

## Start-Up Packages for new CNC Router Owners



### Nested Base Tooling Package - Kit #5000

- |   |   |
|---|---|
| 1 - 7040 - 4" Spoilboard Cutter                               | 5 - DDB05070RB - 5mm x 70mm RH Brad Point Drill |
| 1 - 13273 - 10 pack Replacement Inserts for Spoilboard Cutter | 5 - DDB05070LO - 5mm x 70mm LH Brad Point Drill |
| 3 - 1330 - 1/4" Downcut Spirals                               | 1 - DDS0370RB - 3mm x 70mm RH Brad Point Drill  |
| 2 - 1340 - 3/8" Downcut Spirals                               | 1 - DDS0370LO - 3mm x 70mm LH Brad Point Drill  |
| 2 - 3185XP - 3/8" Mortise Compression Spirals                 | 1 - DHB35070RB - 35mm x 70mm RH Hinge Bit       |
| 2 - 3189XP - 1/2" Mortise Compression Spirals                 | 1 - DHB35070LO - 35mm x 70mm LH Hinge Bit       |
| 1 - 3435XP - 1/2" Compression Spiral for Plywoods             |   |

### Plastic/Sign Making Tooling Package - Kit #6000

- |   |  |
|---|--|
| 1 - 7025 - 2 1/2" Spoilboard Cutter                           | 2 - 3/16" "O" Flute Upcut Spiral* (5620/5720)  |
| 1 - 13273 - 10 pack Replacement Inserts for Spoilboard Cutter | 2 - 1/4" "O" Flute Upcut Spiral* (5630H/5730H) |
| 2 - 2230 - 1/4" Ballnose Spiral                               | 2 - 5510 - 1/8" Double Edge "O" Flute Straight |
| 1 - 2240 - 3/8" Ballnose Spiral                               |  |
| 2 - 2215 - 1/8" Tapered Ballnose Spiral                       |  |
| 2 - 3731 - .020" Engraving Bit                                |  |
| 2 - 1/8" "O" Flute Upcut Spiral* (5610/5710)                  |  |
- \*Your choice between upcut (Series 5600) and downcut (Series 5700) rotation*

## Toolholder Packages for CNC Router Users

### Toolholder Package - Kit #3000



- 10 - HSK 63F ER40 or SYOZ 25  
Style Toolholders
- 2 - 1/4" Collets
- 3 - 3/8" Collets
- 3 - 1/2" Collets
- 2 - 3/4" Collets
- 1 - 200TH Torque Wrench
- 1 - Collet Key

Use Part #3000 for ER40 style holders  
and 3000-25 for SYOZ25 style holders

### Albrecht Milling Chuck - Toolholder Package Kit #4000



- 10 - Albrecht Milling Chucks
- 2 - 1/4" Collets
- 3 - 3/8" Collets
- 3 - 1/2" Collets
- 2 - 3/4" Collets
- 1 - Tightening Wrench

## Toolholder Measuring Guide

Make and Model of CNC Router \_\_\_\_\_

### Pull Stud Dimensions

P = \_\_\_\_\_

A = \_\_\_\_\_

L = \_\_\_\_\_

R = \_\_\_\_\_

### Toolholder Dimensions

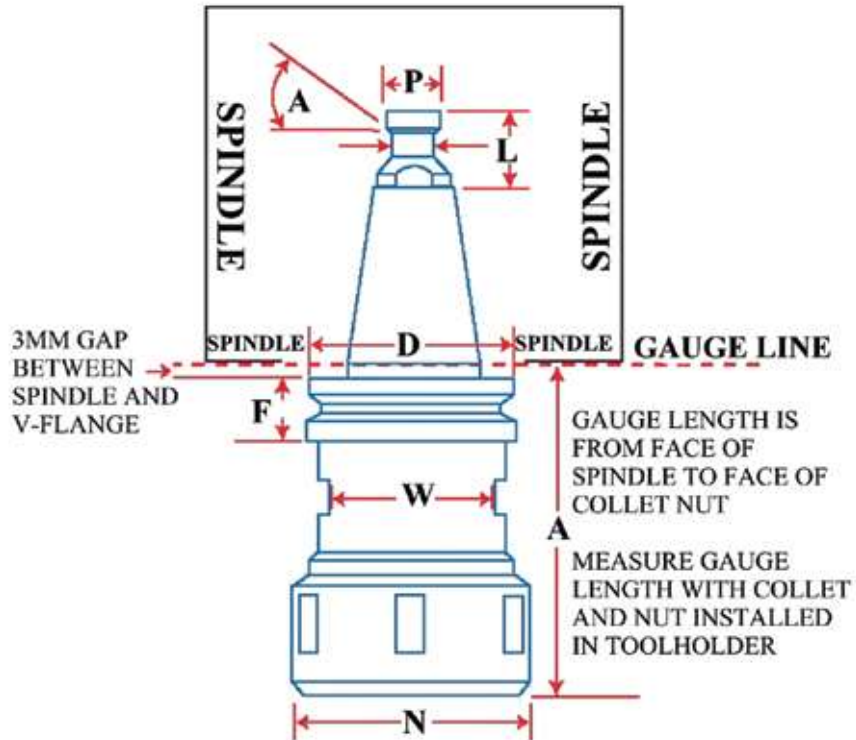
D = \_\_\_\_\_

F = \_\_\_\_\_

W = \_\_\_\_\_

A = \_\_\_\_\_

N = \_\_\_\_\_



Make and Model of HSK spindle CNC Router \_\_\_\_\_

### Toolholder Dimensions

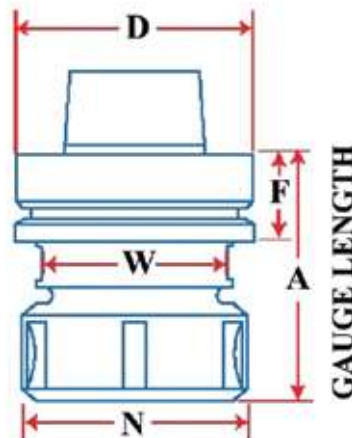
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W = \_\_\_\_\_

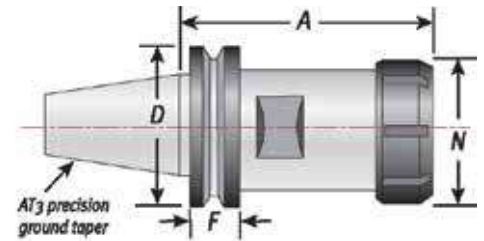
A = \_\_\_\_\_

N = \_\_\_\_\_



## ISO & SK Toolholders

- ▼ Balanced to 25,000 RPM @ G2.5
- ▼ Inspection report included for accuracy and balance
- ▼ Includes Collet Nut

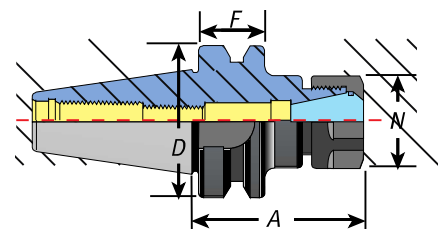


Measure the "A" dimension with the collet in the nut. Dimensions in millimeters.

PART #	DESCRIPTION	D	A	N	NUT	WRENCH	FLATS
12000-CMS	ISO 30 x ER 32 - CMS	46	58	50	46132	04616	36
CMS-RR-32	CMS w/turret nut x ER32	57.9	--	69.8	46132	04616	55
12040-CMS	ISO 30 x ER 40 - CMS w/o nut	46	66	63	46140	04617	42
12213-W-50	ISO 30 x ER 32 - 50	50	50	50	46132	04616	47
12213-W-63	ISO 30 x ER 32 - 63	50	63	50	46132	04616	36
12213-W-90	ISO 30 x ER 32 - 90	50	90	50	46132	04616	36
NT-54300130	SK30 x SYOZ 25 - 70 (Weeke)	50	70	60	83632	03691	38
W507TH	ISO30 x ER 32 (Thermwood)	57.1	55	50	included	04616	--

## BT30 & BT35 Toolholders

- ▼ Balanced to 25,000 RPM @ G2.5
- ▼ Inspection report included for accuracy and balance
- ▼ Includes Collet Nut



Measure the "A" dimension with the collet in the nut. Dimensions in millimeters.

PART #	DESCRIPTION	D	A	N	NUT	WRENCH
06108-2.5	BT 30 x ER20 - 2.5" (Laguna)	46	63.5	34	41120	04610
16106-W	BT 30 x ER20 - 70 w/o slots (Laguna)	46	70	35	41120	04610
06112	BT 30 x ER32 - 60 with slots	46	60	50	46132	04616
06113	BT 30 x ER32 - 70 with slots	46	70	50	46132	04616
06113-W-60	BT 30 x ER32 - 60, 41mm flats (Komo)	46	60	50	46132	04616
06113-W-90	BT 30 x ER32 - 90, 38mm flats (Komo)	46	90	50	46132	04616
06001-W	BT 30 x SYOZ 25 - 70, 38mm flats (Komo)	46	70	60	83632	03691
06010	BT 35 x SYOZ 25 - 76 (Heian)	53	76	60	83632	03691
061BT353276	BT 35 x ER32 - 76	53	76	50	46132	4616

## Retention Knobs FOR CNC ROUTERS

Retention knobs make the important connection between the spindle and the tool holder.



PART #	TYPE	D	d1	d2	d3	L	I1	I2	O
750-19	Komo ISO/BT30-A 12.5	17	13	9	12.5	44	23.4	18.2	15°
13001	DAT 30-A	17	13	9	13	44	24	19	15°
13001-45	Colombo ISO 30 - Ball	17	12.8	9	13	44	24	19	45°
13019	HSD ISO 30	17	12	8	13	44	23.9	--	radius
07801	BT 30 - 45° (P30T-1)	16.5	11	7	12.5	43	23	--	45°
07806	BT 30 - 60° (P30T-2)	16.5	11	7	12.5	43	23	--	60°
4403502	BT 35 Heian	20	13	8.5	12.5	43	28	22.5	--

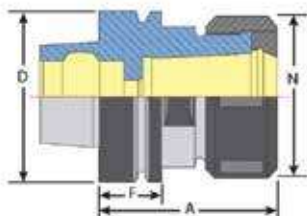
- 750-19 - KOMO Router for BT30 Toolholder
- 13001 - Colombo Spindles (Billet spindle)
- 13001-45 - Colombo Spindle clamping by balls (RS Spindle)
- 13019 - HSD Spindles

## HSK 63F Toolholders

- ▼ Balanced to 24,000 RPM at G2.5
- ▼ Inspection report included for accuracy and balance
- ▼ Includes Collet Nut



PART #	DESCRIPTION	D	A	N	NUT	WRENCH	FLATS
30000	HSK 63F x ER32 - 70	63	70	50	46132	04616	36
30001	HSK 63F x ER40 - 75	63	75	63	46140	04617	46
30002	HSK 63F x ER40 - 90	63	90	63	46140	04617	46
30005	HSK 63F x ER40 - 125	63	125	63	46140	04617	46
41025	HSK 63F x SYOZ25 - 80	63	80	60	83632	03691	38
H63ER32	HSK 63F x ER32 - 70	63	70	50	E32NUT	E32SPAN	46
H63ER40	HSK 63F x ER40 - 76	63	76	63	E40NUT	E40SPAN	46
H63SYOZ	HSK 63F x SYOZ25 -80	63	80	63	S25NUT	S25HOOK	46



Measure the "A" dimension with the collet in the nut. Dimensions in millimeters.



H63SYOZ Model

## Albrecht Milling Chuck

- ▼ Also known as the Uberchuck this holder is guaranteed to run within 0.0001" TIR or better at 2.5 x diameter.
- ▼ Dynamically balanced to G2.5 @ 24,000.
- ▼ Carefully optimized expansion tolerances and unique vibration dampening capabilities provide smoother part finishes and up to a 60% increase in tool life.



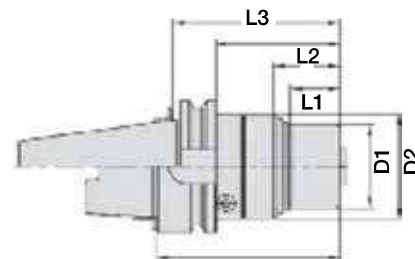
PART #	TAPER	CAPACITY	GAGE LENGTH	D2	D1	L1	L2	L3
74329	BT30	1/8 - 3/4	3.23	1.97	1.57	0.79	1.12	2.36
74221	HSK 63F	1/8 - 3/4	3.62	1.97	1.57	0.79	1.12	2.60



APC Tightening Tool  
Economy Model  
#74402



APC Tightening Tool Deluxe  
Model #74399



## Collets for Albrecht MILLING CHUCKS

- ▼ The shallow included angle of this collet creates a locking tapered fit with the holder.
- ▼ A special surface coating increases wear-resistance and reduces friction, resulting in high gripping torque.
- ▼ A deep throat and long, ground gripping surface produces superior accuracy and rigidity.



PART #	COLLET SIZE	MAX THROAT DEPTH
74357	1/8"	1.10"
74362	1/4"	1.42"
74364	5/16"	1.42"
74366	3/8"	1.57"
74370	1/2"	1.77"
74374	5/8"	1.89"
74378	3/4"	1.97"
74387	6mm	1.42"
74388	8mm	1.42"
74389	10mm	1.57"

\*\*Other sizes available upon request

## HSK 63F Sino-R Toolholders

The Sino-R toolholder is a clamping system with a run out accuracy of <.005mm. The toolholder is hand-tightened with a C'Spanner type wrench. Purchase intermediate sleeves shown below to run smaller diameter tools.



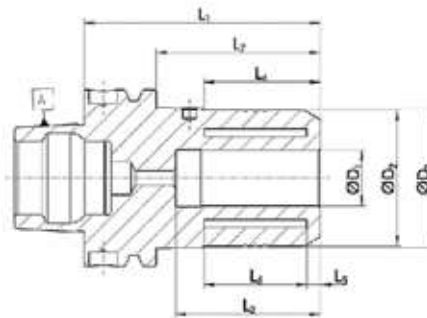
PART #	D1	D2	D3	L1	L2	L4	L7
209662	1/2"	39mm	44.9mm	80mm	47mm	34mm	54mm
209664	3/4"	48mm	50.15mm	85mm	52mm	42mm	59mm



SINO C'Spanner Wrench  
Part #208877



SINO Sleeve Extractor  
Part #208840



## Intermediate Sleeves FOR SINO-R TOOLHOLDERS

Achieve several clamping diameters with one toolholder with the use of intermediate sleeves. Available in both a sealed and slotted design. The sealed sleeve offers a "dust cover" like seal and results in less maintenance/cleaning of the toolholder/sleeve. The slotted design allows for more efficient cooling and chip evacuation of the cutting area and can be used with coolant systems.

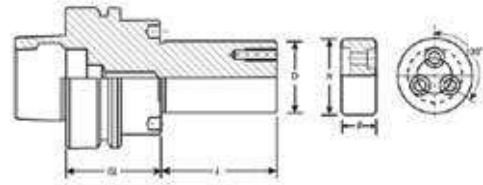


SEALED PART #	SLOTTED PART #	CHUCK DIAMETER	TOOL DIAMETER
224376	217376	1/2"	1/8"
224378	217378	1/2"	1/4"
224379	217379	1/2"	5/16"
224380	217380	1/2"	3/8"
224386	217960	3/4"	1/8"
224388	217962	3/4"	1/4"
224389	217963	3/4"	5/16"
224390	217964	3/4"	3/8"
224392	217966	3/4"	1/2"
224394	217968	3/4"	5/8"

\*\*Other sizes available upon request

## HSK 63F Arbors

- ▼ Special 3 screw design improves safety
- ▼ Precision ground taper provides high accuracy
- ▼ Balanced to 25,000 RPM @ G2.5



PART #	DESCRIPTION	L	GL	D	B	N
41060	HSK 63F x 1 1/4" x 55	55	45	1 1/4"	20	42
41080-3H	HSK 63F x 1 1/4" x 80	80	45	1 1/4"	20	42
41085	HSK 63F x 1 1/4" x 100	100	45	1 1/4"	20	42
41087	HSK 63F x 1 1/4" x 112	112	45	1 1/4"	20	42

Dimensions in millimeters unless otherwise indicated

## HSK 63F Drill Chucks

- ▼ Run non-standard shank diameters without having to buy special collets
- ▼ Balanced to 24,000 RPM
- ▼ Adjustable up to 5/8" capacity



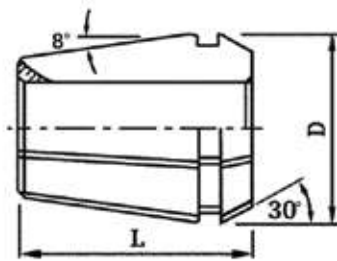
PART #	DESCRIPTION	CAPACITY
H63CHUCK-500	HSK 63F Drill Chuck	1mm - 13mm (1/2")
H63CHUCK-625	HSK 63F Drill Chuck	3mm - 16mm (5/8")



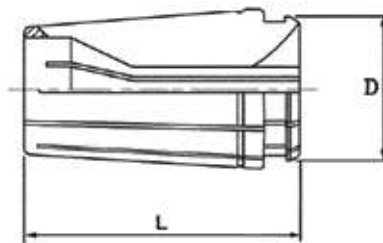
## Collet Measuring Guide

All collets have a distinct length and diameter so easiest way to determine the type of collet your machine has is to measure the length and diameter and refer to the chart below to determine the collet series you require.

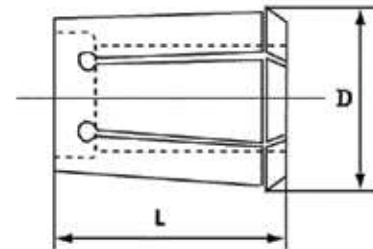
COLLET SERIES	LENGTH	DIAMETER
ER11	18mm (.708")	11.5mm (.45")
ER16	27.5mm (1.08")	17mm (.67")
ER20	31.5mm (1.24")	21mm (.83")
ER25	34mm (1.34")	26mm (1.02")
ER32	40mm (1.57")	33mm (1.3")
ER40	46mm (1.81")	41mm (1.61")
SYOZ 20	34mm (1.34")	20mm (.78")
SYOZ 25	52mm (2.06")	35mm (1.38")
TG75	47mm (1.85")	27mm (1.06")
TG100	60mm (2.36")	35mm (1.38")



ER Series Collet



TG Series Collet



SYOZ 25 Series Collet



## ER Series Collets

### PRECISION INCH COLLETS

▼ Runout (T.I.R.) only .0002"

▼ Collapse Range 0.039"

Made from high-carbon bearing steel that is heat-treated for improved flexibility and longer life. Each collet is precisely ground and honed using a Swiss technique, then individually inspected and tested for accuracy. Compatible with DR, RD, ESX, AR & BR series collets. For best rigidity and cutter life use Power Coated Nuts (page 96).



COLLET ID	ER11 PART #	ER16 PART #	ER20 PART #	ER25 PART #	ER32 PART #	ER40 PART #
1/16"	04211-1/16	04216-1/16				
3/32"	04211-3/32	04216-3/32	04220-3/32	04225-3/32	04232-3/32	
1/8"	04211-1/8	04216-1/8	04220-1/8	04225-1/8	04232-1/8	04240-1/8
5/32"	04211-5/32	04216-5/32	04220-5/32	04225-5/32	04232-5/32	04240-5/32
3/16"	04211-3/16	04216-3/16	04220-3/16	04225-3/16	04232-3/16	04240-3/16
7/32"	04211-7/32	04216-7/32	04220-7/32	04225-7/32	04232-7/32	04240-7/32
1/4"	04211-1/4	04216-1/4	04220-1/4	04225-1/4	04232-1/4	04240-1/4
9/32"		04216-9/32	04220-9/32	04225-9/32	04232-9/32	04240-9/32
5/16"		04216-5/16	04220-5/16	04225-5/16	04232-5/16	04240-5/16
11/32"		04216-11/32	04220-11/32	04225-11/32	04232-11/32	04240-11/32
3/8"		04216-3/8	04220-3/8	04225-3/8	04232-3/8	04240-3/8
13/32"		04216-13/32	04220-13/32	04225-13/32	04232-13/32	04240-13/32
7/16"			04220-7/16	04225-7/16	04232-7/16	04240-7/16
15/32"			04220-15/32	04225-15/32	04232-15/32	04240-15/32
1/2"			04220-1/2	04225-1/2	04232-1/2	04240-1/2
17/32"				04225-17/32	04232-17/32	04240-17/32
9/16"				04225-9/16	04232-9/16	04240-9/16
19/32"				04225-19/32	04232-19/32	04240-19/32
5/8"				04225-5/8	04232-5/8	04240-5/8
21/32"					04232-21/32	04240-21/32
11/16"					04232-11/16	04240-11/16
23/32"					04232-23/32	04240-23/32
3/4"					04232-3/4	04240-3/4
7/8"						04240-7/8
1"						04240-1

\*\*To determine your collet type see page 92

## ER Series Collets

### PRECISION METRIC COLLETS

- ▼ Runout (T.I.R.) only .0002"
- ▼ Collapse Range 0.039"

Made from high-carbon bearing steel that is heat-treated for improved flexibility and longer life. Each collet is precisely ground and honed using a Swiss technique, then individually inspected and tested for accuracy. Compatible with DR, RD, ESX, AR & BR series collets. For best rigidity and cutter life use Power Coated Nuts (page 96).



COLLET ID	ER16 PART #	ER20 PART #	ER25 PART #	ER32 PART #	ER40 PART #	RANGE
0.5-1	04216-01					.019 - .039"
1-2	04216-02	04220-02	04225-02			.039 - .079"
2-3	04216-03	04220-03	04225-03	04232-03		.079 - .118"
3-4	04216-04	04220-04	04225-04	04232-04	04240-04	.118 - .157"
4-5	04216-05	04220-05	04225-05	04232-05	04240-05	.157 - .197"
5-6	04216-06	04220-06	04225-06	04232-06	04240-06	.197 - .236"
6-7	04216-07	04220-07	04225-07	04232-07	04240-07	.236 - .276"
7-8	04216-08	04220-08	04225-08	04232-08	04240-08	.276 - .315"
8-9	04216-09	04220-09	04225-09	04232-09	04240-09	.315 - .354"
9-10	04216-10	04220-10	04225-10	04232-10	04240-10	.354 - .394"
10-11		04220-11	04225-11	04232-11	04240-11	.394 - .433"
11-12		04220-12	04225-12	04232-12	04240-12	.433 - .472"
12-13		04220-13	04225-13	04232-13	04240-13	.472 - .512"
13-14			04225-14	04232-14	04240-14	.512 - .551"
14-15			04225-15	04232-15	04240-15	.551 - .591"
15-16			04225-16	04232-16	04240-16	.591 - .630"
16-17				04232-17	04240-17	.630 - .669"
17-18				04232-18	04240-18	.669 - .709"
18-19				04232-19	04240-19	.709 - .748"
19-20				04232-20	04240-20	.748 - .787"
20-21					04240-21	.787 - .827"
21-22					04240-22	.827 - .866"
22-23					04240-23	.866 - .906"
23-24					04240-24	.906 - .945"
24-25					04240-25	.945 - .984"
25-26					04240-26	.984 - 1.024"

\*\*To determine your collet type see page 92

## TG Series Collets

### PRECISION INCH COLLETS

- ▼ Runout (T.I.R.) .0004"
- ▼ Collapse Range 1/64"



COLLET ID	TG75 PART NUMBER	TG100 PART NUMBER
1/8"	04008-1/8	04010-1/8
3/16"	04008-3/16	04010-3/16
1/4"	04008-1/4	04010-1/4
5/16"	04008-5/16	04010-5/16
3/8"	04008-3/8	04010-3/8
1/2"	04008-1/2	04010-1/2
9/16"	04008-9/16	04010-9/16
5/8"	04008-5/8	04010-5/8
3/4"	04008-3/4	04010-3/4
7/8"		04010-7/8
1"		04010-1

\*\*Other sizes available upon request. To determine your collet type see page 92

## Perske Series Collets

### PRECISION COLLETS

- ▼ Manufactured to DIN 6388 Standards
- ▼ Runout (T.I.R.) .0004"
- ▼ Collapse Range 1/64"

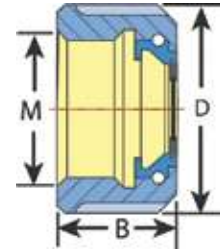


COLLET ID	SYOZ 20 PART NUMBER	SYOZ 25 PART NUMBER
1/8"	03520-1/8	03868-1/8
3/16"	03520-3/16	03868-3/16
1/4"	03520-1/4	03868-1/4
5/16"	03520-5/16	03868-5/16
3/8"	03520-3/8	03868-3/8
1/2"	03520-1/2	03868-1/2
5/8"		03868-5/8
3/4"		03868-3/4
1"		03868-1
10mm	03520-10	03868-10

\*\*Other sizes available upon request. To determine your collet type see page 92

## ER Collet Nuts

- ▼ Power Coated to provide 40% more holding power than standard bearing nuts
- ▼ Safer: cutting tool is less likely to break free

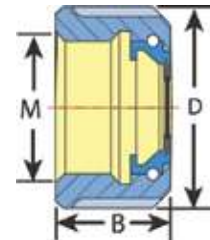


PART #	DESCRIPTION	D	B	M	WRENCH	*MAX TORQUE
46111	ER11 RH Collet Nut	19	11.8	M14 x .75	04608	20 ft/lbs
46116	ER16 RH Collet Nut	32	18.0	M22 x 1.5	04613	50 ft/lbs
46120	ER20 RH Collet Nut	35	19.5	M25 x 1.5	04614	75 ft/lbs
46125	ER25 RH Collet Nut	42	20.5	M32 x 1.5	04615	95 ft/lbs
46132	ER32 RH Collet Nut	50	23.0	M40 x 1.5	04616	125 ft/lbs
46140	ER40 RH Collet Nut	63	26.0	M50 x 1.5	04617	140 ft/lbs
E32NUT*	ER32 RH Collet Nut	50	23.0	M40 x 1.5	E32SPAN	130 ft/lbs
E40NUT*	ER40 RH Collet Nut	63	25.0	M50 x 1.5	E40SPAN	150 ft/lbs

\*Bearing style nut

## ER Mini-Nuts

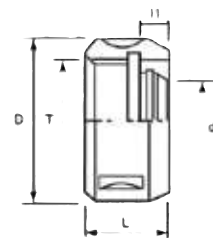
- ▼ Use High Speed Mini-Nuts for applications where speed exceeds 10,000 RPMs



PART #	DESCRIPTION	D	B	M	WRENCH	*MAX TORQUE
23108	ER8 Mini Nut	12	11	M10 x .75	04620	7 ft/lbs
23111	ER11 Mini Nut	16	12	M13 x .75	04621	14 ft/lbs
23116	ER16 Mini Nut	22	18	M19 x 1.0	04622	22 ft/lbs
23120	ER20 Mini Nut	28	19.5	M24 x 1.0	04623	25 ft/lbs
23125	ER25 Mini Nut	35	21	M24 x 1.0	04624	29 ft/lbs

## TG Collet Nuts

- ▼ Balanced to 20,000 RPM
- ▼ "Power Coated" - No bearings to seize and fail

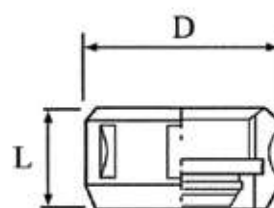


PART #	DESCRIPTION	D	d1	T	I1	L	WRENCH	*TORQUE
27500	TG75 Collet Nut	1.88"	--	1 1/2 - 12"	.32"	.94"	04018	100 ft/lbs
28110	TG100 Collet Nut	2.35"	1.12"	1 7/8 - 12"	.44"	1.18"	03691	100 ft/lbs

\*Recommended torque is 80-90% of max value

## Perske Collet Nuts

- ▼ Conform to DIN 6388 Standards



PART #	DESCRIPTION	D	L	WRENCH
03520	SYOZ 20 Collet Nut	35mm	20mm	22220
03638	SYOZ 25 Collet Nut	60mm	30mm	03691
S25NUT*	SYOZ 25 Collet Nut	60mm	30mm	S25HOOK

\*Bearing style nut

## Preset Torque Wrench

Proper torque on the screws is critical for safety and for the performance of the tool. Over tightening of the screw can cause it to "strip out" or cause an insert to crack. Under tightening can allow the insert to shift in the body and cause poor cut quality or even an unbalanced situation. To ensure proper tightening of the screws that hold inserts in place, a torque wrench is necessary. We offer this torque wrench in both Torx sizes to cover all of your needs when used with our insert tool bodies.

PART #	FOR USE:
T15TH	for use with 67115 screw
T20TH	for use with 67116 screw



## Torque Wrench

Proper torque on the collet nut reduces collet wear, keeping tools securely in the toolholder, while saving you time and money. Benefits include: safety (proper torque reduces the possibility of tools pulling out of the holder); cost savings (proper torque extends the life of collets, tools and holders); and quality (proper torque assures maximum cutting accuracy).



PART #	TORQUE RANGE	LENGTH	WEIGHT	SPIGOT
60TH	5-45 ft/lbs	12"	1 lb	16mm round
200TH	30-150 ft/lbs	16.5"	1.75 lbs	16mm round
300TH	45-228 ft/lbs	21.5"	2.5 lbs	16mm round



## Collet Keys

Recommended torque is 80-90% of given value

PART #	COLLET NUT SIZE	WRENCH TYPE	MAX TORQUE
04580-16	ER16	Slotted	50 ft/lbs
04601-16	ER16 Hex	Hex	50 ft/lbs
04580-20	ER20	Slotted	75 ft/lbs
04602-20	ER20 Hex	Hex	75 ft/lbs
04603-25	ER25 Spanner	Slotted	95 ft/lbs
04587	ER25 Mini	Castle	29 ft/lbs
04604-32	ER32 Spanner	Slotted	125 ft/lbs
04605-40	ER40 Spanner	Slotted	140 ft/lbs
03690-25	SYOZ25/TG100	Hook	100 ft/lbs

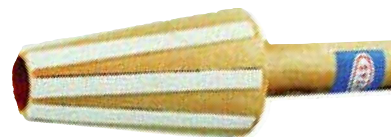
## Hand Wrenches



PART #	DESCRIPTION	NUT TYPE	LENGTH	WIDTH
04608	ER11 - A Wrench	A (Hex)	120mm	40mm
04609	ER16 - A Wrench	A (Hex)	140mm	53mm
04610	ER20 - A Wrench	A (Hex)	160mm	60mm
04613	ER16 - E Wrench	Slotted	160mm	55mm
04614	ER20 - E Wrench	Slotted	180mm	60mm
04615	ER25 - E Wrench	Slotted	206mm	65mm
04616	ER32 - E Wrench	Slotted	253mm	75mm
04617	ER40 - E Wrench	Slotted	289mm	90mm
04618	ER50 - E Wrench	Slotted	351mm	110mm
04620	ER8 - M Wrench	ER Mini	75mm	13mm
04621	ER11 -M Wrench	ER Mini	95mm	17mm
04622	ER16 - M Wrench	ER Mini	117mm	22.5mm
04623	ER20 - M Wrench	ER Mini	129mm	28.5mm
04624	ER25 - M Wrench	ER Mini	142.5mm	35.5mm
04018	TG75 - Wrench	Hook	253mm	46mm
03691	TG100/SYOZ25 Wrench	Hook	260mm	46mm
22220	SYOZ 20 Wrench	Hook	- -	34mm
E32SPAN	ER32 - E Wrench	Slotted	253mm	75mm
E40SPAN	ER40 - E Wrench	Slotted	289mm	90mm
S25HOOK	SYOZ 25 Wrench	Hook	260mm	46mm

## Spindle Wipers

- ▼ Keeps spindles and toolholders clean
- ▼ Removes contaminates to improve T.I.R.

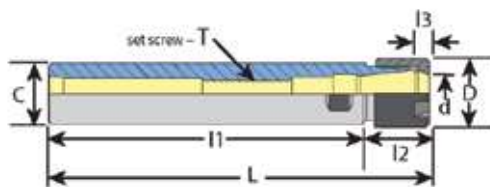


PART #	TAPER	TOTAL LENGTH	TAPER LENGTH
07703	30	170mm	60mm
07704	40	188mm	78mm
07705	50	240mm	120mm
07711	HSK 63F	165mm	31mm



## Straight Shank Extensions

- ▼ Works with any toolholder
- ▼ Precision ground pocket
- ▼ Includes ER mini nut
- ▼ Maximum 10,000 RPM

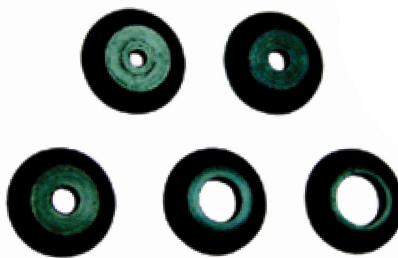


PART #	C	d	l1	L	l2	l3	D	WRENCH
04889	3/8"	ER 8M	100	124	24	6	12	04620
04891	1/2"	ER 11M	140	166.5	26.5	6.6	16	04621
04893	5/8"	ER 11M	140	158.5	18.5	6.6	16	04621
04895	1/2"	ER 16M	140	177	37	10.6	22	04622
04896	3/4"	ER 16M	140	165	25	10.6	22	04622
04894	3/4"	ER 20M	140	180	40	11.5	28	04623
04897	1"	ER 20M	140	168	28	11.5	28	04623
04898	3/4"	ER 25M	100	140	40	12	35	04624
04888	1"	ER 25M	140	190	50	12	35	04624

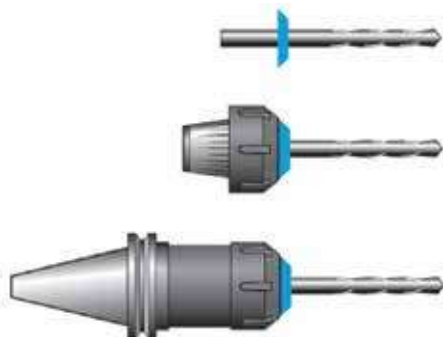
\*Dimensions in millimeters unless otherwise noted

## Dust Covers

- ▼ Eliminates cleaning collets
- ▼ Extends life of your collets
- ▼ Extends tool life by maintaining T.I.R.



PART #	DESCRIPTION	TOOL SHANK DIAMETER
DC32-1/4-5	5pc Dust Cover Set	1/4"
DC32-5/16-5	5pc Dust Cover Set	5/16"
DC32-3/8-5	5pc Dust Cover Set	3/8"
DC32-1/2-5	5pc Dust Cover Set	1/2"
DC32-5/8-5	5pc Dust Cover Set	5/8"
DC32-3/4-5	5pc Dust Cover Set	3/4"



### Installation:

- 1 - Place dust cover on tool shank
- 2 - Insert tool into collet/nut assembly
- 3 - Tighten assembly into toolholder using proper torque

NOTE: Do not slide dust cover over cutting edge of tool as you may damage it.

## Tightening Stands

- ▼ For HSK, ISO and BT Spindles
- ▼ Change Retention Knobs from underneath
- ▼ Bolts right onto workbench

PART #	DESCRIPTION	USED WITH TOOLHOLDER #
NTS-ISO30-36	ISO 30 Taper - 36mm flats	12213-W-63, 12213-W-90
NTS-ISO30-38	ISO 30 Taper - 38mm flats	NT-54300130
NTS-ISO30-47	ISO 30 Taper - 47mm flats	12213-W-50
NTS-BT30-41	BT 30 Taper - 41mm flats	06113-W-60
NTS-HSK63F-36	HSK 63F - 36mm flats	30000
NTS-HSK63F-38	HSK 63F - 38mm flats	41025
NTS-HSK63F-46	HSK 63F - 46mm flats	30001
VE330	Universal ISO-30	Used for any ISO-30 Taper
VE340	Universal HSK 63F	Used for any HSK 63F Taper



**VE340 Model Stand**



**NTS Model Stand**

## Benchtop Toolsetter

This toolsetter allows you to measure tools off-line. You can measure tools in seconds and be ready for the next job while the machine is still in production. The toolsetter eliminates expensive downtime and costly machine damage which can occur while setting tools.

Instead of extensive bending and stretching of the operator starting and stopping the CNC machine, the operator pre-sets tools at their workbench.



PART #	DESCRIPTION	SIZE
727-Taper	Benchtop Toolsetter	16" H x 10" W x 6" D