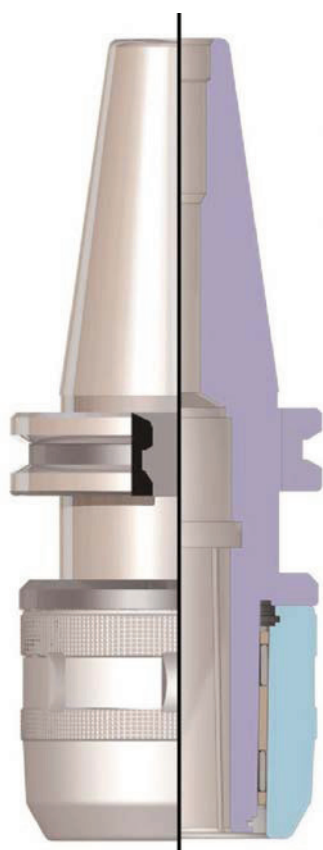


# Milling Chuck Features

Since its first introduction into the industry in 1963, Nikken has sold over 2,000,000 Milling Chucks worldwide and never stopped improving its original design. Featuring multi-roller bearings spiral coolant slots and a heavy-duty nut, the Milling Chuck is the most reliable and powerful toolholder available.

Our latest edition, Nikken Anniversary Multi-Lock Milling Chuck, is more compact and advanced with full-bore clamping for even more incredible gripping power.

With these features, the "Anniversary" Multi-Lock Milling Chuck quickly became one of the most popular tools used in machine shops all over the world.



### US Patent (7018919)

Nikken is the inventor of the Milling Chuck.

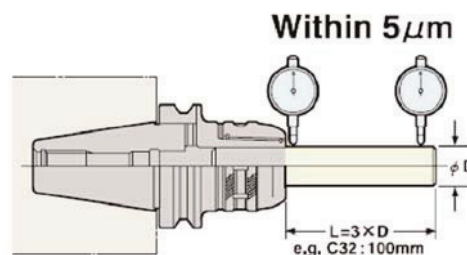
### Quiet, Stable Heavy Milling

High strength Nickel Chromium Molybdenum 4340 Alloy. Solid 1-piece base and thick wall design ensure no distortion during heavy machining. Straight collet design virtually eliminates axial movement in clamping, ideal for multi-spindles machining, which requires matched tool-length settings.

### High Run-Out Accuracy

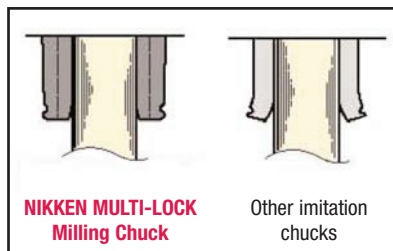
Flange and taper grinding allow for smooth and precise chucking of tool, resulting in minimal TIR.

0.0002 at 4" from the nose guaranteed.



### Sub-Zero Treatment (-90°C)

All milling chucks are cryogenically treated after heat treatment to remove residual Austenite. This creates a uniform Martensite state and eliminates warpage and distortion, preventing deformation during the life of the toolholder.



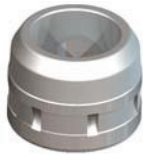
### Even Gripping Along Entire Length of Cutter

Clamping along the entire shank is a key condition for precise milling. Without this critical factor, surface finish, tool life, rigidity and run-out accuracy will be jeopardized.

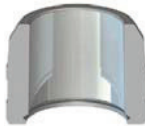
Only Nikken Milling Chuck clamps even at 3mm from the nose. This makes the Anniversary Type Multi-Lock Milling Chuck ideal for roughing and finishing.

# Milling Chuck Features

## Chucking Torque and Durability



Forged Nickel Chrome Molybdenum 4340 ground on taper and base.



Thick nut exerts immense gripping strength by collapsing tight taper on the mill chuck body.



Staggered, coated steel cage packs 140% more needle rollers than imitations. This provides more gripping power. The retainer is NOT made of phosphor bronze but rather of special steel which will never break.



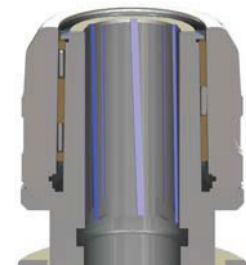
	<b>Nikken Multi-Roller System</b>			<b>Imitation Multi-Roller System</b>	
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## Chucking Torque and Rigidity: Effect of Internal Slots

Internal slots together with thickened wall of the chuck body ensure no distortion even at heavy milling. Thus, smooth milling work is achieved without the vibration or slipping of the end mill.

**Strongest mechanically gripping holder in the world!**

Thick wall and slots provide strong chucking torque and rigidity. Further, slots function as an escape for oil.

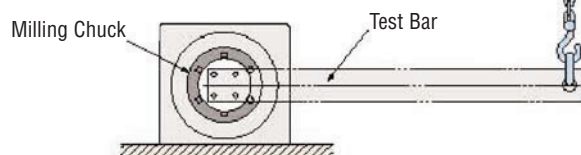
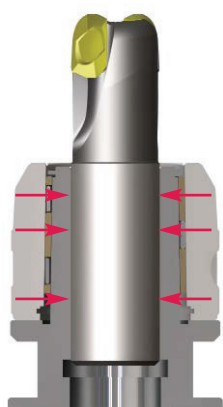


## Chucking Torque Test Data (C42)

	<b>Oil is removed completely</b>	<b>Trace amounts of oil</b>	<b>%</b>
Nikken With Slots	3,600 ft. lbs.	3,500 ft. lbs.	5% down
Others Without Slots	2,500 ft. lbs.	900 ft. lbs.	67% down



- 2 degree internal directional slots keep high pressure coolant aimed toward the periphery of the cutter
- High pressure capable up to 1200PSI
- Large slot design is also ideal for high volume oil and for high pressure air applications

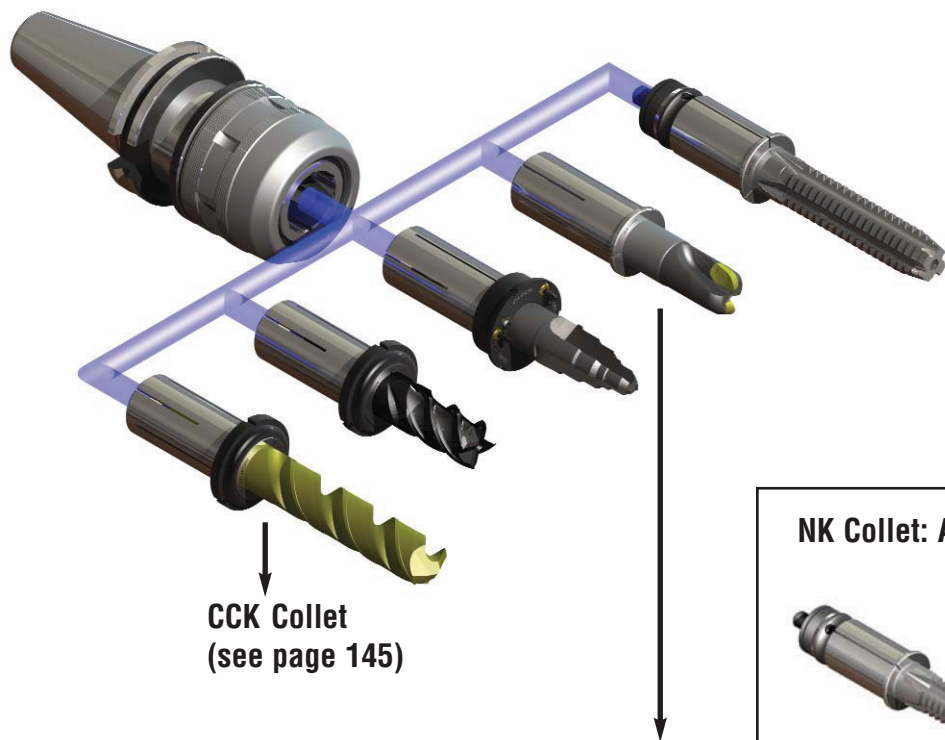


## Milling Chuck Collet System

Ultra-lock Milling Chuck Collets are designed to ensure uniform collapsing around the cutting tool shank. This provides maximum gripping power as well as concentric positioning of the cutting tool. Collets are available for all Ultra-Lock Milling Chucks in inch and metric sizes including coolant-thru styles. All milling chuck collets will surpass the precision and rigidity of traditional collet chuck systems if the cutting tool shank tolerance is guaranteed to be h7 or better.

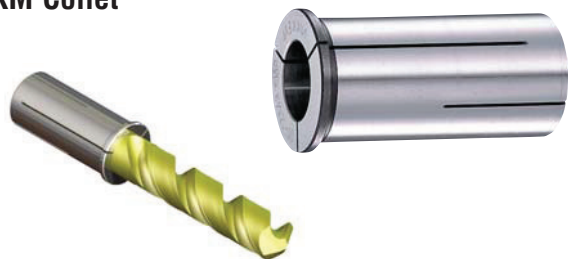


**KM:** standard collet  
**NK:** adjustable collet  
**CCK:** Coolant-thru collet  
**CCKN:** Coolant-thru adjustable collet



**CCK Collet**  
(see page 145)

### KM Collet



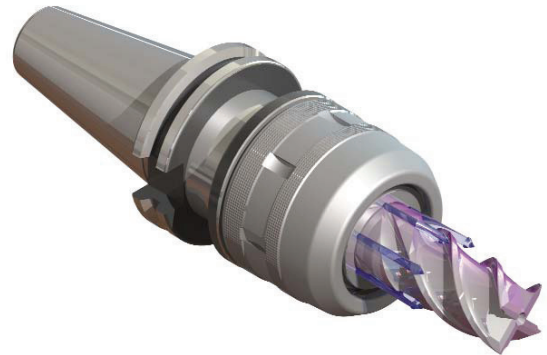
- High precision KM reduction collets extend the chucking flexibility of the milling chuck. All inch and metric standard sizes can be held by the same toolholder
- Can be used in conjunction with a coolant back up screw for high pressure (1200 PSI) applications

### NK Collet: Adjustable Collet



- High precision NK reduction collets extend the chucking flexibility of the milling chuck and offer a built in back up screw for repeatability when replacing cutters
- Available in all inch and metric standard sizes
- Easy set up since the NK fits directly into the inner diameter of the milling chuck

# Milling Chuck Coolant Collet System: CCK Collet



- High pressure coolant application through existing slots
- CCK reduction collets offers flexibility to hold both metric and inch standard shanks
- Straight collet design eliminates taper tolerance variation between mating surfaces
- Many options available to configure how coolant is expelled
- CCK collets are designed with an internal coolant groove that helps channel high pressure coolant to the periphery of your cutter without any reduction of gripping strength and TIR accuracy

**Examples of Coolant-Thru Options**

For Grooving

For cutters with cutting diameters larger than the shank diameter

Prevention of the swarf contamination

A front nut with an O-ring seal, for use with coolant thru cutter, is also available as an option

## Milling Chuck Coolant Collet System



### Coolant-Thru Nut: CKFN-C

When paired with the Ultra-Lock™ Milling Chuck Coolant Collet (CCK), the Coolant-Thru Nut forms a complete seal around the cutting tool. This forms an ideal combination for coolant-thru cutting tools.

- Internal durable O-ring seals for high pressure 750 PSI
- Available for inch and metric shanks
- Prevents swarf and chips from packing on the collet face
- Both the Coolant Collet and the Coolant-Thru Nut must be ordered on size for each cutting tool (see pages 157-158 for sizes and part numbers)



### Slotted Nut: CKFN

When paired with the Ultra-Lock™ Milling Chuck Coolant Collet (CCK), the Slotted Nut allows coolant to travel down the shank of the cutting tool to the cutting edge. This combination is ideal for non coolant- thru cutting tools.

- 3 angled slots keeps high pressure coolant (up to 1200 PSI) aimed toward the periphery of the cutter, even at high RPM
- Available for inch and metric shanks
- Helps remove chips during deep pocketing applications
- Both the Coolant Collet and the Slotted Nut must be ordered on size for each cutting tool



### Slotted Nut: CKFN-MN

- 3 adjustable nozzles help channel high pressure coolant to different cutter points (up to 750 PSI)
- Available for inch and metric shanks
- Excellent for tools with multiple cutter points



### Direct Coolant Plug (thru-tool)

- Adjustable back up screw and coolant plug combination seats and seals within the inner diameter of milling chuck
- Rear coolant ports of cutter seat directly onto face o-ring seal of coolant plug
- 1200 PSI capable
- Available for inch and metric shanks
- Excellent for high torque deep drilling

## Why Upgrading to the Ultra-Lock Milling Chuck?

The milling chuck is a renowned universal toolholder which has been proving its efficiency for years all over the world. Featuring a revolutionary design and collet system, the Ultra-Lock Milling Chuck allows for high-speed applications up to 20,000rpm and offers incredible benefits compared to standard End Mill Holders such as higher accuracy and higher rigidity.

See below to find out what makes our Ultra-Lock Milling Chuck the best choice for any milling application.

### Lyndex-Nikken Milling Chuck

### End Mill Holder

AT3 taper quality or better

AT3 taper quality or better

- Most powerful collet chuck in the world
- Symmetrical design, pre-balanced body and nut allow the milling chuck to operate beyond 20,000 RPM
- Outside bearing nut mechanically induces tight taper of the milling chuck to evenly collapse onto the cutting shank for high precision TIR
- 6 angled coolant slots are standard, providing high pressure and high volume of coolant directed toward the periphery of the cutting tool

- 120 year old concept for holding tools
- Set screw shifts cutter off center which creates unacceptable run-out for precision milling
- Non symmetrical design creates imbalance
- Requires tools with weldon flats which create further imbalance
- Coolant slots are optional and are not large enough to create high volume of cutting fluid under high pressure applications