



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

**NEW Hi-POWER  
MILLING CHUCK**

PAT.

**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.

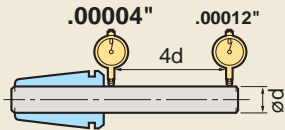
### Highest precision collet of $.00004''$ T.I.R.



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           | <b><math>.00004''</math></b> | $.00012''$         |

### For high pressure coolant supply

Max. 1,000 PSI



**BABY PERFECT SEAL** PAT.

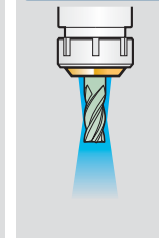
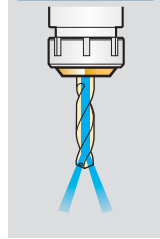
US Patent No. 5,975,817

P9

#### 2way coolant

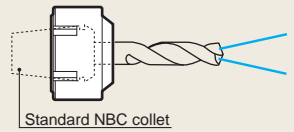
Through Tools

Jet Through

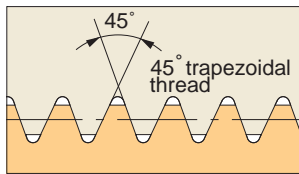
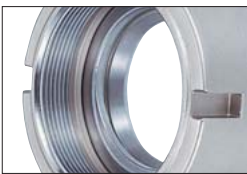


#### Coolant supply through tool tip

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  $45^\circ$  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

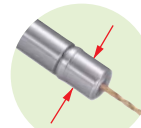
- A variety of steep taper shanks and straight shanks are available. Very short and extra long projection lengths are also available.



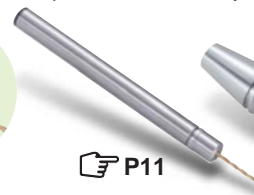
### MEGA MICRO CHUCK SERIES

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

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



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



P11

ER COLLET TYPE  
DIN6499 Form A

P11

# NEW Hi-POWER MILLING CHUCK

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



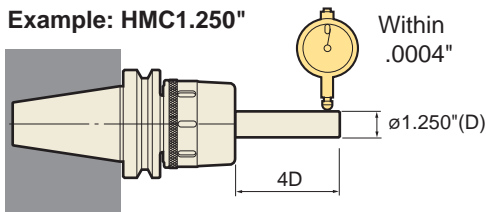
## Powerful Clamping For Heavy Cutting

Fine slots and needle bearings assure powerful and precise clamping.

P13

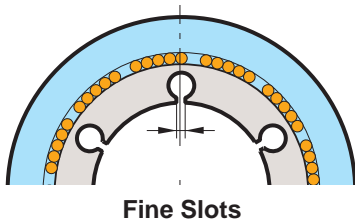
### High concentricity achieves low T.I.R.

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



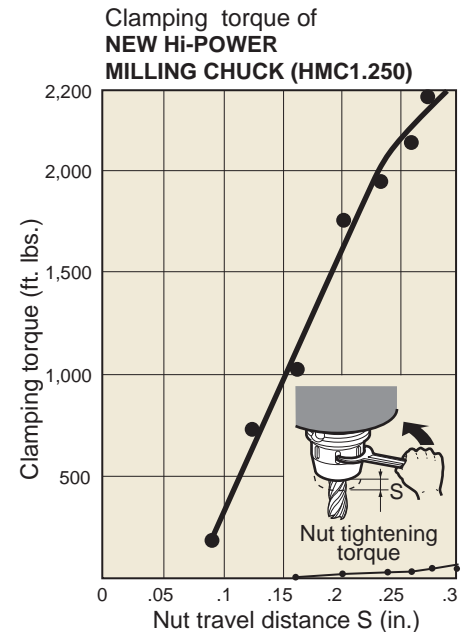
### Secure and reliable slot design

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.



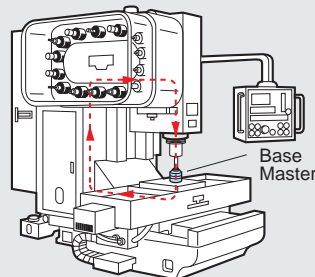
## BASE MASTER

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

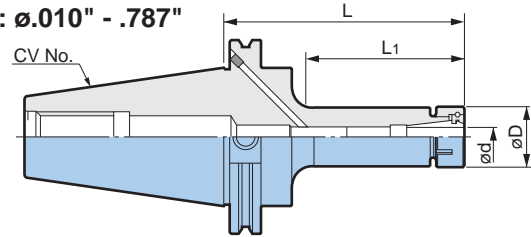


● Model Description

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

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

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) |
|-----------------------|-----------------|-----------------|------|------|---------|--------|--------|--------------|
| <b>CV40-NBS6K-2.5</b> | .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         |
| <b>-NBS8K-2.5</b>     | .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         |
| <b>-NBS10-2.5</b>     | .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         |
| <b>-NBS13-2.5</b>     | .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         |
| <b>-NBS16-2.5</b>     | .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         |
| <b>-NBS20-2.5</b>     | .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         |
| <b>CV50-NBS6K-3.5</b> | .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         |
| <b>-NBS8K-3.5</b>     | .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         |
| <b>-NBS10-3.5</b>     | .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         |
| <b>-NBS13-3.5</b>     | .098 - .512     | 1.38            | 8.00 | 6.03 | NBC13-d | NBN13  | NBK13  | 9.04         |
| -5                    |                 |                 | 3.50 | 1.72 |         |        |        | 8.16         |
| -6                    |                 |                 | 5.00 | 3.22 |         |        |        | 8.60         |
| -8                    |                 |                 | 6.00 | 4.03 |         |        |        | 9.04         |
| <b>-NBS16-3.5</b>     | .098 - .630     | 1.65            | 8.00 | 6.03 | NBC16-d | NBN16  | NBK16  | 9.92         |
| -5                    |                 |                 | 3.50 | 1.72 |         |        |        | 7.94         |
| -6                    |                 |                 | 5.00 | 3.22 |         |        |        | 8.60         |
| -8                    |                 |                 | 6.00 | 4.22 |         |        |        | 9.04         |
| <b>-NBS20-3.5</b>     | .098 - .787     | 1.81            | 8.00 | 6.22 | NBC20-d | NBN20  | NBK20  | 10.36        |
| -5                    |                 |                 | 3.50 | 1.80 |         |        |        | 8.16         |
| -6                    |                 |                 | 5.00 | 3.22 |         |        |        | 8.82         |
| -8                    |                 |                 | 6.00 | 4.22 |         |        |        | 9.37         |
|                       |                 |                 | 8.00 | 6.22 |         |        |        | 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**

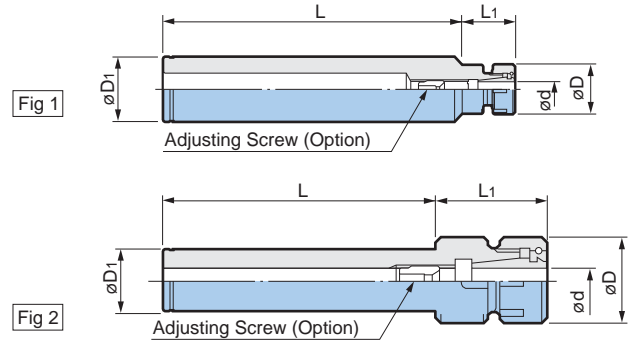
# STRAIGHT SHANK SERIES Clamping Range : $\varnothing$ .010" - .787"

**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. | ød          | øD   | øD1   | L    | L1   | Collet  | Nut    | Wrench | Weight (lbs) |
|--------------------------|------|-------------|------|-------|------|------|---------|--------|--------|--------------|
| <b>ST .750-NBS 6K- 4</b> | 1    | .010 - .236 | .79  | .750  | 4.00 | .94  | NBC 6-d | NBN 6K | NBK 6  | .60          |
| 6.00                     |      |             |      |       | .86  |      |         |        |        |              |
| 10.00                    |      |             |      |       | 1.41 |      |         |        |        |              |
| <b>-NBS 8K- 4</b>        | 2    | .020 - .315 | .99  | .750  | 4.00 | 1.02 | NBC 8-d | NBN 8K | NBK 8  | .64          |
| 6.00                     |      |             |      |       | .90  |      |         |        |        |              |
| 10.00                    |      |             |      |       | 1.46 |      |         |        |        |              |
| <b>-NBS10 - 4</b>        | 2    | .059 - .394 | 1.18 | .750  | 4.00 | 1.10 | NBC10-d | NBN10  | NBK10  | .71          |
| 6.00                     |      |             |      |       | .97  |      |         |        |        |              |
| 10.00                    |      |             |      |       | 1.52 |      |         |        |        |              |
| <b>ST1.000-NBS 8K- 6</b> | 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 |      |         |        |        |              |
| <b>-NBS10 - 6</b>        | 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 |      |         |        |        |              |
| <b>-NBS13 - 6</b>        | 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 |      |         |        |        |              |
| <b>ST1.250-NBS10 - 6</b> | 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 |      |         |        |        |              |
| <b>-NBS13 - 6</b>        | 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 |      |         |        |        |              |
| <b>-NBS16 - 6</b>        | 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 |      |         |        |        |              |
| <b>-NBS20 - 6</b>        | 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 :  $\varnothing.010'' - .787''$

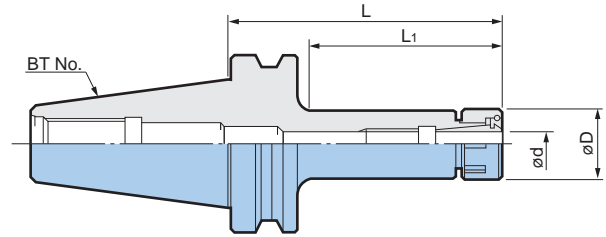
BT=JIS B 6339



● Model Description

**BT30** - **NBS** **6** - **45**

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



## BT30 shank

| Model                 | $\varnothing d$ | $\varnothing D$ | L    | L <sub>1</sub> | Collet  | Nut   | Wrench | Weight (lbs) |
|-----------------------|-----------------|-----------------|------|----------------|---------|-------|--------|--------------|
| <b>BT30-NBS 6- 45</b> | .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         |
| <b>-NBS 8- 45</b>     | .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         |
| <b>-NBS10- 45</b>     | .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         |
| <b>-NBS13- 45</b>     | .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         |
| <b>-NBS16- 45</b>     | .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         |
| <b>-NBS20- 60</b>     | .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    | L1   | Collet  | Nut   | Wrench | Weight (lbs) |
|-----------------------|-------------|------|------|------|---------|-------|--------|--------------|
| <b>BT40-NBS 6- 60</b> | .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         |
| <b>-NBS 8- 60</b>     | .020 - .315 | .99  | 2.36 | .91  | NBC 8-d | NBN 8 | NBK 8  | 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         |
| <b>-NBS10- 60</b>     | .059 - .394 | 1.18 | 2.36 | .91  | NBC10-d | NBN10 | NBK10  | 2.43         |
| - 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         |
| <b>-NBS13- 60</b>     | .098 - .512 | 1.38 | 2.36 | 1.10 | NBC13-d | NBN13 | NBK13  | 2.65         |
| - 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         |
| <b>-NBS16- 60</b>     | .098 - .630 | 1.65 | 2.36 | 1.06 | NBC16-d | NBN16 | NBK16  | 2.65         |
| - 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         |
| <b>-NBS20- 60</b>     | .098 - .787 | 1.81 | 2.36 | 1.10 | NBC20-d | NBN20 | NBK20  | 2.65         |
| - 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

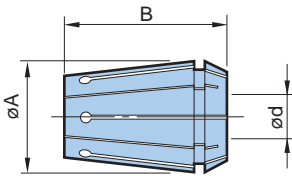
 For WRENCH: P10

 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           | <b>.00004"</b> | <b>.00012"</b>     |

- Model Description
- NBC 6 - 0.5 AA**
- Max. capacity (mm)
  - Main body size
  - New Baby Collet

| 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

| 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

| 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

1. Collapsibility is .010" for NBC 6 and .020" for NBC 8 to NBC20.
2. 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 |
|----------------|-------------|-----------------------|----------------------------|-------------|
| <b>SNBC 6</b>  | .019 – .236 | 22 (.010" increments) | 3.15 X 7.28                | NBS6/NBS6K  |
| <b>SNBC 8</b>  | .019 – .315 | 15 (.020" increments) | 3.15 X 7.28                | NBS8/NBS8K  |
| <b>SNBC 10</b> | .059 – .393 | 17 (.020" increments) | 4.53 X 10.63               | NBS10       |
| <b>SNBC 13</b> | .098 – .511 | 21 (.020" increments) | 4.53 X 10.63               | NBS13       |
| <b>SNBC 16</b> | .098 – .629 | 27 (.020" increments) | 7.48 X 14.57               | NBS16       |
| <b>SNBC 20</b> | .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

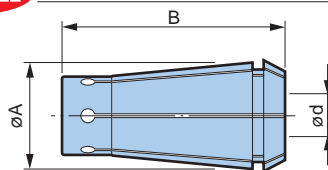
- The wooden box is convenient for storage of collets.



| Model         | Number of Holes | Case Size (Width X Length) | Collet Model |
|---------------|-----------------|----------------------------|--------------|
| <b>NBB 6</b>  | 24              | 3.15 X 7.28                | NBC 6        |
| <b>NBB 8</b>  | 24              | 3.15 X 7.28                | NBC 8        |
| <b>NBB 10</b> | 24              | 4.53 X 10.63               | NBC10        |
| <b>NBB 13</b> | 24              | 4.53 X 10.63               | NBC13        |
| <b>NBB 16</b> | 36              | 7.48 X 14.57               | NBC16        |
| <b>NBB 20</b> | 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
- Clamping size (in)
- Body size
- New Baby Collet
- END MILL TYPE

| NBS 6 / NBS6K |                        |                       |
|---------------|------------------------|-----------------------|
|               | Clamping Size $\phi d$ | Model                 |
| INCH SIZE     | .125                   | <b>NBC 6- 1/8E AA</b> |
|               | .187                   | <b>-3/16E AA</b>      |
| METRIC SIZE   | 3.0                    | <b>NBC 6- 3E AA</b>   |
|               | 4.0                    | <b>- 4E AA</b>        |
|               | 5.0                    | <b>- 5E AA</b>        |
|               | 6.0                    | <b>- 6E AA</b>        |

$\phi A = .36$   $B = .67$

| NBS13       |                        |                       |
|-------------|------------------------|-----------------------|
|             | Clamping Size $\phi d$ | Model                 |
| INCH SIZE   | .125                   | <b>NBC13- 1/8E AA</b> |
|             | .187                   | <b>-3/16E AA</b>      |
|             | .250                   | <b>- 1/4E AA</b>      |
|             | .375                   | <b>- 3/8E AA</b>      |
| METRIC SIZE | .500                   | <b>- 1/2E AA</b>      |
|             | 3.0                    | <b>NBC13- 3E AA</b>   |
|             | 4.0                    | <b>- 4E AA</b>        |
|             | 5.0                    | <b>- 5E AA</b>        |
|             | 6.0                    | <b>- 6E AA</b>        |
|             | 8.0                    | <b>- 8E AA</b>        |
|             | 10.0                   | <b>- 10E AA</b>       |
|             | 12.0                   | <b>- 12E AA</b>       |

$\phi A = .78$   $B = 1.5$

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

| NBS 8 / NBS8K |                        |                       |
|---------------|------------------------|-----------------------|
|               | Clamping Size $\phi d$ | Model                 |
| INCH SIZE     | .125                   | <b>NBC 8- 1/8E AA</b> |
|               | .187                   | <b>-3/16E AA</b>      |
|               | .250                   | <b>- 1/4E AA</b>      |
| METRIC SIZE   | 3.0                    | <b>NBC 8- 3E AA</b>   |
|               | 4.0                    | <b>- 4E AA</b>        |
|               | 5.0                    | <b>- 5E AA</b>        |
|               | 6.0                    | <b>- 6E AA</b>        |
|               | 8.0                    | <b>- 8E AA</b>        |

$\phi A = .47$   $B = .78$

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

$\phi A = .98$   $B = 1.65$

| NBS10       |                        |                       |
|-------------|------------------------|-----------------------|
|             | Clamping Size $\phi d$ | Model                 |
| INCH SIZE   | .125                   | <b>NBC10- 1/8E AA</b> |
|             | .187                   | <b>-3/16E AA</b>      |
|             | .250                   | <b>- 1/4E AA</b>      |
| METRIC SIZE | .375                   | <b>- 3/8E AA</b>      |
|             | 3.0                    | <b>NBC10- 3E AA</b>   |
|             | 4.0                    | <b>- 4E AA</b>        |
|             | 5.0                    | <b>- 5E AA</b>        |
|             | 6.0                    | <b>- 6E AA</b>        |
|             | 8.0                    | <b>- 8E AA</b>        |
|             | 10.0                   | <b>- 10E AA</b>       |

$\phi A = .62$   $B = 1.26$

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

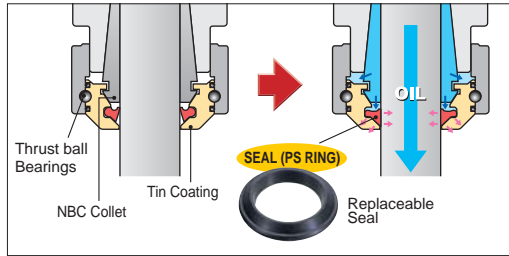
$\phi A = 1.10$   $B = 1.77$

# NEW BABY CHUCK PAT.

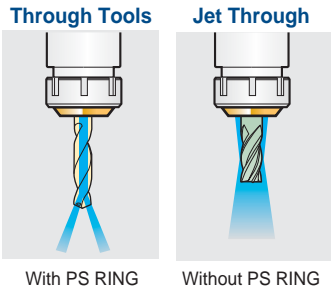


US Patent No. 5,975,817  
US Patent No. 4,817,972

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



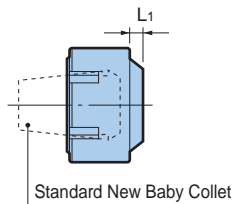
### 2-way coolant



### 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

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

| Model               | Cutter Shank Dia. | L1   | Collet Model   |
|---------------------|-------------------|------|----------------|
| <b>BPS6 K-03035</b> | .118 - .138       | .091 | NBC 6-3 - 3.75 |
| <b>-0304</b>        | .118 - .157       |      | -3 - 4.25      |
| <b>-04045</b>       | .157 - .177       |      | -4 - 4.75      |
| <b>-0405</b>        | .157 - .197       |      | -4 - 5.25      |
| <b>-05055</b>       | .197 - .217       |      | -5 - 5.75      |
| <b>-0506</b>        | .197 - .236       |      | -5 - 6         |
| <b>BPS8 K-03035</b> | .118 - .138       | .154 | NBC 8-3 - 4    |
| <b>-0304</b>        | .118 - .157       |      | -3 - 4.5       |
| <b>-04045</b>       | .157 - .177       |      | -4 - 5         |
| <b>-0405</b>        | .157 - .197       |      | -4 - 5.5       |
| <b>-05055</b>       | .197 - .217       |      | -5 - 6         |
| <b>-0506</b>        | .197 - .236       |      | -5 - 6.5       |
| <b>-06065</b>       | .236 - .256       | .134 | -6 - 7         |
| <b>-0607</b>        | .236 - .276       |      | -6 - 7.5       |
| <b>-07075</b>       | .276 - .295       |      | -7 - 8         |
| <b>-0708</b>        | .276 - .315       |      | -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   |             |
|--------------------|-------------------|----------|----------------|-------------|
| <b>BPS 6-03035</b> | .118 - .138       | .091     | NBC 6-3 - 3.75 |             |
| <b>-0304</b>       | .118 - .157       |          | -3 - 4.25      |             |
| <b>-04045</b>      | .157 - .177       |          | -4 - 4.75      |             |
| <b>-0405</b>       | .157 - .197       |          | -4 - 5.25      |             |
| <b>-05055</b>      | .197 - .217       |          | -5 - 5.75      |             |
| <b>-0506</b>       | .197 - .236       |          | -5 - 6         |             |
| <b>BPS 8-03035</b> | .118 - .138       | .154     | NBC 8-3 - 4    |             |
| <b>-0304</b>       | .118 - .157       |          | -3 - 4.5       |             |
| <b>-04045</b>      | .157 - .177       |          | -4 - 5         |             |
| <b>-0405</b>       | .157 - .197       |          | -4 - 5.5       |             |
| <b>-05055</b>      | .197 - .217       |          | -5 - 6         |             |
| <b>-0506</b>       | .197 - .236       |          | -5 - 6.5       |             |
| <b>-06065</b>      | .236 - .256       | .134     | -6 - 7         |             |
| <b>-0607</b>       | .236 - .276       |          | -6 - 7.5       |             |
| <b>-07075</b>      | .276 - .295       |          | -7 - 8         |             |
| <b>-0708</b>       | .276 - .315       |          | -7 - 8         |             |
| <b>BPS10-03035</b> | .118 - .138       |          | .154           | NBC10-3 - 4 |
| <b>-0304</b>       | .118 - .157       |          |                | -3 - 4.5    |
| <b>-04045</b>      | .157 - .177       | -4 - 5   |                |             |
| <b>-0405</b>       | .157 - .197       | -4 - 5.5 |                |             |
| <b>-05055</b>      | .197 - .217       | -5 - 6   |                |             |
| <b>-0506</b>       | .197 - .236       | -5 - 6.5 |                |             |
| <b>-06065</b>      | .236 - .256       | .169     | -6 - 7         |             |
| <b>-0607</b>       | .236 - .276       |          | -6 - 7.5       |             |
| <b>-07075</b>      | .276 - .295       |          | -7 - 8         |             |
| <b>-0708</b>       | .276 - .315       |          | -7 - 8.5       |             |
| <b>-08085</b>      | .315 - .335       |          | -8 - 9         |             |
| <b>-0809</b>       | .315 - .354       |          | -8 - 9.5       |             |
| <b>-09095</b>      | .354 - .375       | .138     | -9 - 10        |             |
| <b>-0910</b>       | .354 - .394       |          | -9 - 10        |             |

### NBS13 / NBS16 / NBS20 for BT shank type

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

\* 1 pce. of PS Ring is included.

## BABY PERFECT SEAL

### PS RING

- Spare seal for Baby Perfect Seal



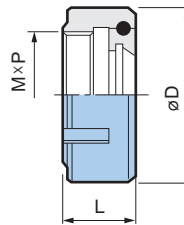
(Replacement of PS Ring is recommended when coolant leaks due to damage of the PS Ring.)

1 package contains  
5 pcs. (1 size).

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



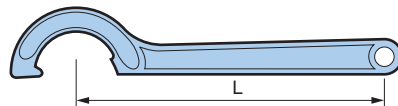
| Model         | øD   | L   | M x P    | Chuck Model |
|---------------|------|-----|----------|-------------|
| <b>NBN 6K</b> | .79  | .37 | 13.2 x 1 | NBS 6K      |
| <b>NBN 6</b>  |      |     | 12 x 1   | NBS 6       |
| <b>NBN 8K</b> | .99  | .45 | 17 x 1   | NBS 8K      |
| <b>NBN 8</b>  |      |     | 16 x 1   | NBS 8       |
| <b>NBN 10</b> | 1.18 | .49 | 21 x 1   | NBS10       |
| <b>NBN 13</b> | 1.38 | .63 | 26 x 1   | NBS13       |
| <b>NBN 16</b> | 1.65 | .63 | 32 x 1   | NBS16       |
| <b>NBN 20</b> | 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                |
|---------------|------|--------------------------|
| <b>NBK 6</b>  | 2.56 | NBN6K, NBN6, BPS6K, BPS6 |
| <b>NBK 8</b>  | 3.70 | NBN8K, NBN8, BPS8K, BPS8 |
| <b>NBK 10</b> | 4.09 | NBN10, BPS10             |
| <b>NBK 13</b> | 4.45 | NBN13, BPS13             |
| <b>NBK 16</b> | 4.80 | NBN16, BPS16             |
| <b>NBK 20</b> | 5.16 | NBN20, BPS20             |

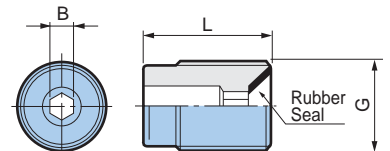
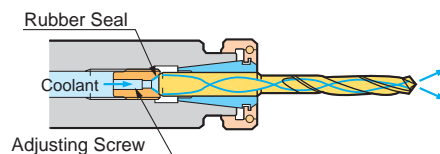
## ADJUSTING SCREW

- 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   |
|---------------|-----|-----|--------|---------------|
| <b>NBA 6B</b> | M 7 | .47 | 2      | NBS 6K, NBS 6 |
| <b>NBA 8B</b> | M 9 | .51 | 2.5    | NBS 8K, NBS 8 |
| <b>NBA10B</b> | M11 | .63 | 3      | NBS10         |
| <b>NBA13B</b> | M14 | .79 | 4      | NBS13         |
| <b>NBA16B</b> | M18 | .79 | 4      | NBS16         |
| <b>NBA20B</b> | M21 | .79 | 4      | NBS20         |

# NEW BABY CHUCK

## MEGA MICRO CHUCK

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



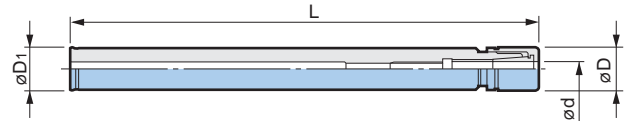
### STRAIGHT SHANK TYPE Clamping Range : $\phi$ .018" - .238"



Model Description

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

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



| Model                      | $\phi d$    | $\phi D$ | $\phi D1$ | L     | Collet  | Nut   | Wrench | Weight (lbs) |
|----------------------------|-------------|----------|-----------|-------|---------|-------|--------|--------------|
| <b>ST .375-MEGA 3S-120</b> | .018 - .128 | .394     | .375      | 4.724 | NBC3S-□ | MGN3S | MGR10  | .06          |
| <b>ST .500-MEGA 4S-130</b> | .018 - .159 | .472     | .500      | 5.118 | NBC4S-□ | MGN4S | MGR12  | .12          |
| <b>-160</b>                |             |          |           | 6.299 |         |       |        | .15          |
| <b>ST .625-MEGA 6S-160</b> | .018 - .238 | .551     | .625      | 6.299 | NBC6S-□ | MGN6S | MGR14  | .23          |
| <b>-200</b>                |             |          |           | 7.874 |         |       |        | .27          |

1. MGN5 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"

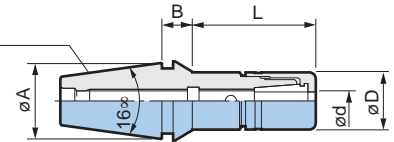


Model Description

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

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

ER COLLET TYPE  
DIN6499 Form A

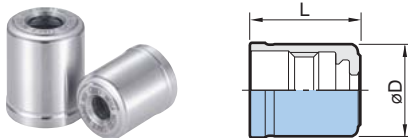


| Model                    | $\phi d$    | $\phi D$ | L    | $\phi A$ | B    | Collet  | Nut   | Wrench | Weight (lbs) |
|--------------------------|-------------|----------|------|----------|------|---------|-------|--------|--------------|
| <b>ER16 -MEGA 3S -16</b> | .018 - .128 | .394     | .63  | .630     | .248 | NBC3S-□ | MGN3S | MGR10  | .09          |
| <b>-30</b>               |             |          | 1.18 |          |      |         |       |        | .11          |
| <b>-50</b>               |             |          | 1.97 |          |      |         |       |        | .11          |
| <b>ER16 -MEGA 4S -17</b> | .018 - .159 | .472     | .67  | .630     | .248 | NBC4S-□ | MGN4S | MGR12  | .09          |
| <b>-30</b>               |             |          | 1.18 |          |      |         |       |        | .11          |
| <b>-50</b>               |             |          | 1.97 |          |      |         |       |        | .13          |
| <b>ER20 -MEGA 6S -20</b> | .018 - .238 | .551     | .79  | .787     | .283 | NBC6S-□ | MGN6S | MGR14  | .15          |
| <b>-35</b>               |             |          | 1.38 |          |      |         |       |        | .13          |
| <b>-50</b>               |             |          | 1.97 |          |      |         |       |        | .20          |

1. MGN5 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        | $\phi D$ | L    | Chuck Model |
|--------------|----------|------|-------------|
| <b>MGN3S</b> | .394     | .512 | MEGA3S      |
| <b>MGN4S</b> | .472     | .571 | MEGA4S      |
| <b>MGN6S</b> | .551     | .669 | MEGA6S      |

### MEGA WRENCH PAT. \_\_\_\_\_

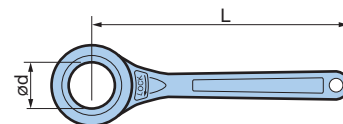
US Patent No. 5,596,913

#### 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        | $\phi d$ | L    | Chuck Model |
|--------------|----------|------|-------------|
| <b>MGR10</b> | .394     | 3.54 | MEGA3S      |
| <b>MGR12</b> | .472     |      | MEGA4S      |
| <b>MGR14</b> | .551     |      | MEGA6S      |

# MICRO COLLET



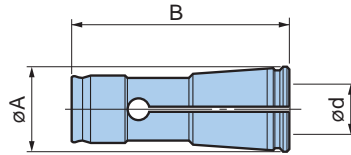
## ULTRA SMALL AND HIGH PRECISION COLLET

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

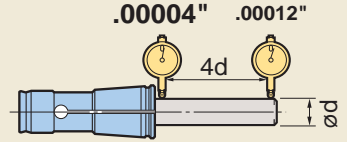
● Model Description

**NBC 3 S -0.5 AA**

- Micro Chuck
- Body size
- New Baby Collet



● T.I.R. of collet



| Collet Class | T.I.R.         |                    |
|--------------|----------------|--------------------|
|              | At nose        | At end of test bar |
| AA           | <b>.00004"</b> | <b>.00012"</b>     |

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

øA= .239 B= .740

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

øA= .291 B= .886

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

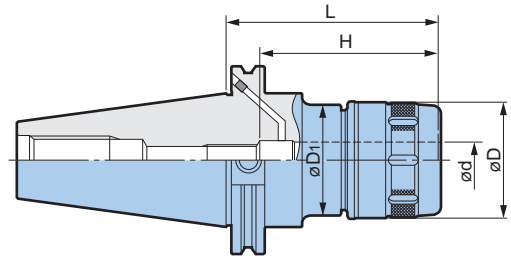
- The thick wall on a clamping part (e.g. 10mm thick for  $\phi 32$ ) prevents chattering.



## 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             | $\phi d$ | $\phi D$ | $\phi D_1$ | 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        |

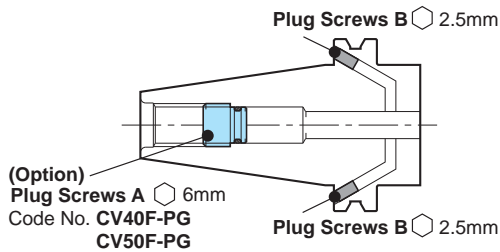
● Model Description

CV40 - HMC .750 - 3.5

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

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.

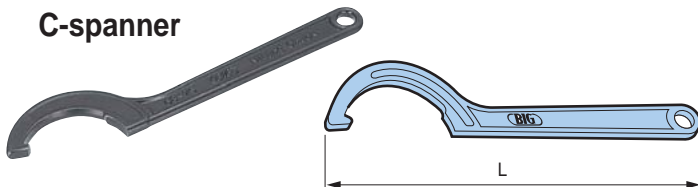
Bores on Form B are sealed with Plug Screw B.

- \* 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    |

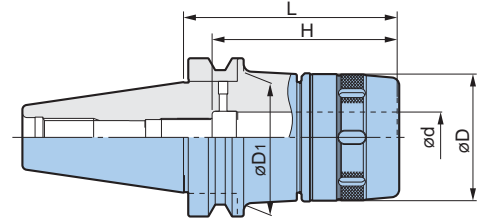
This wrench is available only for HMC chucks produced since April 1995.

# BT SHANK SERIES BT30/BT40/BT50

Clamping Range :  $\phi$ .750" - 1.250"

BT = JIS B 6339

Coolant-Through Hole



## BT30/40/50 shank

| Model             | $\phi d$ | $\phi D$ | $\phi D1$ | 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
- BT30 - BT shank No.
  - HMC - New Hi-Power Milling Chuck
  - .750 - Clamping size (in)
  - 3 - L= projection length (in)

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

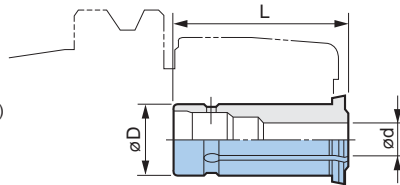
## STRAIGHT COLLET (Type "C")

- Reduction sleeve for smaller diameter cutters.



### Model Description

- C .75 - 1/4
- C - Collet type "C"
  - .75 - Outer dia (in)
  - 1/4 - Inner dia (in)

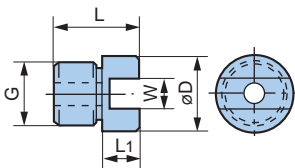


| Model       | $\phi d$ | $\phi D$ | L    |
|-------------|----------|----------|------|
| C .75 - 1/4 | .250     | .750     | 2.36 |
| - 5/16      | .312     |          |      |
| - 3/8       | .375     |          |      |
| - 7/16      | .437     |          |      |
| - 1/2       | .500     |    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

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

| Model       | $\phi d$ | $\phi D$ | 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     |          |      |
| -13/16      | .812     |          |      |
| - 7/8       | .875     |          |      |
| -15/16      | .937     |          |      |
| -1          | 1.000    |          |      |

## ADJUSTING SCREW



| Model    | $\phi D$ | 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     |

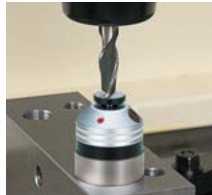
# BASE MASTER



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**

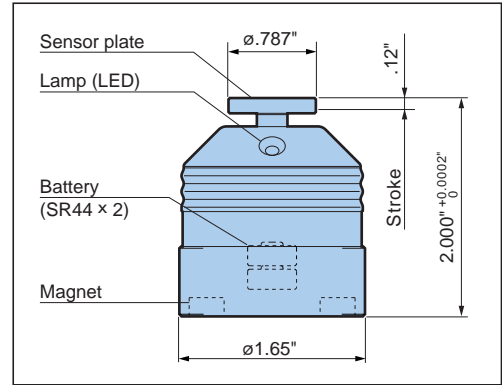
- Compact design for fast and easy handling
- Integrated circuit assures dependable lighting
- Safety over-travel of sensor plate prevents damage to tools



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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