



Milling Chucks

Shrink Fit Holders

SK Collet Chucks

WC Collet Chucks

MMC Collet Chucks

Accessories

Technical

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# Lyndex-Nikken Product Warranty

## Standard Product

Lyndex-Nikken Inc., the seller, warrants to the user, who purchases and uses (the “User”) the Standard Product, as hereinafter defined against defects in materials and workmanship for one year from the date of delivery of the Standard Product to the User.

A “Standard Product” is defined as a product sold by which is not:

- A Lyndex-Nikken Tool Presetter and/or Custom Tool line Product, which is separately warranted. (Please see the separate warranty information included with each of these respective products).
- Special Tooling manufactured by Lyndex-Nikken at the User’s request and to the User’s specifications and/or plans, which shall have been approved by User, or,
- Modified Standard Product, which is modified by Lyndex-Nikken at the User’s request and to User’s specifications and/or plans, which shall have been approved by User.

From time to time in this Warranty, the Standard Product, Special Tooling or Modified Standard Product may be collectively referred to as the “Product.”

## Special Tooling or Modified Product

If the User first provides Lyndex-Nikken with all the required manufacturing specifications, then Lyndex-Nikken warrants that the Special Tooling and/or Modified Standard Product (1) will be manufactured to the User’s specifications and (2) shall be free from defects in materials and workmanship for one year from the date of delivery of the product to the User, but Lyndex-Nikken is not warranting that the Special Tooling and/or Modified Standard Product can perform the task anticipated by the User’s specifications.

## Additional Provisions

- Any attempts to repair, disassemble, modify, alter or otherwise change the Product voids this Warranty.
- It is the User’s responsibility to see that the Product is suitable for the User’s applications of the Product.
- Common wear parts such as bearings, seals & rotary unions (and the like), which are subject to wear and tear, are not included in this Warranty.
- To use the Products and avoid injury to persons or property, the User acknowledges that it is the User’s sole responsibility to confirm that the supplied retention knobs are correct for the machine tool and taper type.
- The User agrees to indemnify and hold harmless Lyndex-Nikken, including reasonable attorneys’ fees it might incur, for any claims arising out of an incorrect fit of the retention knobs.
- Our obligation under this warranty is to the initial User only.
- This Warranty may not be assigned without the express written approval of Lyndex-Nikken.
- This Warranty is limited exclusively to the repair or replacement of parts found defective by Lyndex-Nikken’ Service Department.
- This Warranty provides for no credit or cash refund to the User.
- This Warranty is subject to change without notice, provided however, even though Lyndex-Nikken shall not be required to give notice of a change in its Warranty, Lyndex-Nikken will make a reasonable effort to notify customers and Distributors, who shall be obligated to notify its customers, of any substantive changes in the Warranty by either written notice to the customer, written notice to its Distributors, notice when an order is placed, or by including a copy of a changed Warranty in the product’s package.

All other warranties, express or implied, are excluded.

# Application Guide & Balancing Chart

## Application Guide

Toolholder type	Page	Max Capacity	TIR	TIR location	Tapping	Milling	Drilling	Reaming
End Mill Holders	9-28	2.500"	0.0002"	nose	*	****	-	-
ER Collet Chucks	29-45	1.338"	0.0001"	4 x dia.	**	***	****	****
TG Collet Chucks	56-60	1.500"	0.0003"	collet face	-	**	***	***
DA Collet Chucks	67-68	0.750"	0.0020"	4 x dia.	-	-	**	**
Shell Mill Holders	73-83	2.000"	0.0002"	arbor	-	***	-	-
Face Mill Holders	73-83	2.500"	0.0002"	arbor	-	-	-	-
Integral Drill Chucks	85-88	0.500"	-	-	-	-	**	**
Jacobs Drill Chucks	90-92	0.750"	-	-	-	-	**	**
Morse Drill Chucks	93-94	MT#5	-	-	-	-	**	**
Stub Mill Holders	119-122	1.500"	0.0002"	holder arbor	-	-	-	-
Milling Chucks	141-154	1.250"	0.0002"	4" from nose	-	****	**	**
Shrink Fit Holders	161-173	2.000"	0.0002"	4 x dia.	-	****	*	*
SK Collet Chucks	175-187	1.000"	0.0002"	4 x dia.	-	***	****	****
VC Collet Chucks	195-201	0.500"	0.0001"	4 x dia.	-	****	**	**
MMC Collet Chucks	205-209	0.500"	0.0001"	4 x dia.	-	***	**	**

## Balancing Chart

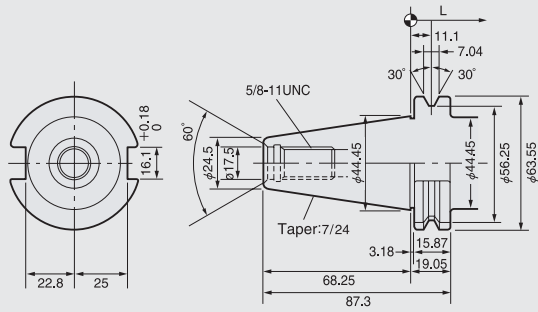
Taper Type	End Mill Holders		ER Collet Chuck		Shell Mill Holders	Shrink Fit Holders	TG Collet Chuck	
	Standard	High-Speed	Standard	High-Speed			Standard	High-Speed
CAT40	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	G6.3	G2.5
	15,000RPM	24,000RPM	18,000RPM	24,000RPM	24,000RPM	24,000RPM	12,000RPM	24,000RPM
CAT50	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	G6.3	G2.5
	10,000RPM	15,000RPM	10,000RPM	15,000RPM	15,000RPM	15,000RPM	10,000RPM	15,000RPM
BT30	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	-	-
	15,000RPM	24,000RPM	18,000RPM	24,000RPM	24,000RPM	24,000RPM	-	-
BT40	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	-	-
	15,000RPM	24,000RPM	18,000RPM	24,000RPM	24,000RPM	24,000RPM	-	-
BT50	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	-	-
	10,000RPM	15,000RPM	10,000RPM	15,000RPM	15,000RPM	15,000RPM	-	-
HSK32E	-	-	-	-	-	G6.3	-	-
	-	-	-	-	-	42,000RPM	-	-
HSK40A	G6.3	-	G6.3	-	-	-	-	-
	12,000RPM	-	20,000RPM	-	-	-	-	-
HSK40E	-	-	-	-	-	G6.3	-	-
	-	-	-	-	-	42,000RPM	-	-
HSK63A	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	-	-
	15,000RPM	24,000RPM	18,000RPM	24,000RPM	24,000RPM	24,000RPM	-	-
HSK63F	-	-	G2.5	G2.5	G6.3	G2.5	-	-
	-	-	20,000RPM	24,000RPM	15,000RPM	33,000RPM	-	-
HSK80F	-	-	G2.5	-	-	G2.5	-	-
	-	-	20,000RPM	-	-	33,000RPM	-	-
HSK100A	G6.3	G2.5	G6.3	G2.5	G2.5	G2.5	-	-
	10,000RPM	15,000RPM	10,000RPM	15,000RPM	15,000RPM	15,000RPM	-	-

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Shrink Fit Holders  
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MMC Collet Chucks  
Accessories

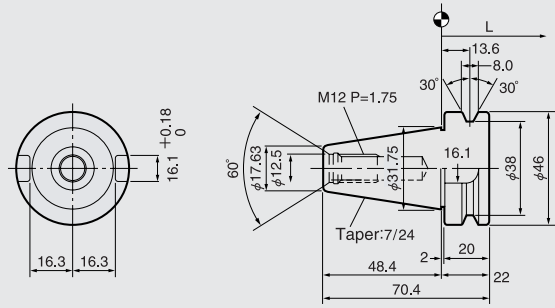
Technical

# Taper Specifications

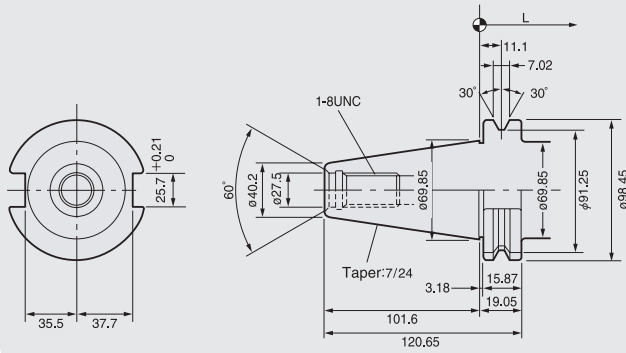
**CAT40**



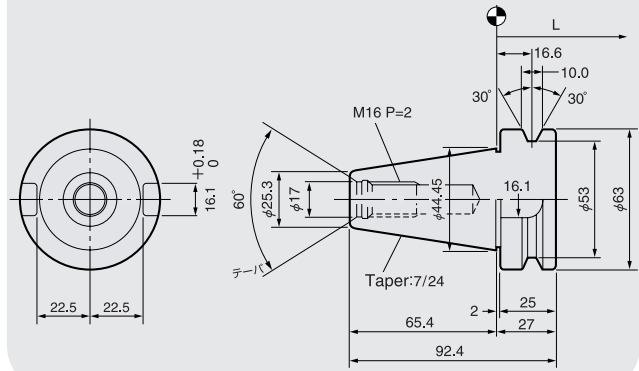
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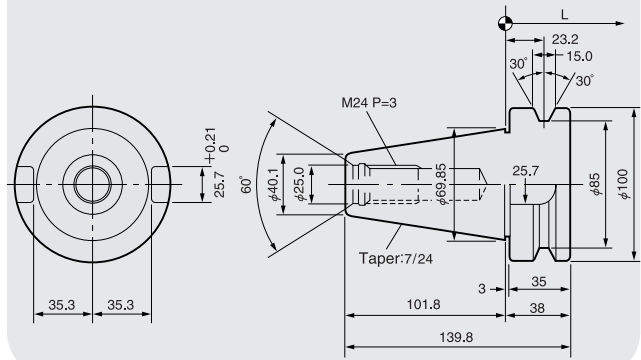
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**BT40**



**BT50**



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SK Collet Chucks

VC Collet Chucks

MMC Collet Chucks

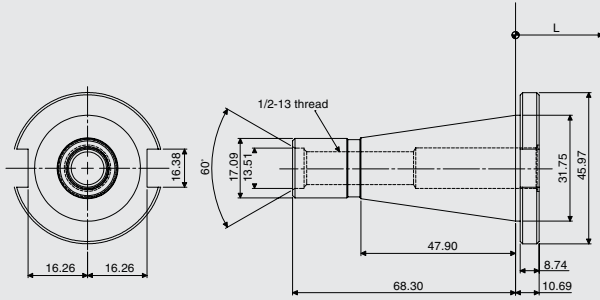
Accessories

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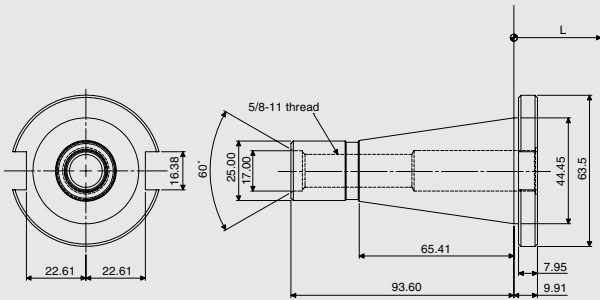


# Taper Specifications

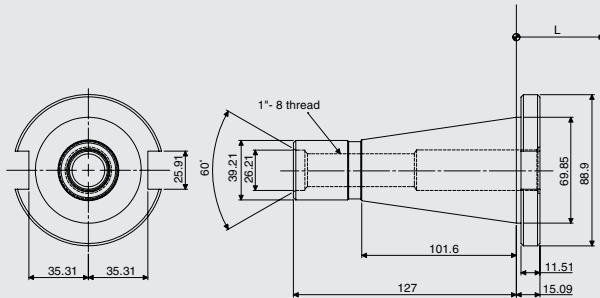
**NMTB30**



**NMTB40**



**NMTB50**



# SK Drill Chart

FRACTION SIZE	# SIZE	LETTER SIZE	METRIC SIZE	DECIMAL INCHES	SK6 Collets	SK10 Collets	SK16 Collets	SK25 Collets
	80			0.0135				
	79			0.0145				
1/64				0.0156				
	78			0.0160				
	77			0.0180				
			.5	0.0197				
	76			0.0200				
	75			0.0210				
	74			0.0225				
	73			0.0240				
	72			0.0250				
	71			0.0260				
	70			0.0280	SK6-0.8			
	69			0.0292	SK6-0.8			
			.75	0.0295	SK6-0.8			
	68			0.0310	SK6-0.8			
1/32				0.0312	SK6-0.8			
	67			0.0320	SK6-1			
	66			0.0330	SK6-1			
	65			0.0350	SK6-1			
	64			0.0360	SK6-1			
	63			0.0370	SK6-1			
	62			0.0380	SK6-1			
	61			0.0390	SK6-1			
			1	0.0394	SK6-1			
	60			0.0400				
	59			0.0410				
	58			0.0420				
	57			0.0430	SK6-1.25			
	56			0.0465	SK6-1.25			
3/64				0.0469	SK6-1.25			
			1.25	0.0492	SK6-1.25			
	55			0.0520	SK6-1.5			
	54			0.0550	SK6-1.5			
			1.5	0.0591	SK6-1.5			
	53			0.0595	SK6-1.75			
1/16				0.0625	SK6-1.75			
	52			0.0635	SK6-1.75			
	51			0.0670	SK6-1.75			
			1.75	0.0689	SK6-1.75	SK10-2		
	50			0.0700	SK6-2	SK10-2		
	49			0.0730	SK6-2	SK10-2		
	48			0.0760	SK6-2	SK10-2		
5/64				0.0781	SK6-2	SK10-2		
	47			0.0785	SK6-2	SK10-2		
			2	0.0787	SK6-2	SK10-2		

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VC Collet Chucks  
MMC Collet Chucks  
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FRACTION SIZE	# SIZE	LETTER SIZE	METRIC SIZE	DECIMAL INCHES	SK6 Collets	SK10 Collets	SK16 Collets	SK25 Collets
	46			0.0810	SK6-2.25	SK10-2.25		
	45			0.0820	SK6-2.25	SK10-2.25		
	44			0.0860	SK6-2.25	SK10-2.25		
			2.25	0.0886	SK6-2.25	SK10-2.25		
	43			0.0890	SK6-2.5	SK10-2.5		
	42			0.0935	SK6-2.5	SK10-2.5		
3/32				0.0938	SK6-2.5	SK10-2.5		
	41			0.0960	SK6-2.5	SK10-2.5		
	40			0.0980	SK6-2.5	SK10-2.5		
			2.5	0.0984	SK6-2.5	SK10-2.5		
	39			0.0995	SK6-2.75	SK10-2.75		
	38			0.1015	SK6-2.75	SK10-2.75		
	24			0.1520	SK6-4	SK10-4	SK16-4	
	23			0.1540	SK6-4	SK10-4	SK16-4	
5/32				0.1562	SK6-4	SK10-4	SK16-4	
	22			0.1570	SK6-4	SK10-4	SK16-4	
			4	0.1575	SK6-4	SK10-4	SK16-4	
	21			0.1590	SK6-4.5	SK10-4.5	SK16-4.5	
	20			0.1610	SK6-4.5	SK10-4.5	SK16-4.5	
	19			0.1660	SK6-4.5	SK10-4.5	SK16-4.5	
			4.25	0.1673	SK6-4.5	SK10-4.5	SK16-4.5	
	18			0.1695	SK6-4.5	SK10-4.5	SK16-4.5	
11/64				0.1719	SK6-4.5	SK10-4.5	SK16-4.5	
	17			0.1730	SK6-4.5	SK10-4.5	SK16-4.5	
	16			0.1770	SK6-4.5	SK10-4.5	SK16-4.5	
			4.5	0.1772	SK6-4.5	SK10-4.5	SK16-4.5	
	15			0.1800	SK6-5.0	SK10-5	SK16-5	
	14			0.1820	SK6-5.0	SK10-5	SK16-5	
	13			0.1850	SK6-5.0	SK10-5	SK16-5	
			4.75	0.1870	SK6-5.0	SK10-5	SK16-5	
3/16				0.1875	SK6-5.0	SK10-5/ SK10-3/16A	SK16-5/ SK16-3/16A	SK25-3/16A
	12			0.1890	SK6-5.0	SK10-5	SK16-5	
	11			0.1910	SK6-5.0	SK10-5	SK16-5	
	10			0.1935	SK6-5.0	SK10-5	SK16-5	
	9			0.1960	SK6-5.0	SK10-5	SK16-5	
			5	0.1969	SK6-5.0	SK10-5	SK16-5	
	8			0.1990	SK6-5.5	SK10-5.5	SK16-5.5	
	7			0.2010	SK6-5.5	SK10-5.5	SK16-5.5	
13/64				0.2031	SK6-5.5	SK10-5.5	SK16-5.5	
	6			0.2040	SK6-5.5	SK10-5.5	SK16-5.5	
	5			0.2055	SK6-5.5	SK10-5.5	SK16-5.5	
			5.25	0.2067	SK6-5.5	SK10-5.5	SK16-5.5	
	4			0.2090	SK6-5.5	SK10-5.5	SK16-5.5	
	3			0.2130	SK6-5.5	SK10-5.5	SK16-5.5	
			5.5	0.2165	SK6-5.5	SK10-5.5	SK16-5.5	
7/32				0.2188	SK6-6	SK10-6	SK16-6	

Milling Chucks

Shrink Fit Holders

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MMC Collet Chucks

Accessories

Technical



# SK Drill Chart

FRACTION SIZE	# SIZE	LETTER SIZE	METRIC SIZE	DECIMAL INCHES	SK6 Collets	SK10 Collets	SK16 Collets	SK25 Collets
	2			0.2210	SK6-6	SK10-6	SK16-6	
			5.75	0.2264	SK6-6	SK10-6	SK16-6	
	1			0.2280	SK6-6	SK10-6	SK16-6	
		A		0.2340	SK6-6	SK10-6	SK16-6	
15/64				0.2344	SK6-6	SK10-6	SK16-6	
			6	0.2362	SK6-6	SK10-6	SK16-6	
		B		0.2380		SK10-6.5	SK16-6.5	
		C		0.2420		SK10-6.5	SK16-6.5	
		D		0.2460		SK10-6.5	SK16-6.5	
			6.25	0.2461		SK10-6.5	SK16-6.5	
1/4		E		0.2500		SK10-6.5/ SK10-1/4A	SK16-6.5/ SK16-1/4A	SK25-1/4A
			6.5	0.2559		SK10-6.5	SK16-6.5	
		F		0.2570		SK10-7	SK16-7	
		G		0.2610		SK10-7	SK16-7	
17/64				0.2656		SK10-7	SK16-7	
			6.75	0.2657		SK10-7	SK16-7	
		H		0.2660		SK10-7	SK16-7	
		I		0.2720		SK10-7	SK16-7	
			7	0.2756		SK10-7	SK16-7	
		J		0.2770		SK10-7.5	SK16-7.5	
		K		0.2810		SK10-7.5	SK16-7.5	
9/32				0.2812		SK10-7.5	SK16-7.5	
			7.25	0.2854		SK10-7.5	SK16-7.5	
		L		0.2900		SK10-7.5	SK16-7.5	
		M		0.2950		SK10-7.5	SK16-7.5	
			7.5	0.2953		SK10-7.5	SK16-7.5	
19/64				0.2969		SK10-8	SK16-8	
		N		0.3020		SK10-8	SK16-8	
			7.75	0.3051		SK10-8	SK16-8	
5/16				0.3125		SK10-8/ SK10-5/16A	SK16-8/ SK16-5/16A	SK25-5/16A
			8	0.3150		SK10-8	SK16-8	
		O		0.3160		SK10-8.5	SK16-8.5	
		P		0.3230		SK10-8.5	SK16-8.5	
			8.25	0.3248		SK10-8.5	SK16-8.5	
21/64				0.3281		SK10-8.5	SK16-8.5	
		Q		0.3320		SK10-8.5	SK16-8.5	
			8.5	0.3346		SK10-8.5	SK16-8.5	
		R		0.3390		SK10-9	SK16-9	
11/32				0.3438		SK10-9	SK16-9	
			8.75	0.3445		SK10-9	SK16-9	
		S		0.3480		SK10-9	SK16-9	
			9	0.3543		SK10-9	SK16-9	
		T		0.3580		SK10-9.5	SK16-9.5	
23/64				0.3594		SK10-9.5	SK16-9.5	
			9.25	0.3642		SK10-9.5	SK16-9.5	
		U		0.3680		SK10-9.5	SK16-9.5	

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			9.5	0.3740		SK10-9.5	SK16-9.5	
3/8				0.3750		SK10-10/ SK10-3/8A	SK16-10/ SK16-3/8A	SK25-3/8A
		V		0.3770		SK10-10	SK16-10	
			9.75	0.3839		SK10-10	SK16-10	
		W		0.3860		SK10-10	SK16-10	
25/64				0.3906		SK10-10	SK16-10	
			10	0.3937		SK10-10	SK16-10	
		X		0.3970			SK16-10.5	
		Y		0.4040			SK16-10.5	
13/32				0.4063			SK16-10.5	
		Z		0.4130			SK16-10.5	
			10.5	0.4134			SK16-10.5	
27/64				0.4219			SK16-11	
			11	0.4331			SK16-11	
7/16				0.4375			SK16-11.5/ SK16-7/16A	SK25-7/16A
			11.5	0.4528			SK16-11.5	
29/64				0.4531			SK16-12	
15/32				0.4688			SK16-12	
			12	0.4724			SK16-12	
31/64				0.4844			SK16-12.5	
			12.5	0.4921			SK16-12.5	
1/2				0.5000			SK16-13/ SK16-1/2A	SK25-1/2A
			13	0.5118			SK16-13	
33/64				0.5156			SK16-13.5	
17/32				0.5312			SK16-13.5	
			13.5	0.5315			SK16-13.5	
35/64				0.5469			SK16-14	
			14	0.5512			SK16-14	
9/16				0.5625			SK16-14.5/ SK16-9/16A	
			14.5	0.5709			SK16-14.5	
37/64				0.5781			SK16-15	
			15	0.5906			SK16-15	
19/32				0.5938			SK16-15.5	
39/64				0.6094			SK16-15.5	
			15.5	0.6102			SK16-15.5	
5/8				0.6250			SK16-16/ SK16-5/8A	SK25-5/8A
			16	0.6299			SK16-16	SK25-16.5
41/64				0.6406				SK25-16.5
			16.5	0.6496				SK25-16.5
21/32				0.6562				SK25-17
			17	0.6693				SK25-17
43/64				0.6719				SK25-17.5
11/16				0.6875				SK25-17.5
			17.5	0.6890				SK25-17.5
45/64				0.7031				SK25-18
			18	0.7087				SK25-18

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23/32				0.7188				SK25-18.5
			18.5	0.7283				SK25-18.5
47/64				0.7344				SK25-19
			19	0.7480				SK25-19
3/4				0.7500				SK25-19.5/ SK25-3/4A
49/64				0.7656				SK25-19.5
			19.5	0.7677				SK25-19.5
25/32				0.7813				SK25-20
			20	0.7874				SK25-20
51/64				0.7969				SK25-20.5
			20.5	0.8071				SK25-20.5
13/16				0.8125				SK25-21
			21	0.8268				SK25-21
53/64				0.8281				SK25-21.5
27/32				0.8438				SK25-21.5
			21.5	0.8465				SK25-21.5
55/64				0.8594				SK25-22
			22	0.8661				SK25-22
7/8				0.8750				SK25-22.5
			22.5	0.8858				SK25-22.5
57/64				0.8906				SK25-23
			23	0.9055				SK25-23
29/32				0.9062				SK25-23.5
59/64				0.9219				SK25-23.5
			23.5	0.9252				SK25-23.5
15/16				0.9375				SK25-24
			24	0.9449				SK25-24
61/64				0.9531				SK25-24.5
			24.5	0.9646				SK25-24.5
31/32				0.9688				SK25-25
			25	0.9843				SK25-25
63/64				0.9844				SK25-25.4
1				1				SK25-25.4

Milling Chucks  
Shrink Fit Holders  
SK Collet Chucks  
VC Collet Chucks  
MMC Collet Chucks  
Accessories

Technical

# Tightening Torque

## Tightening Torque for End Mill Holder Set Screws

I.D.	Set Screw Size	Tightening Torque	Hex Wrench Size
1/8"	6-32 x 1/4	0.6 ft/lbs	1/16"
3/16"	8-32 x 1/4	0.8 ft/lbs	5/6"
1/4"	1/4-28 x 1/4	6.5 ft/lbs	1/8"
5/16"	5/16-24 x 1/4	14 ft/lbs	5/32"
3/8"	3/8-24 x 5/16	16 ft/lbs	3/16"
7/16"	3/8-24 x 5/16	16 ft/lbs	3/16"
1/2"	7/16-20 x 3/8	24 ft/lbs	7/32"
5/8"	9/16-18 x 1/2	36 ft/lbs	9/32"
3/4"	5/8-18 x 1/2	36 ft/lbs	5/16"
7/8"	5/8-18 x 1/2	76 ft/lbs	5/16"
1"	3/4-16 x 11/16	150 fl/lbs	3/8"
1-1/4"	3/4-16 x 11/16	150 fl/lbs	3/8"
1-1/2"	3/4-16 x 11/16	150 fl/lbs	3/8"
2"	1-14 x 7/8	270 ft/lbs	9/16"
2-1/2"	1-14 x 7/8	270 ft/lbs	9/16"
6.00mm	1/4-28 x 1/4	6.5 ft/lbs	1/8"
8.00mm	5/16-24 x 1/4	14 ft/lbs	5/32"
10.00mm	3/8-24 x 5/16	16 ft/lbs	3/16"
12.00mm	7/16-20 x 3/8	24 ft/lbs	7/32"
14.00mm	9/16-18 x 1/2	36 ft/lbs	9/32"
16.00mm	9/16-18 x 1/2	36 ft/lbs	9/32"
18.00mm	5/8-18 x 1/2	36 ft/lbs	5/16"
20.00mm	5/8-18 x 1/2	36 ft/lbs	5/16"
25.00mm	3/4-16 x 11/16	150 fl/lbs	3/8"
32.00mm	3/4-16 x 11/16	150 fl/lbs	3/8"
40.00mm	3/4-16 x 11/16	150 fl/lbs	3/8"
42.00mm	3/4-16 x 11/16	150 fl/lbs	3/8"

## Tightening Torque for SK Collet Chucks

Collet Type	Collet Size	Nut Tightening Torque (ft/lbs)			
		< Ø3mm	Ø4-Ø6mm	Ø8-Ø10mm	Ø12mm
SK	SK6	7-15	15-22		
	SK10	15-22	22-30	33-41	
	SK16		29-37	41-48	48-55
	SK25			44-52	52-85

## Tightening Torque for ER/TG/DA Collet Chucks, MMC Collet Chucks and VC Collet Chucks

Collet Type	Collet Size	Nut Tightening Torque (ft/lbs)	
		< Ø3mm	Ø3-Ø6mm
ER	ER8	4	
	ER11	18	
	ER16	40	
	ER20	60	
	ER25	75	
	ER32	100	
	ER40	125	
	ER50	175	
TG	TG25	20	
	TG50	35	
	TG75	55	
	TG100	75	
	TG150	100	
DA	300DA	18	
	200DA	25	
	100DA	35	
	180DA	40	
MMC	MPK4	15-18	
	VMK8	15-18	
	VMK12	29-33	
VC	VCK6	7-22	22-37
	VCK13	29-55	

Milling Chucks

Shrink Fit Holders

SK Collet Chucks

VC Collet Chucks

MMC Collet Chucks

Accessories

Technical

# Tapping

## Tap Shank Standards

- Tap shanks are manufactured to many international standards, each specified by their country of origin. Although most taps sold in North America comply with the ANSI B94.9 standard, we appreciate your assistance to help further qualify the matching tap collet necessary by providing the round shank size and the drive square dimensions.
- Please note not all taps were designed to be held in a tap collet compliant to ANSI, ISO, DIN or JIS standards. Please call us to discuss more advanced alternatives for tapping.

## Tap Collet Systems

- All Lyndex-Nikken tap collets are based on the “BILZ” standard quick-change system and will interchange with other manufacturers compliant to the same standard.
- Lyndex-Nikken does not offer tap collets for the Intertap system.
- Please take into consideration the nature of each application before determining which system (system 1,2 or 3) would suit your needs. If the same tap collet size is offered within two different systems, we recommend that harder materials should utilize a larger tap collet series to help sustain the required torque capacity and rigidity for the operation.

## Positive Drive Tap Collets and Holders

- Positive drive tap collets should only be used on equipment that have the ability to synchronize spindle rotation and spindle feed, commonly referred to as “Direct Tapping”, “Rigid Tapping” or “Electronic Lead Screw Tapping”.
- Positive-drive tapping systems do not have the tension and compression ability as a traditional float mechanism and therefore offer no protection from overloads such as under-sized holes, worn-out taps or misplaced cored holes in castings.
- Rigid-Tap holders must only be used with Positive-Drive tapping collets. The use of Rigid-Tap holders on non-synchronized machinery will result in poor threads and/or damage to tapping holder or collets.

# Tap Dimensional Data

Shank diameter		Square diameter		US		JIS	DIN 371	DIN 376	ISO
Inch	Metric	Inch	Metric	Metric	Inch	Metric	Metric	Metric	Metric
0.088	2.2	0.070	1.8				M3		
0.098	2.5	0.078	2.0				M3.5, M2		
0.098	2.5	0.083	2.1						M1 - M1.8
0.109	2.8	0.088	2.2				M2.5, M2.2		
0.110	2.8	0.083	2.1						M2 - M2.5
0.123	3.2	0.098	2.5				M4, M3		
0.138	3.5	0.106	2.7						M3
0.139	3.6	0.109	2.8				M4.5, M3.5		
0.141	3.6	0.110	2.8	M1.6 - M3.5	#0 - #6				
0.156	4.0	0.123	3.2				M5, M4		
0.157	4.0	0.118	3.0						M3.5
0.168	4.3	0.131	3.3	M4	#8				
0.176	4.5	0.139	3.6				M6		
0.177	4.5	0.134	3.4						M4
0.194	4.9	0.152	3.9	M5	#10				
0.196	5.0	0.156	4.0				M5		
0.197	5.0	0.157	4.0			M4			
0.217	5.5	0.177	4.5			M5			
0.219	5.6	0.176	4.5				M5		
0.220	5.6	0.165	4.2		#12				
0.225	5.7	0.191	4.9	M6	1/4"				
0.236	6.0	0.193	4.9					M8	
0.236	6.0	0.177	4.5			M6			
0.236	6.0	0.193	4.9						M5, M6
0.244	6.2	0.197	5.0			M7, M8			
0.246	6.3	0.196	5.0				M8, M6		
0.276	7.0	0.217	5.5			M9, M10		M10	
0.278	7.1	0.219	5.6				M7		
0.313	8.0	0.246	6.3				M11, M10, M8		
0.315	8.0	0.236	6.0			M11			
0.315	8.0	0.244	6.2						M8
0.318	8.1	0.238	6.0	M7, M8	5/16"				
0.323	8.2	0.242	6.1		7/16"				
0.335	8.5	0.256	6.5			M12			
0.352	9.0	0.278	7.1				M12, M9		
0.354	9.0	0.276	7.0					M12	
0.367	9.3	0.275	7.0	M12	1/2"				
0.381	9.7	0.286	7.3	M10	3/8"				
0.391	10.0	0.313	8.0				M10		
0.394	10.0	0.315	8.0						M10
0.413	10.5	0.315	8.0			M14, M15			
0.429	10.9	0.322	8.2	M14	9/16"				
0.433	11.0	0.354	9.0					M14	
0.438	11.2	0.352	9.0				M14		
0.451	11.5	0.406	10.3	M18	11/16"				
0.472	12.0	0.354	9.0					M16	
0.480	12.2	0.360	9.1	M16	5/8"				
0.489	12.5	0.391	10.0				M16		
0.492	12.5	0.394	10.0			M16			

Milling Chucks

Shrink Fit Holders

SK Collet Chucks

VC Collet Chucks

MMC Collet Chucks

Accessories

Technical

# Tap Dimensional Data

Shank diameter		Square diameter		US		JIS	DIN 371	DIN 376	ISO
Inch	Metric	Inch	Metric	Metric	Inch	Metric	Metric	Metric	Metric
0.512	13.0	0.394	10.0			M17			
0.547	14.0	0.438	11.2				M20, M18		
0.551	14.0	0.433	11.0			M18		M18	
0.590	15.0	0.442	11.2		3/4"				
0.591	15.0	0.472	12.0			M20			
0.626	16.0	0.489	12.5				M22		
0.630	16.0	0.472	12.0					M20	
0.652	16.6	0.489	12.4	M20	13/16"				
0.669	17.0	0.512	13.0			M22			
0.697	17.7	0.523	13.3	M22	7/8"				
0.704	18.0	0.547	14.0				M24		
0.709	18.0	0.571	14.5					M22, M24	
0.748	19.0	0.591	15.0			M25			
0.760	19.3	0.570	14.5	M24	15/16"				
0.782	20.0	0.626	16.0				M30, M27		
0.787	20.0	0.630	16.0					M27	
0.787	20.0	0.591	15.0			M26, M27			
0.800	20.3	0.600	15.2	M25	1"				
0.827	21.0	0.669	17.0			M28			
0.866	22.0	0.709	18.0					M30	
0.876	22.4	0.704	18.0				M33		
0.896	22.8	0.672	17.1	M27	1-1/16"				
0.906	23.0	0.669	17.0			M30			
0.945	24.0	0.748	19.0			M32			
0.978	25.0	0.782	20.0				M36, M33		
0.984	25.0	0.787	20.0					M33	
0.984	25.0	0.748	19.0			M33			
1.021	25.9	0.766	19.5	M30	1-3/16"				
1.024	26.0	0.827	21.0			M34, M35			
1.095	28.0	0.876	22.4				M42, M39		
1.102	28.0	0.866	22.0					M36	
1.102	28.0	0.827	21.0			M36, M38			
1.108	28.1	0.831	21.1	M33	1-5/16"				
1.181	30.0	0.906	23.0			M39, M40			
1.260	32.0	0.945	24.0					M39, M42	
1.260	32.0	1.024	26.0			M42			
1.417	36.0	1.142	29.0					M45, M48	
1.575	40.0	1.260	32.0					M52	

Milling Chucks

Shrink Fit Holders

SK Collet Chucks

VC Collet Chucks

MMC Collet Chucks

Accessories

Technical

# Tap Collet Torque Specifications

## Preset Torque for Tap Collets - ANSI

Tap Size	Torque Setting (ft/lbs)
#0-1	0.14
#2	0.22
#3	0.29
#4	0.36
#5	0.58
#6	0.72
#8	1
#10	2
#12	3

Tap Size	Torque Setting (ft/lbs)
1/4"	4
5/16"	7
3/8"	12
7/16"	16
1/2"	24
9/16"	29
5/8"	36
11/16"	44
3/4"	51

Tap Size	Torque Setting (ft/lbs)
13/16"	57
7/8"	72
15/16"	77
1"	101
1-1/8"	145

## Preset Torque for Tap Collets - ISO

Tap Shank x Square	Tap Size	Torque Setting (Nm)	
2.24 x 1.8	M 3	0.5	○
2.5 x 2	M 2	0.3	■
	M 3.5	0.8	○
2.8 x 2.24	M 2.2	0.35	■
	M 2.5	0.4	○
3.15 x 2.5	M 3	0.5	■
	M 4	1.2	○
3.55 x 2.8	M 3.5	0.8	■
	M 4.5	1.6	○
4 x 3.15	M 4	1.2	■
	M 5	2	○
4.5 x 3.55	M 4.5	1.6	■
	M 6	4	○
5 x 4	M 5	2	○
	M 7	6	○
6.3 x 5	M 6	4	■
	M 8	8	○
7.1 x 5.6	M 7	6	○
	M 10	16	■
8 x 6.3	M 8	8	○
	M 10	16	■
	M 11	18	■
	M 9	12	■
10 x 8	M 12	22	○
	M 10	16	○
11.2 x 9	M 14	36	○
	M 16	40	○
12.5 x 10	M 20	70	■
	M 18	63	○
14 x 11.2	M 22	80	○
	M 24	125	○
16 x 12.5	M 27	140	○
	M 30	220	○
18 x 14	M 33	240	○
	M 36	280	■
20 x 16	M 39	320	○
	M 42	420	■

## Preset Torque for Tap Collets - DIN

Tap Shank x Square	Tap Size	Torque Setting (Nm)	
2.5 x 2.1	M 1.8	0.3	○
	M 3	0.5	■
	M 2	0.3	■
2.8 x 2.1	M 2.2	0.35	■
	M 2.5	0.4	○
	M 4	1.2	■
	M 3	0.5	○
3.5 x 2.7	M 5	2	■
	M 3.5	0.8	○
4 x 3	M 4	1.2	○
	M 6	4	■
4.5 x 3.4	M 5	2	■
	M 6	4	■
6 x 4.9	M 8	8	○
	M 6	4	■
7 x 5.5	M 10	16	○
	M 8	8	○
8 x 6.2	M 11	18	■
	M 12	22	○
9 x 7	M 10	16	○
	M 14	36	○
11 x 9	M 16	40	○
	M 16	40	■
12 x 9	M 18	63	○
	M 20	70	○
14 x 11	M 22	80	■
	M 24	125	○
16 x 12	M 27	140	○
	M 30	220	○
18 x 14.5	M 33	240	○
	M 36	280	■
20 x 16	M 36	280	○

## Preset Torque for Tap Collets - JIS

Tap Shank x Square	Tap Size	Torque Setting (Nm)
3 x 2.5	M 2	0.6
4 x 3.2	M 3	1
5 x 4	M 4	2.3
5.5 x 4.5	M 5	3.6
6 x 4.5	M 6	5.9
6.2 x 5	M 8	12
7 x 5.5	M 10	22
8 x 6	M 11	25
8.5 x 6.5	M 12	31
9.5 x 7	M 13	39
10.5 x 8	M 14	46
12.5 x 10	M 16	51
13 x 10	M 17	67
14 x 11	M 18	80
15 x 12	M 20	88
17 x 13	M 22	98
19 x 15	M 24	132
20 x 15	M 27	157
21 x 17	M 28	175
23 x 17	M 30	225
24 x 19	M 32	235
25 x 19	M 33	245
26 x 21	M 34	265
28 x 21	M 36	304

○ - Standard setting.  
■ - Setting on request.

Milling Chucks  
Shrink Fit Holders  
SK Collet Chucks  
VC Collet Chucks  
MMC Collet Chucks  
Accessories  
Technical



# Nikken 3-Lock Tooling System – Original Double Contact Technology

The 3-Lock System uses internal expanding pressure to maintain the correct taper to flange ratio achieving full face contact of the flange to the spindle, for unsurpassed cutting performance and cutting tool life. The 3-Lock Nikken holder counteracts the centrifugal forces produced on the machine spindle during high speed processes.

## Benefits of Nikken 3-Lock holders:

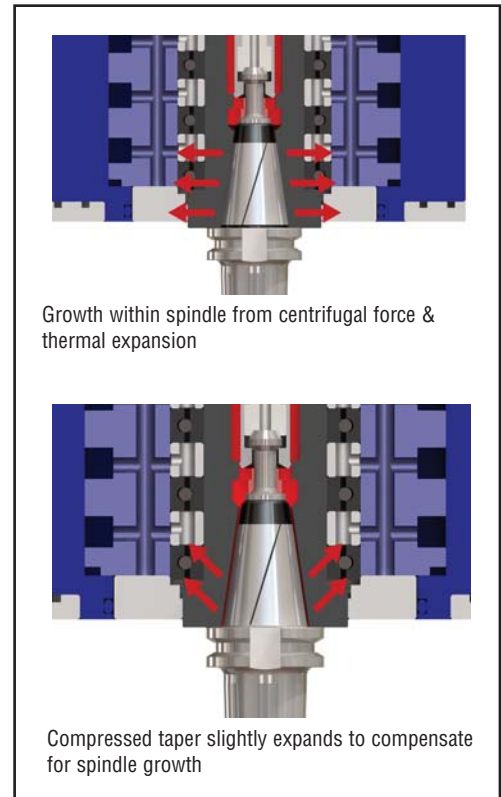
- Outstanding runout accuracy – longer cutting tool life
- Vibration dampening –increased productivity
- Extremely rigid toolholder – stable and smooth cutting

## 3-Lock Toolholders Construction

The 3-Lock system consists of a main body with an internal taper configuration housed inside a taper cone. The taper cone is shaped to deform to a 7/24 external taper. This taper cone is pre-loaded on the body with the disc springs. The combination of the taper cone and the disc springs create a dampening effect reducing cutting vibration and extending the cutting tool life.

When the tool is clamped, the taper cone slightly slides in an axial direction to absorb any minute gauge line errors.

During a tool change, the internal taper of the 3-Lock body expands. The internal taper of the holder continues to expand until the flange of the tool holder makes contact with the spindle face. The combination of the taper expansion and the contact between the flange of the holder and the spindle face, results in the full pull force of the machine tool being maximized.



## Technical tips:

Caution must be taken for center through tool coolant applications. There are two methods to seal coolant at the retention stud: sealing the face contact and sealing of the taper contact. Please choose the proper retention stud for your milling center.

If your milling machine has center through coolant but does not have the sealing at the retention stud, the coolant may get inside the spindle and can be sealed by a standard tool holder connection. However the 3-Lock tool cannot seal the coolant at the taper connection because of the slit within the taper of the 3-Lock holder.

If the pulling force of the machine spindle decreases substantially, the Nikken 3-Lock tooling cannot perform 100% of its capability. We would recommend that regular inspection of the pulling force is carried out to prevent any reduction in the pulling force at an early stage.

