



PAT.

NEW BABY CHUCK

US Patent No. 4,817,972

NEW Hi-POWER MILLING CHUCK

BIG DAISHOWA SEIKI CO LTD

CATALOG No. **EXi 300**

**Highest Precision For
Small Drills And End Mills**



COLLET CHUCK
**NEW BABY
CHUCK**



MILLING CHUCK
**NEW Hi-POWER
MILLING CHUCK**



**Powerful Clamping
For Heavy Cutting**



NEW BABY CHUCK

PAT.

US Patent No. 4,817,972

Clamping Range : $\varnothing.010''$ - $.787''$



☞ P3

Highest Precision For Small Drills And End Mills

Specifically designed and manufactured to achieve the highest precision.

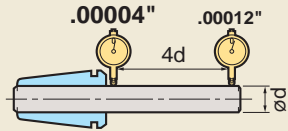
Highest precision collet of $.00004''$ T.I.R.



☞ P7

- **BIG** New Baby Chuck Collets are thoroughly manufactured to achieve the lowest T.I.R. in the world, $.00004''$ at the collet nose.
- Since all collets are inspected, T.I.R. never changes, even when a collet clamps the smallest shank diameter.

● T.I.R. of collet



Collet Class	Max. T.I.R.	
	At nose	At end of test bar
AA	.00004''	.00012''

For high pressure coolant supply

Max. 1,000 PSI



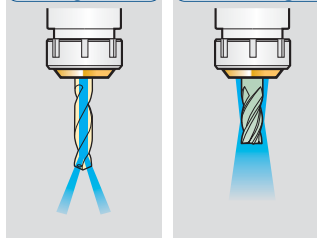
BABY PERFECT SEAL PAT.
US Patent No. 5,975,817

☞ P9

2way coolant

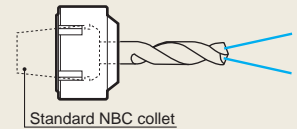
Through Tools

Jet Through

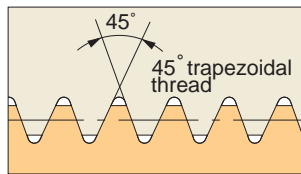
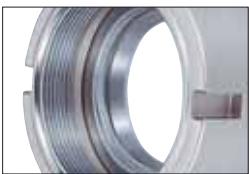


Coolant supply through tool tip

The sealed nut prevents coolant from leaking through collet and directs coolant through a tool to its tip.



The nut design is a key factor to achieve the highest precision of a collet



- A 45° trapezoidal thread offers less friction and better alignment to the center when clamping a collet.
- Since the threads greatly influence accuracy, they are finished after heat treatment. Therefore, bad influence from clamping action is eliminated, which enhances clamping performance.
- The nut incorporates a thrust bearing with steel balls that prevent stress to the collet and allows a smooth clamping force.

Over 250 types of shanks are available

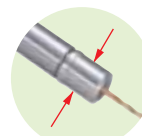
- A variety of steep taper shanks and straight shanks are available. Very short and extra long projection lengths are also available.



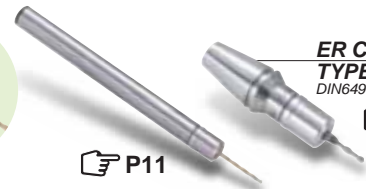
MEGA MICRO CHUCK SERIES

Ultra slim nut ($\varnothing.394''$) and collet are compact in size and precise in accuracy.

Tiny & Precise
Body $\varnothing.394''$



$\varnothing.394''$ (3S)



ER COLLET TYPE
DIN6499 Form A

☞ P11

NEW Hi-POWER MILLING CHUCK

Clamping Range : $\varnothing 3/4"$ - $1\frac{1}{2}"$



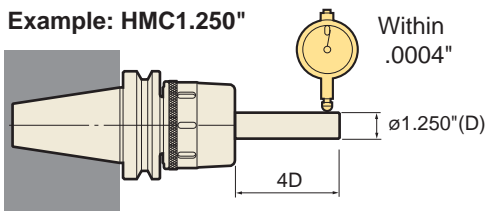
Powerful Clamping For Heavy Cutting

Fine slots and needle bearings assure powerful and precise clamping.

P13

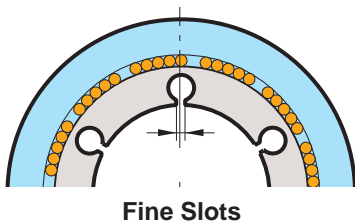
High concentricity achieves low T.I.R.

Even though a milling chuck is for heavy cutting, the Hi-Power Milling Chuck keeps runout accuracy of .0004" T.I.R. at 4xD.



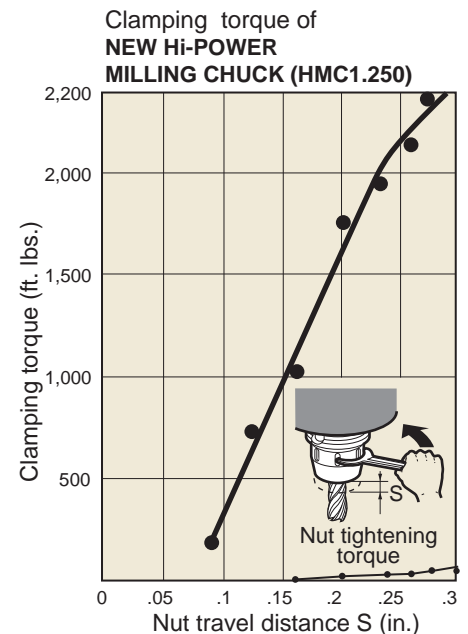
Secure and reliable slot design

Fine and narrow slots make the clamping part deform properly. The clamping part evenly clamps a cutting tool's shank for heavy cutting. The slots also eliminate the oil that spoils clamping torque.



High clamping torque

Tightening torque is magnified by tightening the nut with an original design of a roller bearing as in the figure shown below. When a roller bearing smoothly brings the nut downwards, a wall on a clamping part of the chuck elastically deforms and high clamping force is achieved on a cutting tool's shank. Furthermore, the wall is designed to be thick enough to prevent chattering.



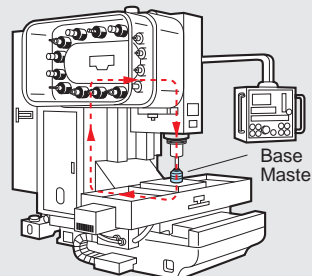
BASE MASTER

Ultra sensitive detection of .00004" reduces set-up time.



- Compact design for fast and easy handling.
- Integrated circuit assures dependable lighting. Safety over-travel of sensor plate prevents damage to tools.

Please see the back cover



PRINCIPLE

When BASE MASTER BM-2 is mounted on a machine table, it becomes a positive pole (anode). When a tool, which is itself a negative pole (cathode), touches the sensor plate of BM-2, an electrical circuit is established and the LED lamp turns on.

NEW BABY CHUCK PAT. US Patent No. 4,817,972

A GREAT VARIETY OF PROJECTION LENGTHS FOR HIGH PRECISION MACHINING

- Basic holders for drilling, reaming, tapping and end milling.



CAT SHANK SERIES CV40/CV50

Clamping Range : $\varnothing.010'' - .787''$

ASME B5.50-1994

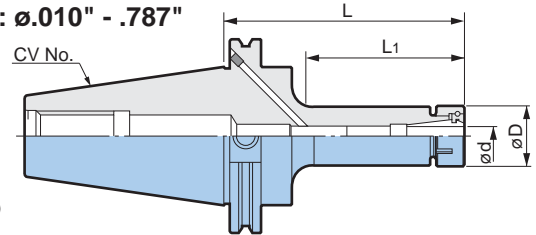


● Model Description

CV40 - **NBS** **6** **K** - **2.5**

- L= projection length (in)
- Max. capacity (mm)
- New Baby Chuck System
- CAT shank No.

Coolant-Through Hole



Coolant Bores in Accordance to DIN69871/Form B ※

Plug Screw for flange through coolant

For details of plug screws, please refer to **P13**.

CV40/50 shank

Model	$\varnothing d$	$\varnothing D$	L	L1	Collet	Nut	Wrench	Weight (lbs)
CV40-NBS6K-2.5	.010 - .236	.79	2.50	.92	NBC 6-d	NBN 6K	NBK 6	2.43
-4			4.00	2.22				2.73
-5			5.00	3.22				2.98
-6			6.00	4.22				3.31
-NBS8K-2.5	.020 - .315	.99	2.50	.96	NBC 8-d	NBN 8K	NBK 8	2.43
-4			4.00	2.30				2.73
-5			5.00	3.30				2.98
-6			6.00	4.30				3.31
-NBS10-2.5	.059 - .394	1.18	2.50	.96	NBC10-d	NBN10	NBK10	2.43
-4			4.00	2.38				2.87
-5			5.00	3.38				3.53
-6			6.00	4.38				4.19
-NBS13-2.5	.098 - .512	1.38	2.50	1.04	NBC13-d	NBN13	NBK13	2.65
-4			4.00	2.46				3.31
-5			5.00	3.46				3.97
-6			6.00	4.46				4.85
-NBS16-2.5	.098 - .630	1.65	2.50	1.12	NBC16-d	NBN16	NBK16	2.65
-4			4.00	2.62				3.64
-5			5.00	3.62				4.52
-6			6.00	4.62				5.73
-NBS20-2.5	.098 - .787	1.81	2.50	1.75	NBC20-d	NBN20	NBK20	2.65
-4			4.00	3.25				3.75
-5			5.00	4.25				5.07
-6			6.00	5.25				6.62
CV50-NBS6K-3.5	.010 - .236	.79	3.50	1.72	NBC 6-d	NBN 6K	NBK 6	7.50
-5			5.00	3.03				7.72
-6			6.00	4.03				8.05
-NBS8K-3.5	.020 - .315	.99	3.50	1.72	NBC 8-d	NBN 8K	NBK 8	7.72
-5			5.00	3.03				7.94
-6			6.00	4.03				8.05
-NBS10-3.5	.059 - .394	1.18	3.50	1.72	NBC10-d	NBN10	NBK10	7.72
-5			5.00	3.03				7.94
-6			6.00	4.03				8.38
-NBS13-3.5	.098 - .512	1.38	3.50	1.72	NBC13-d	NBN13	NBK13	8.16
-5			5.00	3.22				8.60
-6			6.00	4.03				9.04
-NBS16-3.5	.098 - .630	1.65	3.50	1.72	NBC16-d	NBN16	NBK16	7.94
-5			5.00	3.22				8.60
-6			6.00	4.22				9.04
-NBS20-3.5	.098 - .787	1.81	3.50	1.80	NBC20-d	NBN20	NBK20	10.36
-5			5.00	3.22				8.16
-6			6.00	4.22				8.82
-8			8.00	6.22				9.37
								10.58

1. NBN Nut is included. Collet, Wrench & Adjusting Screw must be ordered separately.

2. Weights do not include a collet.

3. Other types of shanks are also available upon request.

※ Bores on Form B are sealed with set screws on delivery.

For NEW BABY COLLET: **P7**

For WRENCH: **P10**

For BABY PERFECT SEAL: **P9**

STRAIGHT SHANK SERIES Clamping Range : \varnothing .010" - .787"

INTERFERENCE IS AVOIDED WHEN ASSEMBLED TO NEW HI-POWER MILLING CHUCK.

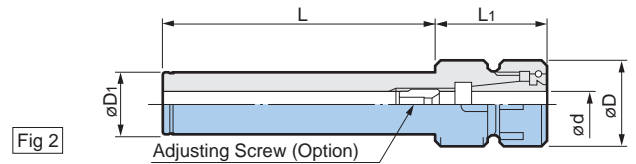
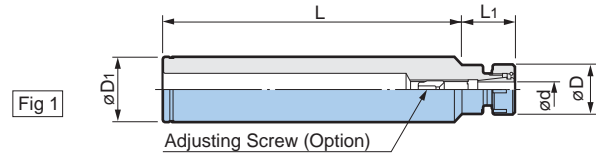
- Designed to eliminate interference in horizontal machining center applications.



● Model Description

ST .750 - NBS 6 K - 4

- L= projection length (in)
- Max. capacity (mm)
- New Baby Chuck System
- Straight shank size (in)



Model	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L1	Collet	Nut	Wrench	Weight (lbs)
ST .750-NBS 6K- 4	1	.010 - .236	.79	.750	4.00	.94	NBC 6-d	NBN 6K	NBK 6	.60
6.00					.86					
10.00					1.41					
-NBS 8K- 4	2	.020 - .315	.99	.750	4.00	1.02	NBC 8-d	NBN 8K	NBK 8	.64
6.00					.90					
10.00					1.46					
-NBS10 - 4	2	.059 - .394	1.18	.750	4.00	1.10	NBC10-d	NBN10	NBK10	.71
6.00					.97					
10.00					1.52					
ST1.000-NBS 8K- 6	1	.020 - .315	.99	1.000	6.00	1.02	NBC 8-d	NBN 8K	NBK 8	1.37
8.00					1.79					
10.00					2.21					
-NBS10 - 6	2	.059 - .394	1.18	1.000	6.00	1.10	NBC10-d	NBN10	NBK10	1.43
8.00					1.85					
10.00					2.27					
-NBS13 - 6	2	.098 - .512	1.38	1.000	6.00	1.33	NBC13-d	NBN13	NBK13	1.48
8.00					1.90					
10.00					2.32					
ST1.250-NBS10 - 6	1	.059 - .394	1.18	1.250	6.00	1.10	NBC10-d	NBN10	NBK10	2.25
8.00					2.93					
10.00					3.62					
12.00					4.30					
-NBS13 - 6	2	.098 - .512	1.38	1.250	6.00	1.33	NBC13-d	NBN13	NBK13	2.29
8.00					2.98					
10.00					3.68					
12.00					5.07					
-NBS16 - 6	2	.098 - .630	1.65	1.250	6.00	1.33	NBC16-d	NBN16	NBK16	2.32
8.00					3.02					
12.00					4.41					
-NBS20 - 6	2	.098 - .787	1.81	1.250	6.00	1.33	NBC20-d	NBN20	NBK20	2.32
8.00					3.02					
12.00					4.41					

1. NBN Nut is included. Collet, Wrench & Adjusting Screw must be ordered separately.

2. Weights do not include a collet.

※Models of L longer than 8" do not have the coolant-through hole as standard.

For NEW BABY COLLET: P7

For WRENCH: P10

For BABY PERFECT SEAL: P9

NEW BABY CHUCK PAT. US Patent No. 4,817,972

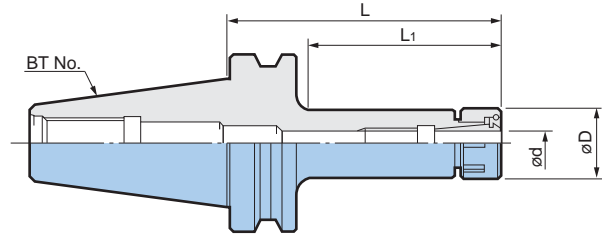
BT SHANK SERIES BT30/BT40 Clamping Range : ϕ .010" - .787"

BT=JIS B 6339



● Model Description

- BT30** - **NBS** **6** - **45**
- BT shank No.
- New Baby Chuck System
- Max. capacity (mm)
- L= projection length (mm)



BT30 shank

Model	ϕd	ϕD	L	L1	Collet	Nut	Wrench	Weight (lbs)
BT30-NBS 6- 45	.010 - .236	.79	1.77	.79	NBC 6-d	NBN 6	NBK 6	.90
- 60			2.36	1.26				.97
- 75			2.95	1.85				1.04
- 90			3.54	2.44				1.12
-105			4.13	3.03				1.19
-NBS 8- 45	.020 - .315	.99	1.77	.79	NBC 8-d	NBN 8	NBK 8	.93
- 60			2.36	1.30				1.01
- 75			2.95	1.89				1.10
- 90			3.54	2.48				1.21
-105			4.13	3.07				1.35
-NBS10- 45	.059 - .394	1.18	1.77	.79	NBC10-d	NBN10	NBK10	.97
- 60			2.36	1.34				1.12
- 75			2.95	1.93				1.28
- 90			3.54	2.52				1.46
-105			4.13	3.11				1.63
-NBS13- 45	.098 - .512	1.38	1.77	.83	NBC13-d	NBN13	NBK13	.86
- 60			2.36	1.34				1.10
- 75			2.95	1.93				1.35
- 90			3.54	2.52				1.59
-105			4.13	3.11				1.83
-NBS16- 45	.098 - .630	1.65	1.77	.83	NBC16-d	NBN16	NBK16	.86
- 60			2.36	1.46				1.17
- 75			2.95	2.05				1.48
- 90			3.54	2.64				1.79
-105			4.13	3.23				2.09
-NBS20- 60	.098 - .787	1.81	2.36	1.50	NBC20-d	NBN20	NBK20	1.21
- 75			2.95	2.09				1.61
- 90			3.54	2.68				1.98
-105			4.13	3.27				2.38

1. NBN Nut is included. Collet, Wrench & Adjusting Screw must be ordered separately.
2. Weights do not include a collet.
3. Other types of shanks are also available upon request.

For NEW BABY COLLET: P7

For WRENCH: P10

For BABY PERFECT SEAL: P9

BT40 shank

Model	ød	øD	L	L ₁	Collet	Nut	Wrench	Weight (lbs)
BT40-NBS 6- 60	.010 - .236	.79	2.36	.91	NBC 6-d	NBN 6	NBK 6	2.43
- 75			2.95	1.50				2.54
- 90			3.54	2.09				2.65
-105			4.13	2.68				2.73
-120			4.72	3.27				2.82
-135			5.31	3.86				2.87
-165			6.50	5.04				3.09
-200			7.87	6.22				3.31
-NBS 8- 60			.020 - .315	.99				2.36
- 75	2.95	1.50			2.54			
- 90	3.54	2.09			2.65			
-105	4.13	2.68			2.73			
-120	4.72	3.27			2.82			
-135	5.31	3.86			2.87			
-165	6.50	5.04			3.09			
-200	7.87	6.22			3.31			
-NBS10- 60	.059 - .394	1.18			2.36	.91	NBC10-d	NBN10
- 75			2.95	1.50	2.54			
- 90			3.54	2.09	2.65			
-105			4.13	2.68	2.87			
-120			4.72	3.27	3.09			
-135			5.31	3.86	3.31			
-165			6.50	5.04	3.75			
-200			7.87	6.22	4.19			
-NBS13- 60			.098 - .512	1.38	2.36	1.10		
- 75	2.95	1.57			2.87			
- 90	3.54	2.17			3.09			
-105	4.13	2.76			3.31			
-120	4.72	3.35			3.53			
-135	5.31	3.94			3.75			
-165	6.50	5.04			4.19			
-200	7.87	6.42			4.85			
-NBS16- 60	.098 - .630	1.65			2.36	1.06	NBC16-d	NBN16
- 75			2.95	1.57	2.98			
- 90			3.54	2.17	3.31			
-105			4.13	2.76	3.64			
-120			4.72	3.35	3.97			
-135			5.31	3.94	4.19			
-165			6.50	5.12	4.85			
-200			7.87	6.50	5.73			
-NBS20- 60			.098 - .787	1.81	2.36	1.10		
- 75	2.95	1.65			2.98			
- 90	3.54	2.24			3.31			
-105	4.13	2.83			3.75			
-120	4.72	3.43			4.19			
-135	5.31	4.02			4.63			
-165	6.50	5.20			5.51			
-200	7.87	6.57			6.62			

1. NBN Nut is included. Collet, Wrench & Adjusting Screw must be ordered separately.
2. Weights do not include a collet.
3. Other types of shanks are also available upon request.

 **For NEW BABY COLLET: P7**

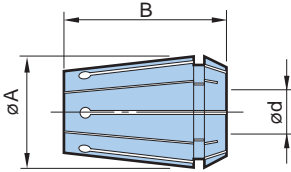
 **For WRENCH: P10**

 **For BABY PERFECT SEAL: P9**

NEW BABY CHUCK PAT. US Patent No. 4,817,972

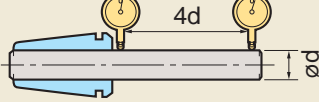
NEW BABY COLLET

● New Baby Collet "AA" class guarantees ultra T.I.R. of .00004" at the nose.



● T.I.R. of collet

.00004" .00012"



Collet Class	T.I.R.	
	At nose	At end of test bar
AA	.00004"	.00012"

NBS6 / NBS6K	
Model	Clamping Range ød
NBC 6-0.5 AA	.010 - .020
-0.75AA	.020 - .030
-1 AA	.030 - .039
-1.25AA	.039 - .049
-1.5 AA	.049 - .059
-1.75AA	.059 - .069
-2 AA	.069 - .079
-2.25AA	.079 - .089
-2.5 AA	.089 - .098
-2.75AA	.098 - .108
-3 AA	.108 - .118
-3.175AA	.115 - .125
-3.25AA	.118 - .128
-3.5 AA	.128 - .138
-3.75AA	.138 - .148
-4 AA	.148 - .157
-4.25AA	.157 - .167
-4.5 AA	.167 - .177
-4.75AA	.177 - .187
-5 AA	.187 - .197
-5.25AA	.197 - .207
-5.5 AA	.207 - .217
-5.75AA	.217 - .226
-6 AA	.226 - .236

øA= .37 B= .55

NBS8 / NBS8K	
Model	Clamping Range ød
NBC 8-1 AA	.020 - .039
-1.5AA	.039 - .059
-2 AA	.059 - .079
-2.5AA	.079 - .098
-3 AA	.098 - .118
-3.175AA	.115 - .125
-3.5AA	.118 - .138
-4 AA	.138 - .157
-4.5AA	.157 - .177
-5 AA	.177 - .197
-5.5AA	.197 - .217
-6 AA	.217 - .236
-6.5AA	.236 - .256
-7 AA	.256 - .276
-7.5AA	.276 - .295
-8 AA	.295 - .315

øA= .49 B= .70

NBS10	
Model	Clamping Range ød
NBC10- 2 AA	.059 - .079
- 2.5AA	.079 - .098
- 3 AA	.098 - .118
-3.175AA	.115 - .125
- 3.5AA	.118 - .138
- 4 AA	.138 - .157
- 4.5AA	.157 - .177
- 5 AA	.177 - .197
- 5.5AA	.197 - .217
- 6 AA	.217 - .236
- 6.5AA	.236 - .256
- 7 AA	.256 - .276
- 7.5AA	.276 - .295
- 8 AA	.295 - .315
- 8.5AA	.315 - .335
- 9 AA	.335 - .354
- 9.5AA	.354 - .375
-10 AA	.376 - .394

øA= .64 B= 1.06

NBS20	
Model	Clamping Range ød
NBC20- 3 AA	.098 - .118
-3.175AA	.115 - .125
- 3.5AA	.118 - .138
- 4 AA	.138 - .157
- 4.5AA	.157 - .177
- 5 AA	.177 - .197
- 5.5AA	.197 - .217
- 6 AA	.217 - .236
- 6.5AA	.236 - .256
- 7 AA	.256 - .276
- 7.5AA	.276 - .295
- 8 AA	.295 - .315
- 8.5AA	.315 - .335
- 9 AA	.335 - .354
- 9.5AA	.354 - .375
-10 AA	.376 - .394
-10.5AA	.394 - .413
-11 AA	.413 - .433
-11.5AA	.433 - .453
-12 AA	.453 - .472
-12.5AA	.472 - .492
-13 AA	.492 - .512
-13.5AA	.512 - .531
-14 AA	.531 - .551
-14.5AA	.551 - .571
-15 AA	.571 - .591
-15.5AA	.591 - .610
-16 AA	.610 - .630
-16.5AA	.630 - .650
-17 AA	.650 - .669
-17.5AA	.669 - .689
-18 AA	.689 - .709
-18.5AA	.709 - .728
-19 AA	.728 - .750
-19.5AA	.751 - .768
-20 AA	.768 - .787

øA= 1.12 B= 1.49

NBS13	
Model	Clamping Range ød
NBC13- 3 AA	.098 - .118
-3.175AA	.115 - .125
- 3.5AA	.118 - .138
- 4 AA	.138 - .157
- 4.5AA	.157 - .177
- 5 AA	.177 - .197
- 5.5AA	.197 - .217
- 6 AA	.217 - .236
- 6.5AA	.236 - .256
- 7 AA	.256 - .276
- 7.5AA	.276 - .295
- 8 AA	.295 - .315
- 8.5AA	.315 - .335
- 9 AA	.335 - .354
- 9.5AA	.354 - .375
-10 AA	.376 - .394
-10.5AA	.394 - .413
-11 AA	.413 - .433
-11.5AA	.433 - .453
-12 AA	.453 - .472
-12.5AA	.472 - .492
-13 AA	.492 - .512

øA= .80 B= 1.22

NBS16	
Model	Clamping Range ød
NBC16- 3 AA	.098 - .118
-3.175AA	.115 - .125
- 3.5AA	.118 - .138
- 4 AA	.138 - .157
- 4.5AA	.157 - .177
- 5 AA	.177 - .197
- 5.5AA	.197 - .217
- 6 AA	.217 - .236
- 6.5AA	.236 - .256
- 7 AA	.256 - .276
- 7.5AA	.276 - .295
- 8 AA	.295 - .315
- 8.5AA	.315 - .335
- 9 AA	.335 - .354
- 9.5AA	.354 - .375
-10 AA	.376 - .394
-10.5AA	.394 - .413
-11 AA	.413 - .433
-11.5AA	.433 - .453
-12 AA	.453 - .472
-12.5AA	.472 - .492
-13 AA	.492 - .512
-13.5AA	.512 - .531
-14 AA	.531 - .551
-14.5AA	.551 - .571
-15 AA	.571 - .591
-15.5AA	.591 - .610
-16 AA	.610 - .630

øA= 1.00 B= 1.37

● Model Description

NBC 6 - 0.5 AA

- Max. capacity (mm)
- Main body size
- New Baby Collet

- Collapsibility is .010" for NBC 6 and .020" for NBC 8 to NBC20.
- For best performance, cutting tool shanks should be cylindrical without flats and be as long as the clamping section of the collet bore.

COLLET SET

- A collet set contains all sizes of collets for each series and a wooden box.



Model	Capacity	Number of Collet	Case Size (Width X Length)	Chuck Model
SNBC 6	.019 – .236	22 (.010" increments)	3.15 X 7.28	NBS6/NBS6K
SNBC 8	.019 – .315	15 (.020" increments)	3.15 X 7.28	NBS8/NBS8K
SNBC 10	.059 – .393	17 (.020" increments)	4.53 X 10.63	NBS10
SNBC 13	.098 – .511	21 (.020" increments)	4.53 X 10.63	NBS13
SNBC 16	.098 – .629	27 (.020" increments)	7.48 X 14.57	NBS16
SNBC 20	.098 – .787	35 (.020" increments)	7.48 X 14.57	NBS20

1. All collets are "AA" class.
2. SNBC6 New Baby Collet Set does not include NBC6-0.5 collet.

WOODEN BOX

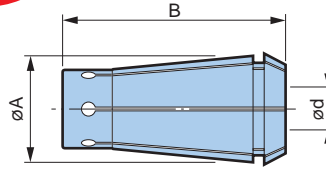
- The wooden box is convenient for storage of collets.



Model	Number of Holes	Case Size (Width X Length)	Collet Model
NBB 6	24	3.15 X 7.28	NBC 6
NBB 8	24	3.15 X 7.28	NBC 8
NBB 10	24	4.53 X 10.63	NBC10
NBB 13	24	4.53 X 10.63	NBC13
NBB 16	36	7.48 X 14.57	NBC16
NBB 20	36	7.48 X 14.57	NBC20

1. The boxes can not be used for New Baby Collet for end mill.

NEW BABY COLLET For END MILL



- Model Description
- NBC 6 - 1/8 E AA**
- END MILL TYPE
- Clamping size (in)
- Body size
- New Baby Collet

NBS 6 / NBS6K		
	Clamping Size ød	Model
INCH SIZE	.125	NBC 6- 1/8E AA
	.187	-3/16E AA
METRIC SIZE	3.0	NBC 6- 3E AA
	4.0	- 4E AA
	5.0	- 5E AA
	6.0	- 6E AA

øA= .36 B= .67

NBS13		
	Clamping Size ød	Model
INCH SIZE	.125	NBC13- 1/8E AA
	.187	-3/16E AA
	.250	- 1/4E AA
	.375	- 3/8E AA
METRIC SIZE	.500	- 1/2E AA
	3.0	NBC13- 3E AA
	4.0	- 4E AA
	5.0	- 5E AA
	6.0	- 6E AA
	8.0	- 8E AA
	10.0	- 10E AA
	12.0	- 12E AA

øA= .78 B= 1.5

NBS 8 / NBS8K		
	Clamping Size ød	Model
INCH SIZE	.125	NBC 8- 1/8E AA
	.187	-3/16E AA
	.250	- 1/4E AA
METRIC SIZE	3.0	NBC 8- 3E AA
	4.0	- 4E AA
	5.0	- 5E AA
	6.0	- 6E AA
	8.0	- 8E AA

øA= .47 B= .78

NBS16		
	Clamping Size ød	Model
INCH SIZE	.125	NBC16- 1/8E AA
	.187	-3/16E AA
	.250	- 1/4E AA
	.375	- 3/8E AA
	.500	- 1/2E AA
	.625	- 5/8E AA
METRIC SIZE	3.0	NBC16- 3E AA
	4.0	- 4E AA
	5.0	- 5E AA
	6.0	- 6E AA
	8.0	- 8E AA
	10.0	- 10E AA
	12.0	- 12E AA
	14.0	- 14E AA
	16.0	- 16E AA

øA= .98 B= 1.65

NBS10		
	Clamping Size ød	Model
INCH SIZE	.125	NBC10- 1/8E AA
	.187	-3/16E AA
	.250	- 1/4E AA
METRIC SIZE	.375	- 3/8E AA
	3.0	NBC10- 3E AA
	4.0	- 4E AA
	5.0	- 5E AA
	6.0	- 6E AA
	8.0	- 8E AA
	10.0	- 10E AA

øA= .62 B= 1.26

NBS20		
	Clamping Size ød	Model
INCH SIZE	.125	NBC20- 1/8E AA
	.187	-3/16E AA
	.250	- 1/4E AA
	.375	- 3/8E AA
	.500	- 1/2E AA
	.625	- 5/8E AA
METRIC SIZE	.750	- 3/4E AA
	3.0	NBC20- 3E AA
	4.0	- 4E AA
	5.0	- 5E AA
	6.0	- 6E AA
	8.0	- 8E AA
	10.0	- 10E AA
	12.0	- 12E AA
	14.0	- 14E AA
	16.0	- 16E AA
	20.0	- 20E AA

øA= 1.10 B= 1.77

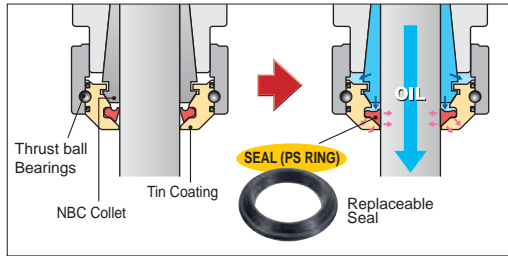
1. The tolerance of the cutting tool shank must be within h7.

NEW BABY CHUCK PAT.

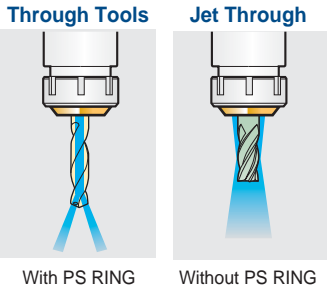


US Patent No. 5,975,817
US Patent No. 4,817,972

BABY PERFECT SEAL PAT. Sealed collet nut for coolant-through tools



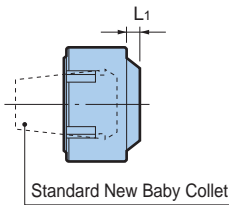
2-way coolant



Reliable coolant supply to the tool tip!

Unique design increases sealing performance with higher coolant pressure to create a "perfect seal".

Remove the PS Ring, to supply coolant to the cutting tool periphery.



Model Description

- BPS** 6 **K** - **03035**
- Tool shank dia. clamping range: $\varnothing 3 - \varnothing 3.5\text{mm}$ ($\varnothing .118" - \varnothing .138"$)
- Body size
- Baby Perfect Seal

NBS13 / NBS16 / NBS20 for BT shank type

Model	Cutter Shank Dia.	L1	Collet Model	
BPS13-03035	.118 - .138	.169	NBC13-3 - 4	
-0304	.118 - .157		-3 - 4.5	
-04045	.157 - .177		-4 - 5	
-0405	.157 - .197		-4 - 5.5	
-05055	.197 - .217		-5 - 6	
-0506	.197 - .236		-5 - 6.5	
-06065	.236 - .256	.181	-6 - 7	
-0607	.236 - .276		-6 - 7.5	
-07075	.276 - .295		-7 - 8	
-0708	.276 - .315		-7 - 8.5	
-08085	.315 - .335	.193	-8 - 9	
-0809	.315 - .354		-8 - 9.5	
-09095	.354 - .375		-9 - 10	
-0910	.354 - .394	.165	-9 - 10.5	
-10105	.394 - .413		-10 - 11	
-1011	.394 - .433		-10 - 11.5	
-11115	.433 - .453		-11 - 12	
-1112	.433 - .472		-11 - 12.5	
-12125	.472 - .492		-12 - 13	
-1213	.472 - .512	.157	-12 - 13	
BPS16-03035	.118 - .138		NBC16-3 - 4	
-0304	.118 - .157		-3 - 4.5	
-04045	.157 - .177		-4 - 5	
-0405	.157 - .197		-4 - 5.5	
-05055	.197 - .217		-5 - 6	
-0506	.197 - .236		-5 - 6.5	
-06065	.236 - .256		.169	-6 - 7
-0607	.236 - .276			-6 - 7.5
-07075	.276 - .295			-7 - 8
-0708	.276 - .315		.181	-7 - 8.5
-08085	.315 - .335			-8 - 9
-0809	.315 - .354	-8 - 9.5		
-09095	.354 - .375	.201	-9 - 10	
-0910	.354 - .394		-9 - 10.5	
-10105	.394 - .413		-10 - 11	
-1011	.394 - .433		-10 - 11.5	
-11115	.433 - .453		-11 - 12	
-1112	.433 - .472		-11 - 12.5	
-12125	.472 - .492	.161	-12 - 13	
-1213	.472 - .512		-12 - 13.5	
-1314	.512 - .551		-13 - 14.5	
-1415	.551 - .591		-14 - 15.5	
-1516	.591 - .630	.157	-15 - 16	
BPS20-03035	.118 - .138		NBC20-3 - 4	
-0304	.118 - .157		-3 - 4.5	
-04045	.157 - .177		-4 - 5	
-0405	.157 - .197		-4 - 5.5	
-05055	.197 - .217		-5 - 6	
-0506	.197 - .236		-5 - 6.5	
-06065	.236 - .256		.169	-6 - 7
-0607	.236 - .276			-6 - 7.5
-07075	.276 - .295			-7 - 8
-0708	.276 - .315		.181	-7 - 8.5
-08085	.315 - .335			-8 - 9
-0809	.315 - .354	-8 - 9.5		
-09095	.354 - .375	.201	-9 - 10	
-0910	.354 - .394		-9 - 10.5	
-10105	.394 - .413		-10 - 11	
-1011	.394 - .433		-10 - 11.5	
-11115	.433 - .453		-11 - 12	
-1112	.433 - .472		-11 - 12.5	
-12125	.472 - .492	.205	-12 - 13	
-1213	.472 - .512		-12 - 13.5	
-1314	.512 - .551		-13 - 14.5	
-1415	.551 - .591		-14 - 15.5	
-1516	.591 - .630	.181	-15 - 16.5	
-1617	.630 - .669		-16 - 17.5	
-1718	.669 - .709		-17 - 18.5	
-1819	.709 - .750		-18 - 19.5	
-1920	.751 - .787		-19 - 20	

NBS 6K / NBS 8K for CAT/ST shank type

Model	Cutter Shank Dia.	L1	Collet Model
BPS6 K-03035	.118 - .138	.091	NBC 6-3 - 3.75
-0304	.118 - .157		-3 - 4.25
-04045	.157 - .177		-4 - 4.75
-0405	.157 - .197		-4 - 5.25
-05055	.197 - .217		-5 - 5.75
-0506	.197 - .236		-5 - 6
BPS8 K-03035	.118 - .138	.154	NBC 8-3 - 4
-0304	.118 - .157		-3 - 4.5
-04045	.157 - .177		-4 - 5
-0405	.157 - .197		-4 - 5.5
-05055	.197 - .217		-5 - 6
-0506	.197 - .236		-5 - 6.5
-06065	.236 - .256	.134	-6 - 7
-0607	.236 - .276		-6 - 7.5
-07075	.276 - .295		-7 - 8
-0708	.276 - .315	.138	-7 - 8



CAUTION

BPS6 and BPS8 are not interchangeable with BPS6K and BPS8K, respectively.

NBS 6 / NBS 8 / NBS10 for BT shank type

Model	Cutter Shank Dia.	L1	Collet Model
BPS 6-03035	.118 - .138	.091	NBC 6-3 - 3.75
-0304	.118 - .157		-3 - 4.25
-04045	.157 - .177		-4 - 4.75
-0405	.157 - .197		-4 - 5.25
-05055	.197 - .217		-5 - 5.75
-0506	.197 - .236		-5 - 6
BPS 8-03035	.118 - .138	.154	NBC 8-3 - 4
-0304	.118 - .157		-3 - 4.5
-04045	.157 - .177		-4 - 5
-0405	.157 - .197		-4 - 5.5
-05055	.197 - .217		-5 - 6
-0506	.197 - .236		-5 - 6.5
-06065	.236 - .256	.134	-6 - 7
-0607	.236 - .276		-6 - 7.5
-07075	.276 - .295		-7 - 8
-0708	.276 - .315	.138	-7 - 8
BPS10-03035	.118 - .138		NBC10-3 - 4
-0304	.118 - .157		-3 - 4.5
-04045	.157 - .177	-4 - 5	
-0405	.157 - .197	-4 - 5.5	
-05055	.197 - .217	-5 - 6	
-0506	.197 - .236	-5 - 6.5	
-06065	.236 - .256	.169	-6 - 7
-0607	.236 - .276		-6 - 7.5
-07075	.276 - .295		-7 - 8
-0708	.276 - .315	.181	-7 - 8.5
-08085	.315 - .335		-8 - 9
-0809	.315 - .354		-8 - 9.5
-09095	.354 - .375	.201	-9 - 10
-0910	.354 - .394		-9 - 10.5
-10105	.394 - .413		-10 - 11
-1011	.394 - .433		-10 - 11.5
-11115	.433 - .453		-11 - 12
-1112	.433 - .472		-11 - 12.5
-12125	.472 - .492	.205	-12 - 13
-1213	.472 - .512		-12 - 13.5
-1314	.512 - .551		-13 - 14.5
-1415	.551 - .591		-14 - 15.5
-1516	.591 - .630	.181	-15 - 16.5
-1617	.630 - .669		-16 - 17.5
-1718	.669 - .709		-17 - 18.5
-1819	.709 - .750		-18 - 19.5
-1920	.751 - .787		-19 - 20

• 1 pce. of PS Ring is included.

BABY PERFECT SEAL

PS RING

- Spare seal for Baby Perfect Seal



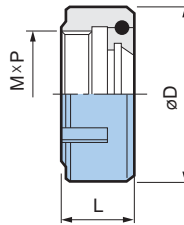
(Replacement of PS Ring is recommended when coolant leaks due to damage of the PS Ring.)

1 package contains
5 pcs. (1 size).

Model	Corresponding BPS Model	Model	Corresponding BPS Model
PS-0304	BPS□-03035, 0304	PS-1314	BPS□-1314
0405	-04045, 0405	1415	-1415
0506	-05055, 0506	1516	-1516
0607	-06065, 0607	1617	-1617
0708	-07075, 0708	1718	-1718
0809	-08085, 0809	1819	-1819
0910	-09095, 0910	1920	-1920
1011	-10105, 1011		
1112	-11115, 1112		
1213	-12125, 1213		

COLLET NUT PAT. US Patent No. 4,817,972

- Collet Nut includes a thrust bearing with steel balls to prevent torsional stress on a collet to achieve a smooth, dependable clamping force.



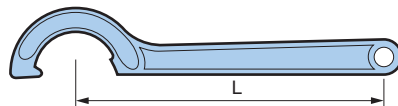
Model	øD	L	M x P	Chuck Model
NBN 6K	.79	.37	13.2 x 1	NBS 6K
NBN 6			12 x 1	NBS 6
NBN 8K	.99	.45	17 x 1	NBS 8K
NBN 8			16 x 1	NBS 8
NBN 10	1.18	.49	21 x 1	NBS10
NBN 13	1.38	.63	26 x 1	NBS13
NBN 16	1.65	.63	32 x 1	NBS16
NBN 20	1.81	.63	36 x 1	NBS20

CAUTION

BPS6 and BPS8 are not interchangeable with BPS6K and BPS8K, respectively.

WRENCH

- The length and shape are exclusively designed to provide correct tightening torque.



Model	L	Nut Model
NBK 6	2.56	NBN6K, NBN6, BPS6K, BPS6
NBK 8	3.70	NBN8K, NBN8, BPS8K, BPS8
NBK 10	4.09	NBN10, BPS10
NBK 13	4.45	NBN13, BPS13
NBK 16	4.80	NBN16, BPS16
NBK 20	5.16	NBN20, BPS20

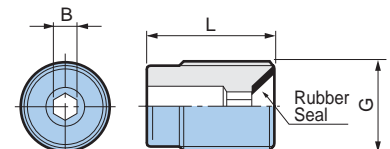
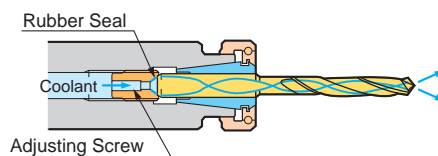
ADJUSTING SCREW

- For adjusting the projection length of a cutting tool.



The inner taper of the Adjusting Screw incorporates a rubber seal for cutting tools with coolant-through holes.

For sealing purposes only, Adjusting Screws are not required when Coolant Collets or Baby Perfect Seal Nuts are used.



Model	G	L	B (mm)	Chuck Model
NBA 6B	M 7	.47	2	NBS 6K, NBS 6
NBA 8B	M 9	.51	2.5	NBS 8K, NBS 8
NBA10B	M11	.63	3	NBS10
NBA13B	M14	.79	4	NBS13
NBA16B	M18	.79	4	NBS16
NBA20B	M21	.79	4	NBS20

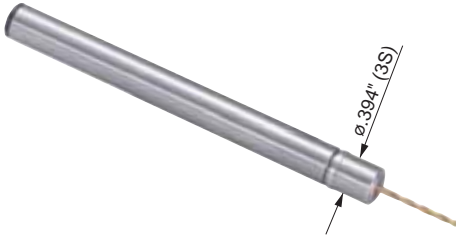
NEW BABY CHUCK

MEGA MICRO CHUCK

ULTRA SMALL NUT ($\phi .394"$) AND COLLET
COMPACT IN SIZE AND PRECISE IN ACCURACY



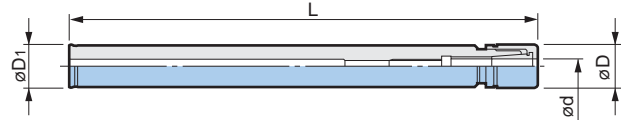
STRAIGHT SHANK TYPE Clamping Range : $\phi .018"$ - $.238"$



● Model Description

ST.375 - **MEGA** **3** **S** - **120**

- L= projection length (mm)
- Micro Chuck
- Mega Chuck Series
- Straight shank size (inch)



Model	ϕd	ϕD	$\phi D1$	L	Collet	Nut	Wrench	Weight (lbs)
ST .375-MEGA 3S-120	.018 - .128	.394	.375	4.724	NBC3S-□	MGN3S	MGR10	.06
ST .500-MEGA 4S-130	.018 - .159	.472	.500	5.118	NBC4S-□	MGN4S	MGR12	.12
				6.299				.15
ST .625-MEGA 6S-160	.018 - .238	.551	.625	6.299	NBC6S-□	MGN6S	MGR14	.23
				7.874				.27

1. MGNS Nut is included. Collet and Wrench are optional. 2. Weights do not include a collet.

ER COLLET TYPE / DIN6499 Form A Clamping Range : $\phi .018"$ - $.238"$

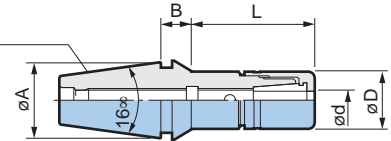


● Model Description

ER16 - **MEGA** **3** **S** - **16**

- L= length (mm)
- Micro Chuck
- Mega Chuck Series
- ER type

ER COLLET TYPE
DIN6499 Form A

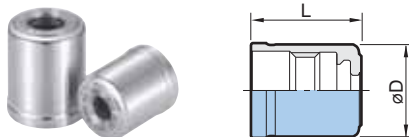


Model	ϕd	ϕD	L	ϕA	B	Collet	Nut	Wrench	Weight (lbs)
ER16-MEGA 3S-16	.018 - .128	.394	.63	.630	.248	NBC3S-□	MGN3S	MGR10	.09
			1.18						.11
			1.97						.11
ER16-MEGA 4S-17	.018 - .159	.472	.67	.630	.248	NBC4S-□	MGN4S	MGR12	.09
			1.18						.11
			1.97						.13
ER20-MEGA 6S-20	.018 - .238	.551	.79	.787	.283	NBC6S-□	MGN6S	MGR14	.15
			1.38						.13
			1.97						.20

1. MGNS Nut is included. Collet and Wrench are optional. 2. Weights do not include a collet.

MICRO NUT

- Slender design eliminates wind noise and vibration while maintaining strength.



Model	ϕD	L	Chuck Model
MGN3S	.394	.512	MEGA3S
MGN4S	.472	.571	MEGA4S
MGN6S	.551	.669	MEGA6S

MEGA WRENCH PAT.

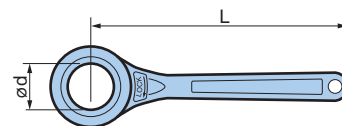
US Patent No. 5,596,913

TIGHTENING WRENCH WITH ONE-WAY CLUTCH



- Firm tightening by one way clutch system with roller bearings.

Tightening torque is easily distributed on the entire outer surface of the nut. The ratchet function easily tightens and loosens the nut.



Model	ϕd	L	Chuck Model
MGR10	.394	3.54	MEGA3S
MGR12	.472		MEGA4S
MGR14	.551		MEGA6S

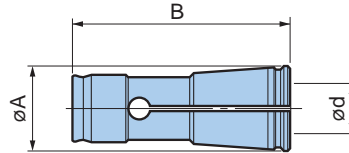
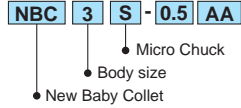
MICRO COLLET



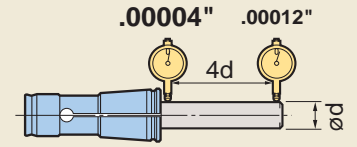
ULTRA SMALL AND HIGH PRECISION COLLET

● Strong clamping force and .00004" T.I.R. at the collet nose, exclusively for end mills.

● Model Description



● T.I.R. of collet



Collet Class	T.I.R.	
	At nose	At end of test bar
AA	.00004"	.00012"

MEGA3S	
Model	Clamping Range ød
NBC3S-0.5 AA	.018 - .022
-0.6 AA	.022 - .026
-0.7 AA	.026 - .030
-0.8 AA	.030 - .033
-0.9 AA	.033 - .037
-1.0 AA	.037 - .041
-1.1 AA	.041 - .045
-1.2 AA	.045 - .049
-1.3 AA	.049 - .053
-1.4 AA	.053 - .057
-1.5 AA	.057 - .061
-1.6 AA	.061 - .065
-1.7 AA	.065 - .069
-1.8 AA	.069 - .073
-1.9 AA	.073 - .077
-2.0 AA	.077 - .081
-2.1 AA	.081 - .085
-2.2 AA	.085 - .089
-2.3 AA	.089 - .093
-2.4 AA	.093 - .096
-2.5 AA	.096 - .100
-2.6 AA	.100 - .104
-2.7 AA	.104 - .108
-2.8 AA	.108 - .112
-2.9 AA	.112 - .116
-3.0 AA	.116 - .120
-3.1 AA	.120 - .124
-3.175 AA	.123 - .127
-3.2 AA	.124 - .128

øA= .239 B= .740

MEGA4S	
Model	Clamping Range ød
NBC4S-0.5 AA	.018 - .022
-0.6 AA	.022 - .026
-0.7 AA	.026 - .030
-0.8 AA	.030 - .033
-0.9 AA	.033 - .037
-1.0 AA	.037 - .041
-1.1 AA	.041 - .045
-1.2 AA	.045 - .049
-1.3 AA	.049 - .053
-1.4 AA	.053 - .057
-1.5 AA	.057 - .061
-1.6 AA	.061 - .065
-1.7 AA	.065 - .069
-1.8 AA	.069 - .073
-1.9 AA	.073 - .077
-2.0 AA	.077 - .081
-2.1 AA	.081 - .085
-2.2 AA	.085 - .089
-2.3 AA	.089 - .093
-2.4 AA	.093 - .096
-2.5 AA	.096 - .100
-2.6 AA	.100 - .104
-2.7 AA	.104 - .108
-2.8 AA	.108 - .112
-2.9 AA	.112 - .116
-3.0 AA	.116 - .120
-3.1 AA	.120 - .124
-3.175 AA	.123 - .127
-3.2 AA	.124 - .128
-3.3 AA	.128 - .132
-3.4 AA	.132 - .136
-3.5 AA	.136 - .140
-3.6 AA	.140 - .144
-3.7 AA	.144 - .148
-3.8 AA	.148 - .152
-3.9 AA	.152 - .156
-4.0 AA	.156 - .159

øA= .291 B= .886

MEGA6S			
Model	Clamping Range ød	Model	Clamping Range ød
NBC6S-0.5 AA	.018 - .022	NBC6S-4.1 AA	.159 - .163
-0.6 AA	.022 - .026	-4.2 AA	.163 - .167
-0.7 AA	.026 - .030	-4.3 AA	.167 - .171
-0.8 AA	.030 - .033	-4.4 AA	.171 - .175
-0.9 AA	.033 - .037	-4.5 AA	.175 - .179
-1.0 AA	.037 - .041	-4.6 AA	.179 - .183
-1.1 AA	.041 - .045	-4.7 AA	.183 - .187
-1.2 AA	.045 - .049	-4.7625 AA	.186 - .189
-1.3 AA	.049 - .053	-4.8 AA	.187 - .191
-1.4 AA	.053 - .057	-4.9 AA	.191 - .195
-1.5 AA	.057 - .061	-5.0 AA	.195 - .199
-1.6 AA	.061 - .065	-5.1 AA	.199 - .203
-1.7 AA	.065 - .069	-5.2 AA	.203 - .207
-1.8 AA	.069 - .073	-5.3 AA	.207 - .211
-1.9 AA	.073 - .077	-5.4 AA	.211 - .215
-2.0 AA	.077 - .081	-5.5 AA	.215 - .219
-2.1 AA	.081 - .085	-5.6 AA	.219 - .222
-2.2 AA	.085 - .089	-5.7 AA	.222 - .226
-2.3 AA	.089 - .093	-5.8 AA	.226 - .230
-2.4 AA	.093 - .096	-5.9 AA	.230 - .234
-2.5 AA	.096 - .100	-6.0 AA	.234 - .238
-2.6 AA	.100 - .104		
-2.7 AA	.104 - .108		
-2.8 AA	.108 - .112		
-2.9 AA	.112 - .116		
-3.0 AA	.116 - .120		
-3.1 AA	.120 - .124		
-3.175 AA	.123 - .127		
-3.2 AA	.124 - .128		
-3.3 AA	.128 - .132		
-3.4 AA	.132 - .136		
-3.5 AA	.136 - .140		
-3.6 AA	.140 - .144		
-3.7 AA	.144 - .148		
-3.8 AA	.148 - .152		
-3.9 AA	.152 - .156		
-4.0 AA	.156 - .159		

øA= .370 B= .965

NEW Hi-POWER MILLING CHUCK

BIG's original design of the slit structure (PAT.) supports heavy and finish end milling with high power and precision.

- The thick wall on a clamping part (e.g. 10mm thick for $\phi 32$) prevents chattering.

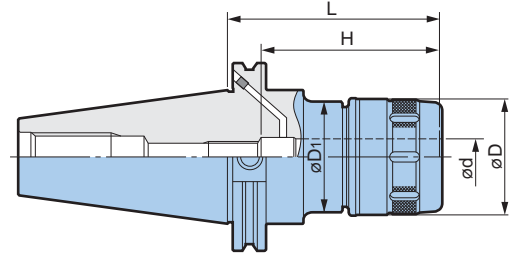


CAT SHANK SERIES CV40/CV50 Clamping Range : $\phi .750''$ - 1.500''

CV = ASME B5.50-1994



Coolant-Through Hole



Coolant Bores in Accordance to DIN69871/Form B ※

CV40/50 shank

● Model Description

CV40 - **HMC** **.750** - **3.5**

● L= projection length (in)

● Chucking size (in)

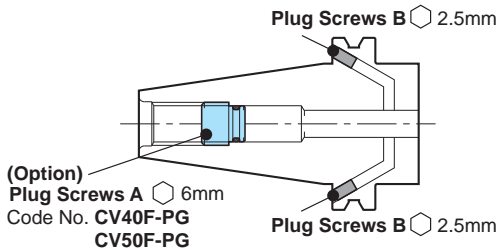
● New Hi-Power Milling Chuck

● CV shank No.

Model	ϕd	ϕD	$\phi D1$	L	H	Weight (lbs)
CV40-HMC .750-3.5	.750	2.05	2.08	3.50	3.34	3.64
-HMC1.000-3.5	1.000	2.44	2.47	3.50	3.42	4.19
-HMC1.250-4	1.250	2.76	2.80	4.00	3.54	4.74
CV50-HMC .750-4	.750	2.36	2.51	4.00	3.34	9.04
-6			2.56	6.00		11.14
-HMC1.000-4	1.000	2.44	2.47	4.00	3.54	9.15
-6				6.00		11.69
-HMC1.250-4	1.250	3.15	3.19	4.00	4.13	8.93
-6				6.00		14.00
-HMC1.500-4.5	1.500	3.90	3.93	4.50	4.21	13.23

1. Wrench and axial length adjusting screw must be ordered separately if required.
2. ※ Bores on Form B are sealed with set screws on delivery.

Plug Screw for flange through coolant



This Plug Screw A (option) prevents coolant leakage through retention knobs.

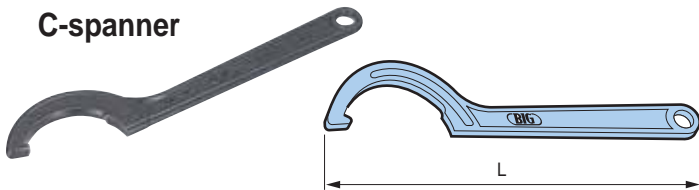
Bores on Form B are sealed with Plug Screw B.

- * Remove Plug Screws B (2 pcs.) from end face of flange.
- * Failure to use the Plug Screw "A" or other sealing method may result in coolant contamination of the spindle and lead to premature failure or accidents.

EXCLUSIVE WRENCH for New Hi-Power Milling Chuck

- NEW Hi-POWER MILLING CHUCK does not include a wrench. Wrench must be ordered separately.

C-spanner



Model	L	HMC Chuck Model
FK52- 55	8.66	BT30-HMC .750
		CV/BT40-HMC .750
FK58- 62	9.45	CV40-HMC1.000
		CV/BT50-HMC .750
		CV/BT50-HMC1.000
FK68- 75	10.24	CV/BT40-HMC1.250
FK80- 90	11.02	CV/BT50-HMC1.250
FK92-100	11.02	CV50-HMC1.500

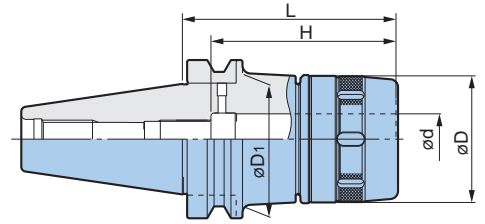
This wrench is available only for HMC chucks produced since April 1995.

BT SHANK SERIES BT30/BT40/BT50 Clamping Range : \varnothing .750" - 1.250"

BT = JIS B 6339



Coolant-Through Hole



BT30/40/50 shank

Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	H	Weight (lbs)
BT30-HMC .750-3	.750	2.05	2.08	3.00	2.79	2.09
BT40-HMC .750-3.5	.750	2.05	2.11	3.50	3.34	4.10
-HMC1.000-3.5	1.000	2.44	2.52	3.50	3.35	4.65
-HMC1.250-4	1.250	2.76	2.80	4.00	3.54	5.69
BT50-HMC .750-4	.750	2.36	2.44	4.00	3.34	10.54
-HMC1.000-4	1.000	2.44	2.52	4.00	3.35	10.69
-HMC1.250-4	1.250	3.15	3.19	4.00	4.13	12.44
-6				6.00		17.51

● Model Description

BT30 - **HMC** **.750** - **3**

- L= projection length (in)
- Clamping size (in)
- New Hi-Power Milling Chuck
- BT shank No.

1. Wrench and axial length adjusting screw must be ordered separately if required.
2. In case of spindle through coolant, the provided M4 set screw with sealing compound should be fitted to air vent.

STRAIGHT COLLET (Type "C")

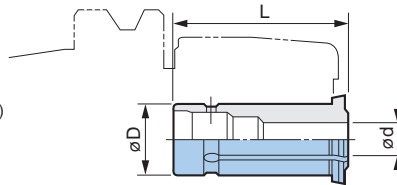
- Reduction sleeve for smaller diameter cutters.



● Model Description

C **.75** - **1/4**

- Inner dia (in)
- Outer dia (in)
- Collet type "C"

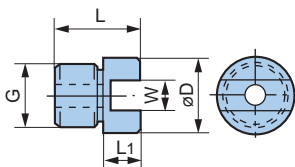


Model	$\varnothing d$	$\varnothing D$	L
C .75 - 1/4	.250	.750	2.36
- 5/16	.312		
- 3/8	.375		
- 7/16	.437		
- 1/2	.500		
- 9/16	.562		
- 5/8	.625		

Model	$\varnothing d$	$\varnothing D$	L
C1.00 - 1/4	.250	1.000	2.70
- 3/8	.375		
- 1/2	.500		
- 5/8	.625		
- 3/4	.750		

Model	$\varnothing d$	$\varnothing D$	L
C1.25 - 1/4	.250	1.250	2.91
- 5/16	.312		
- 3/8	.375		
- 7/16	.437		
- 1/2	.500		
- 9/16	.562		
- 5/8	.625		
-11/16	.687		
- 3/4	.750		
- 7/8	.875		
-15/16	.937		
-1	1.000		

ADJUSTING SCREW



Model	$\varnothing D$	L	L1	G	W	HMC Chuck Model
HMA-M16	.748	1.063	.236	M16P1.5	.315	HMC.750, HMC1.000
HMA-M16S	.748	1.063	.236	M16P1.5	.394	CV/BT40-HMC1.250
HMA-M24	1.181	1.417	.374	M24P1.5	.394	CV/BT50-HMC1.250
						CV50-HMC1.500

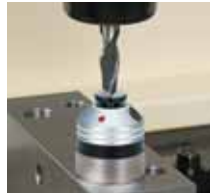
BASE MASTER



Model **BM-2**

ULTRA SENSITIVE DETECTION ACCURACY OF .00004" DECREASES TOOL SET UP TIME SIGNIFICANTLY WHILE ASSURING TOOLS ARE NOT BROKEN DUE TO TOUCHING OFF

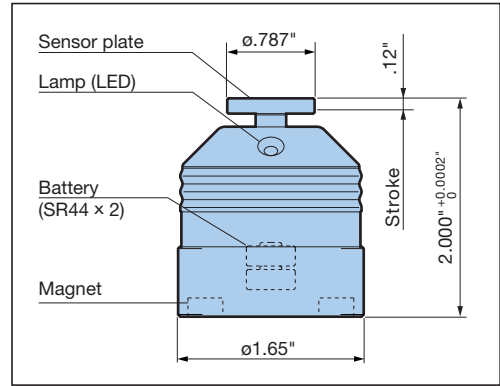
- Compact design for fast and easy handling
- Integrated circuit assures dependable lighting
- Safety over-travel of sensor plate prevents damage to tools



On Machining Centers and Milling Machines



On CNC Lathes



Sensor pressure	10.56 oz
Touch signal	Lamp on
Battery type	SR44
Battery life	10 hr. (Continuous use)
Weight	7.04 oz

BASE MASTER SERIES

Integrated electrical contact switch for use with any non-conductive material such as ceramic.



Integrated contact switch

BASE MASTER GOLD

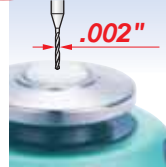
- Repeatability $\pm .00004"$
- Ceramic sensor plate

Model **BM-2G**

World's first! Pre-set .002" dia. tools. Considerable reduction of set-up time for small dia. tools.



Integrated contact switch



BASE MASTER MICRO

- Repeatability $\pm .00004"$
- Ultra-sensitive contact plate prevents damage to micro size cutting tools
- Ceramic sensor plate

Model **BM-2M**

BIG MEGA CHUCK SERIES is recommended for high speed cutting

HIGH SPEED MEGA CHUCK SERIES

All components are specifically designed to be ideal for high speed cutting.

MAX
40,000
RPM

Patented: Japan, USA, Canada, Germany, UK, France, Italy, Taiwan, and South Korea

BIG-PLUS STANDARD TOOL HOLDERS



BIG-PLUS
SPINDLE SYSTEM PAT.
DUAL CONTACT

US Patent No. 5,352,073

For MEGA CHUCK SERIES, please refer to BIG-PLUS catalog No. EXi48-4

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CATALOG No. EXi300-0308-3