

# SK Collet Chuck Features

## LEAN, TOUGH AND EFFICIENT

- Lean:** narrow body design accesses tight spots
- Versatile:** applicable for all milling, drilling, reaming and rigid tapping applications
- Flexible:** covers sizes from .027" to 1"
- Accurate:** two times more accurate than ER Collet Chucks, within 10 times better repeatability
- Extremely Precise:** 0.00012" or less concentricity guarantee with on-size collets all the time
- 8° versus 16° collet taper:** twice more gripping power than ER Collet Chucks
- Extremely Successful:** over 1 million SK Collet Chucks and 15 million SK collets sold worldwide



### SK Collet Range



**SK6**  
( 0.7-6.0mm )  
( 0.027-0.236" )



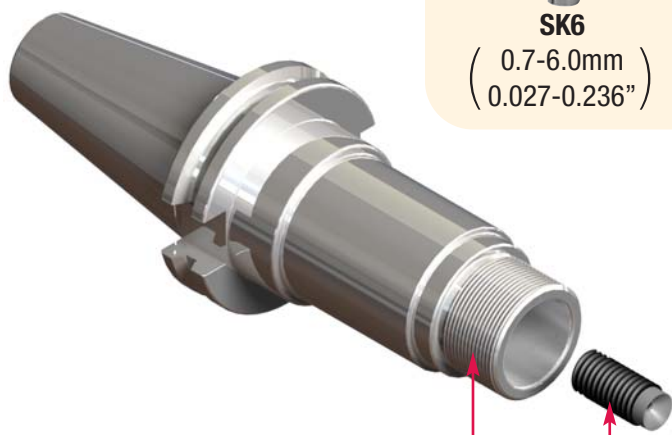
**SK10**  
( 1.75-10.0mm )  
( 0.069-0.393" )



**SK16**  
( 2.75-16.0mm )  
( 0.108-0.629" )



**SK25**  
( 16.0-25.4mm )  
( 0.629-1.000" )

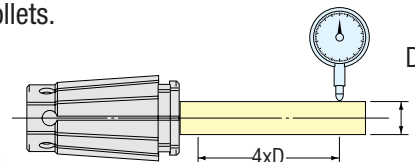


Grinding of threads allows accurate and strong collet compression and prevents collet rocking.

Fine adjustment back up screw (see detailed next page) and chamfered plastic tip creates additional seal for 1000PSI coolant through applications.

### Accuracy and Flexibility

Due to Nikken's special heat treatment, grinding and custom slotting process, they are the only collet chuck manufacturer in the world that guarantees a 3 micron runout tolerance for their "on size" fractional and metric size precision collets.



- Collet edge is flush with front surface of nut maximizing gripping rigidity
- Extreme hard and smooth surface of the TiN Bearing allows for more thrust load on the collet while preventing additional runout associated with collet twisting
- Threads are protected to prevent chip packing or stringy birds nests below the collet chuck nut

# SK Collet Chuck Features

## Increased Gripping Power

The smaller the taper angle is, the better concentricity is obtained.

Our steep 8° collet seats deeper in the body of the holder, providing twice more clamping force and twice more precision than traditional 16° ER collets.



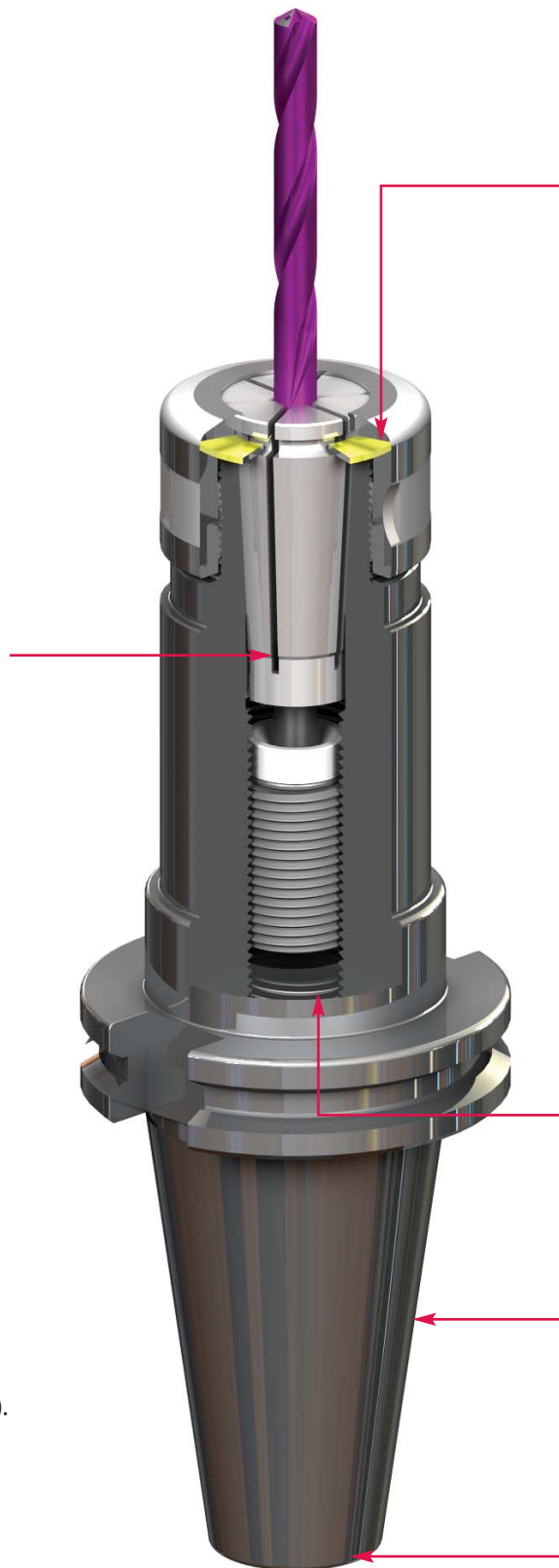
Tightening



Loosening

## GH Handle

Easy, safe and reliable handling with GH wrench (see page 193).



## Titanium Nitrided Bearing Nut (HV2,200)

(US Patent 6923451)

- More efficient than conventional ball bearing built-in nut!
- Good sliding effect due to surface hardness of HV2,200
- No damage, no friction
- No corrosion occurs internally
- Less micro vibration with collet flange contact
- Increase cutting performance and tool life durability
- More cutting rigidity

High pressure 1200 PSI fine thread coolant back up screw

AT3 or better taper - .0028 degree tolerance variation (80 millionths to 126 millionths taper size tolerance)

Ground surface for accurate perpendicular contact between pull stud and taper

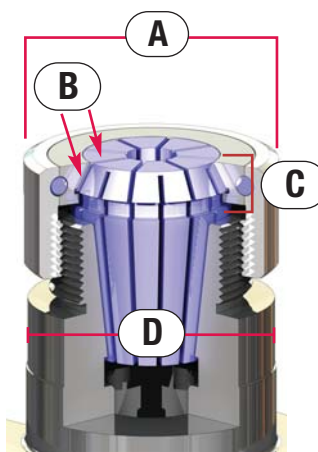
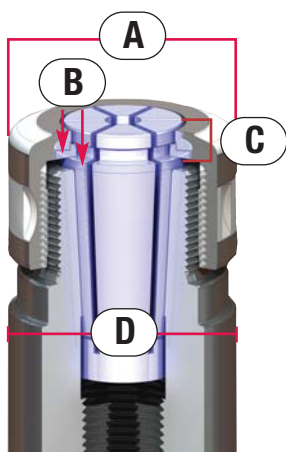
# SK Collet

SK Collets can be used for all applications, from milling to reaming. Standard collets can be used in coolant thru applications (with coolant back-up screws).

## SK Collet VS ER Collet

- A. Slim design allows for clearance
- B. Force is perpendicular to centerline of toolholder for strong grip
- C. Deep position creates greater accuracy
- D. Rigid body is flush with nut to maintain rigidity throughout

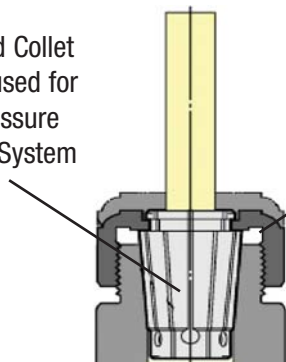
- A. Wide collets= wide nut design
- B. Force is angular to centerline of toolholder
- C. Shallow position creates collet rocking
- D. Body diameter is smaller than nut compromising rigidity



### Lyndex-Nikken Slim Chuck -Flat shoulder pushing

Standard Collet can be used for High Pressure Coolant System

Simple and Rigid Nut

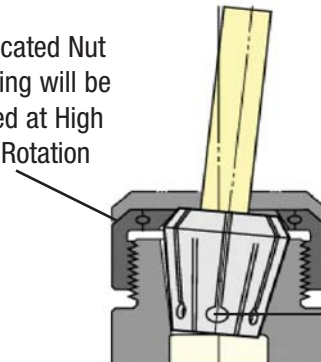


- High Accuracy Due to Flat Shoulder Pushing
- High Gripping Torque of 8° taper

### Others -Taper shoulder pushing

Complicated Nut Balancing will be changed at High Speed Rotation

Special Collet is required for High Pressure Coolant System

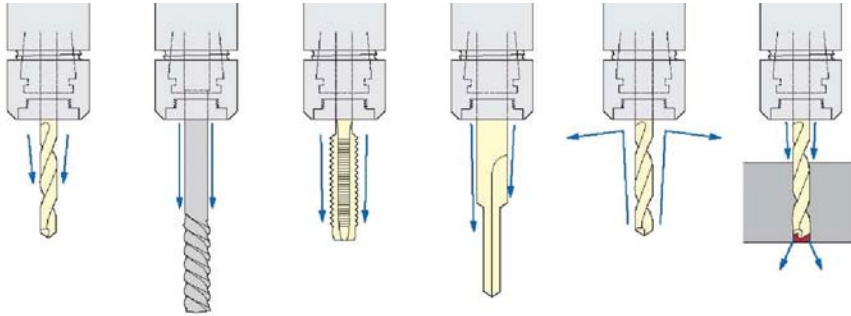


- Unstable Run-out Due to Taper Part Pushing
- Poor Gripping Torque of 12°, 16° taper

## Superior SK Coolant System

Our Slim Chuck features a unique High-Pressure Coolant Collet System which allows for higher accuracy and gripping torque.

### SK Coolant thru options:



### Slotted Disc:

When the Coolant Nut is paired with the Slotted Disc, coolant is directed to the cutting edge of the cutting tool, making this combination **ideal for non-coolant-thru tools**. The jet coolant pressure creates a tornado effect, ensuring **efficient swarf dispersal**.

### Back-up Screw for SK Collet Chuck

#### SKG12



- Solid steel black oxide coated back up screws
- Accessible and adjustable from both ends

#### SKG-12L



- Excellent for high feed drilling
- Allows cutter repeatability within .0002"

#### SKG16-12HGA



- Ultra High Pressure back up screw capable up to 1200 psi
- Solid steel black oxide coated back up screws with plastic caps
- 80% thread engagement on fine thread to prevent coolant leakage
- External O ring provides additional seals to prevent coolant build up within the toolholder

#### SKG-18H



- Plastic cap is chamfered to accommodate for different sizes
- Excellent for high pressure coolant or oil drilling applications
- Allows cutter repeatability within .0002"



### Applications for SK J Type Nut:

- Tap or specially designed cutting tool
- Burnishing drill for formed hole
- Oil hole drill for through hole drilling
- Cutting tool with coolant grooves
- Mechanical seal prevents dust and swarf entering inside the collet slots

### Coolant-Thru Disc:

When the Coolant Nut is paired with the Coolant-Thru Disk, **a perfect seal** is formed around the cutting tool shank, making this combination **ideal for coolant-thru tools**.

