli NIKKEN has allowed us to share our technical knowledge and expertise to develop a complete 360 Tool Management Solution, allowing businesses to streamline processes to save time and money.

All Elbo Controlli NIKKEN Tool Presetters provide networking functionality as standard, and post-processing options by default, which provides a convenient and straightforward way to transfer measured tool data. With the increasingly popular use of modern CNC controllers and the demand for technology and cloud-based solutions (focussed around Industry 4.0), we've developed a solution for our customer's ever-growing demand for controlling and managing their tool data.

TiD

Tool ID allows you to manage and control tool identification and geometrical data seamlessly. TiD uses a handheld scanner at the presetter to scan and read a data matrix tag (similar to a QR code) located on the tool assembly. A similar scanner is located at the machine tool connected to either a Windows PC or touchscreen console on which the TiD software is also running.

This process allows the tool data (measured or theoretical) to remain centralized within the TiD database and is transferred from the presetter directly into the tool table on the respective machine tool.

The intuitive graphical interface within TiD allows configuration of the format and the mapping for the data required for the tool identification.

TP32

TP32 is a complete 360 degree solution, developed to provide an all-round tool and stock control system for manufacturers and machine shops. TP32 meets the demands for businesses requiring a system capable of managing tool holders, cutting tools, spare parts, inserts, consumables and all associated data and information. TP32 is a program which is fundamentally dedicated to the management of the tool repository, which is woven in as a fundamental component of the productive cycle. As such, the data is inserted and managed within a system which allows all information to be accessible to all members across the manufacturing process and presented in the simplest and most straight forward and useable manner.

Through TP32, it is possible to have the stock repository under full control both as a management solution and also to the teams responsible for the composition and assembly of the individual components. In this way, everyone has all the necessary information that is required for effective production (component availability, assembly verification, etc.) including going as far as individual part and assembly administration (stock values, ordering replenishments from suppliers, e.t.c).



Principles of Presetting

The measuring of individual tools and assemblies is a necessity for the effective operation of a machine tool and its tooling. All CNC Machines, and to some degree, manual machines require offset values or references for the length & diameter of each tool.

Historically the normal practise has been to establish tool offsets and references on the machine tool using various methods - the component/fixture, some form of gauge or a probe/laser. Machine tools earn money by cutting metal and producing parts, not measuring tool holders and assemblies. It is therefore essential, in a modern production facility, to consider a dedicated presetting machine.

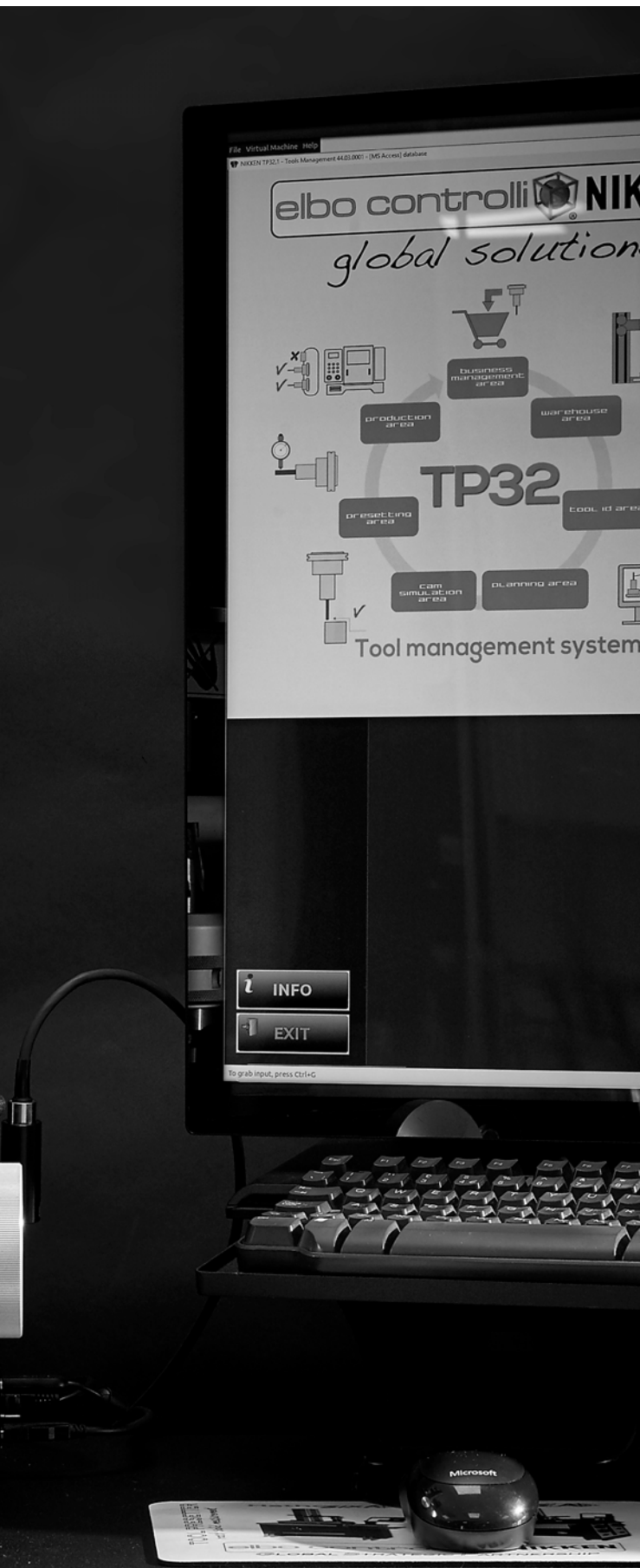
Measuring the Future

NIKKEN Kosakusho Works Limited and Elbo Controlli SRL are now part of a global Strategic Alliance. Both companies have a long standing synergy and this strengthened relationship allows the two technology partners to innovate and move forward both their products and solutions 'Closer Together'.

Latest Presetter Developments

For our latest generation machines we are introducing a brand new automatic measuring system. Incorporated onto both our Hathor Six A and E46LA models the patented drive system engages automatically when the measure function is selected. The rotation speed for the auto-measure function is calculated and applied by the software in relation to the current diameter for the tool being measured.

This means that the rotation speed is based on the specific periphery of the tool, rather than using a fixed rotation speed. Also, as the maximum position of each cutting edge is approached the software automatically controls the acceleration and deceleration of the spindle ensuring absolutely precise measuring, for each and every cutting edge, is achieved. Similar systems us only one constant rotation speed based purely on the current axis position - so no relationship between the individual tool and presetter.





HathorSix A, E46LA, E46LTWA Autofocus

- Autofocus function: all new operating mode and capability that allows the machine to measure the tools automatically
- Acquisition of X & Z values with automatic recognition of the cutting edge
- Measuring priority for X or Z axis can be selected
- Absolute maximum measure search and capture with one complete revolution of the spindle.



E46LA and NEW E68LA Autofocus

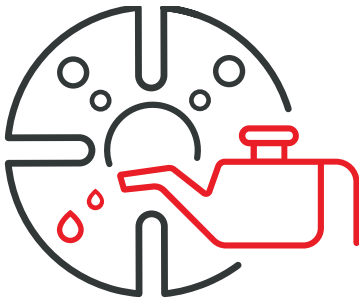
- Automatic search and measurement for single edged tools
- Multi edged cutter acquisition cycle: automatic recognition and measurement of each single cutting edge detected during a complete revolution of the spindle
- Acquisition of X, Z or both values with recognition of whether the measured values are out of tolerance
- Absolute maximum measure search and capture with one complete revolution of the spindle
- Results are quickly visualised in a graphical format for a quick consultation or print
- Possibility to select single measurement for direct positioning on the selected cutter
- DXF profile creation function: automatic rotation of the tool to memorise the geometry developed and built up during full spindle rotation to automatically generate a DXF drawing.



E46LAIS and NEW E68LAIS Auto focus

- NEW electronics embedded with twin Operating Systems.
- NEW operator interface through HD Twin Touch Screen system.
- Elbo Controlli NIKKEN TP32 '360 Degree' Tool Management system included as standard.
- Elbo Controlli NIKKEN TiD included capability as standard.
- E68LA IS presetter features NEW X and Z axis servo driven movement system.
- E68LA IS presetter is CN Ready (future software update will provide fully automatic 'CNC' tool measurement).

SERVICING AND REPAIRS



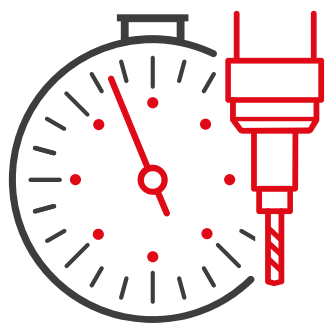
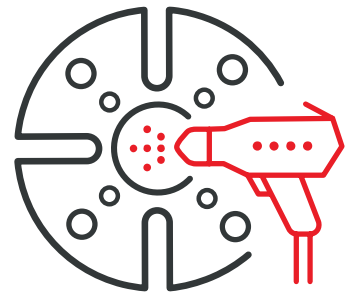
SERVICING

While NIKKEN products are renowned for their high quality, reliability, and robustness; an annual service will help to protect the longevity of customers' investments and provide defense against unexpected failure. Proactive maintenance safeguards productivity and provides our fully trained, dedicated technicians the opportunity to spot early signs of issues and react accordingly. This is proven to be more cost-effective than waiting until repairs are needed and eliminates any excessive waste parts.

REPAIRS

Here at NIKKEN, we pride ourselves in having a committed team of expert service engineers and professional support staff, allowing us to provide a rapid response to our customers should they experience any issues.

Offering free over the phone and email support to all our customers, we understand the importance of avoiding downtime. Should you require an on-site visit, our dedicated service engineers have direct access to our warehouse stock of just under 1 million, ensuring minimal waiting time for a new part and installation. Our professionals are equipped to perform anything from minor repairs, to full strip downs, and mechanical rebuilds, as well as being trained in electrical support to replace cable looms to cable manufacturing.



PRESETTER CALIBRATION

Elbo-Controlli-NIKKEN products are renowned for their high quality, accuracy and reliability. Proactive maintenance can safeguard performance, improve longevity and provide our technicians with the opportunity to spot early signs of issues.

Our servicing and calibration include:

- Full functionality check
- Geometry check and adjustment, if needed
- Software upgrade (if a later version has become available)
- Full calibration with certification

REFURBISHMENT

Refurbishment is a cost-effective alternative to investing in new equipment, giving your performance and productivity levels a boost, without the premium expense or wait time for installation.

With a dedicated team of specialist service engineers, we ensure all refurbishments are to the highest standard. Using parts from our warehouse stock of around 1 million, the team is equipped to carry out full strip downs and mechanical rebuilds, reinstating the Rotary Table to near original condition and performance.





NIKKEN

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The Spirit of Innovation