



WORKHOLDING

FlexC™

Collet Systems for

CNC Lathes



TURNING MILLING GRINDING WORKHOLDING ROTARY

[www.hardinge.com](http://www.hardinge.com)





## FlexC™

Collet changeover in less than **10 Seconds.**

Compare to your current changeover:

Standard Collet Chuck: 79 seconds  
Chuck Jaws (3): 191 seconds

**We did the math. Now you make the profit.**

### Gripping Range $\pm .020$ "

A typical FlexC collet head has a gripping range of  $\pm .020$ " (.5mm) above and below its nominal size to allow variation in bar stock without having to change out the collet.

### Productivity Replacement for 3-jaw Chucks

When compared to a jaw chuck, the reduction in weight and the efficient design of the FlexC Collet System allow you to increase the spindle rpm without concern for centrifugal forces. Advanced cutting tools, along with faster speeds and feeds, can now be used to boost your productivity. The interferences associated with jaw chucks are nonexistent with the clean contours of the FlexC Collet System.



### Accuracy up to $.0004$ " TIR

Hardinge guarantees accuracy within  $.0004$ " (.010mm) TIR for the collet system models A and D and  $.0008$ " (.020mm) TIR for style DL.

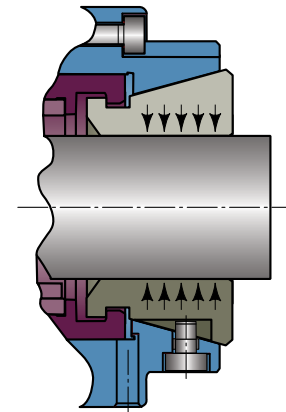
The FlexC system offers quick-change flexibility without compromise.

### Machine Compatibility and Flexibility

The precision-engineered Hardinge® FlexC Collet Systems mount to A2-5, A2-6, A2-8 and some flat-back spindle noses. Pull-back thru-hole, pull-back dead-length® and push-to-close dead-length® styles are available for single and dual-spindle CNC lathes.

One spindle mount... a multitude of part diameters. Purchase one spindle mount and interchange vulcanized collet heads from job to job. Hardinge collet heads are fully interchangeable with competitor's models.

**Outperforms standard collet chucks and jaw chucks with faster job changeover.**



### True Parallel Gripping

There is no collet shank. The collet segments remain parallel to the stock even when there are variations in the stock size minimizing "push back".

Style D is a pull-back design with a thru hole for bar work.

Since there is no work stop in this design, this style is not recommended for chucking parts.



Spindle mount, collet and wrench each sold separately. A drawbar linkup must be machined to fit the drawbar of the lathe. See page 7 to request a quote from Hardinge.



### 42mm\* Style D Spindle Mount: Pull-back style with thru-hole

Spindle Style	Part Number	D <sup>1</sup> - Diameter	D - Diameter	L <sup>1</sup> - Length	L - Length
A2-5	V42-5D00300	4.016" (102)	5.512" (140)	.846" (21.5)	3.543" (90)
A2-6	V42-6D00400	4.016" (102)	6.496" (165)	.846" (21.5)	3.543" (90)
140mm	V42-140D01700	4.016" (102)	5.906" (150)	.846" (21.5)	3.543" (90)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity.

(millimeters in parentheses)



### 65mm\* Style D Spindle Mount: Pull-back style with thru-hole

Spindle Style	Part Number	D <sup>1</sup> - Diameter	D - Diameter	L <sup>1</sup> - Length	L - Length
A2-5	V65-5D00500	4.736" (120.3)	6.102" (155)	1.043" (26.5)	3.740" (95)
A2-6	V65-6D00600	4.736" (120.3)	6.496" (165)	1.043" (26.5)	3.740" (95)
A2-8	V65-8D00700	4.736" (120.3)	8.268" (210)	1.043" (26.5)	3.858" (98)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity.

(millimeters in parentheses)

FlexC Mounts to Hardinge and other brands of CNC Lathe spindles

**Hardinge® A2-5 lathes:**

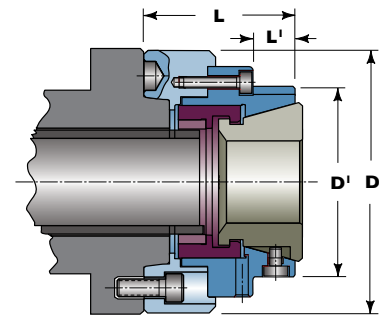
RS 42  
SV 150  
GS 150  
ELITE® & QUEST® 6/42  
CONQUEST® T42  
COBRA® 42  
Talent® 6/45  
T 42  
GS-42

**Hardinge A2-6 lathes:**

RS 51, RS 65  
SR 150, SR 200  
SV 200, SV200/66  
GS 200, GS 200/66  
Talent® 8/52, 8/66  
TwinTurn® 65  
ELITE & QUEST 8/51  
CONQUEST T51  
COBRA 51  
T51, T65  
GS-51

**Hardinge A2-8 lathes:**

SR 200 BB  
GS 250 (L=4.840")  
Talent 10/78 (L=4.840")  
CONQUEST T65  
COBRA 65  
SV250



Manufacturing process control for Hardinge FlexC Systems — Made in the U.S.A.

Hardinge spindle mounts are turned on a rugged Hardinge GS 200 turning center while the ODs and IDs are finish-ground on a high-precision Kellenberger® grinding machine. A time-proven heat treat process guarantees hardness and tempering for a long life without breakage.

# Style A – pull-back design

## Style A is a pull-back design with a Dead-length® workstop.

The collet draws in the part against a stationary workstop for part length control. You can easily "short grip" parts by machining a special work stop to the desired length. The Hardinge work stop is removable for bar work.



Spindle mount, collet and wrench each sold separately. Drawbar linkup must be machined to fit the drawbar of the lathe. See page 7 to request a quote from Hardinge.



### 42mm\* Style A Spindle Mount: Pull-back style with removable dead-length work stop

Spindle Style	Part Number	D <sup>1</sup> - Diameter	D - Diameter	L <sup>1</sup> - Length	L - Length
A2-5	V42-5A01000	4.016" (102)	5.512" (140)	.610" (15.5)	4.764" (121)
A2-6	V42-6A01100	4.016" (102)	6.496" (165)	.610" (15.5)	4.764" (121)
140mm	V42-140A01600	4.016" (102)	5.906" (150)	.610" (15.5)	4.961" (126)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity.

(millimeters in parentheses)



### 65mm\* Style A Spindle Mount: Pull-back style with removable dead-length work stop

Spindle Style	Part Number	D <sup>1</sup> - Diameter	D - Diameter	L <sup>1</sup> - Length	L - Length
A2-5	V65 5A01200	4.736" (120.3)	6.102" (155)	.728" (18.5)	5.118" (130)
A2-6	V65-6A01300	4.736" (120.3)	6.496" (165)	.728" (18.5)	5.118" (130)
A2-8	V65-8A01400	4.736" (120.3)	8.268" (210)	.728" (18.5)	5.315" (135)
170mm	V65-170A01800	4.736" (120.3)	6.299" (160)	.728" (18.5)	5.118" (130)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity.

(millimeters in parentheses)



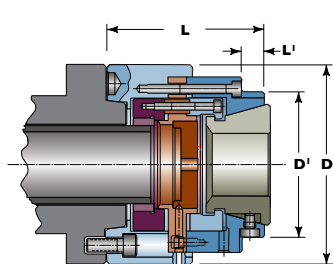
### 80mm\* Style A Spindle Mount: Pull-back style with removable dead-length work stop

Spindle Style	Part Number	D <sup>1</sup> - Diameter	D - Diameter	L <sup>1</sup> - Length	L - Length
A2-6	V80-6A06400	5.750" (146.1)	7.700" (195.6)	2.000" (50.8)	5.174" (131.4)
A2-8	V80-8A06500	5.750" (146.1)	8.000" (203.2)	2.000" (50.8)	5.174" (131.4)

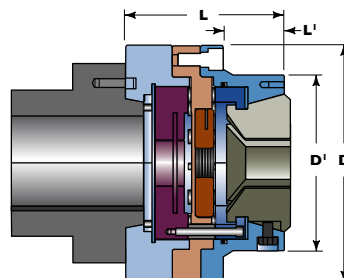
(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity.

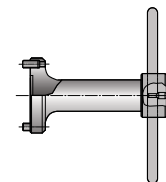
(millimeters in parentheses)



42 and 65mm systems



80mm systems



Work stop wrench V65-6DL05810 (65mm) is included with the 80mm spindle mount assembly to remove or install the work stop.

## Style DL is a push-to-close Dead-length® style with workstop.\*\*

The collet and work stop are both stationary in the style DL Dead-Length spindle mount design to provide precise length control of the workpiece. This feature makes it possible to accurately transfer parts from one spindle to the other within .0005" (.0127mm), eliminating problems such as drive default or drag marks on the part. \*\*Workstop is NOT available for the 80mm spindle mount.



Spindle mount, collet and wrench each sold separately. Drawbar linkup must be machined to fit the drawbar of the lathe. See page 7 to request a quote from Hardinge.



### 42mm\* Style DL Spindle Mount: Push-to-Close with work stop

Spindle Style	Part Number	D' - Dia.	D - Dia.	L' - Length	L - Length
A2-5 (1)	V42-5DL05400	—	5.315" (135)	—	4.724" (120)
A2-6 (2)	V42-6DL05500	5.315" (135)	6.299" (160)	2.953" (75)	4.724" (120)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity. (millimeters in parentheses)



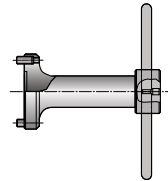
### 65mm\* Style DL Spindle Mount: Push-to-Close with work stop

Spindle Style	Part Number	D' - Dia.	D - Dia.	L' - Length	L - Length
A2-5 (1)	V65-5DL05700	—	6.299" (160)	—	4.921" (125)
A2-6 (1)	V65-6DL05900	—	6.299" (160)	—	4.724" (120)
A2-8 (2)	V65-8DL06000	6.299" (160)	8.268" (210)	2.402" (61)	4.921" (125)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

\* Limited to machine capacity. (millimeters in parentheses)

Work stop wrench V65-6DL05810 (65mm) or V42-5DL05410 (42mm) is included with the spindle mount assembly to remove or install the work stop.

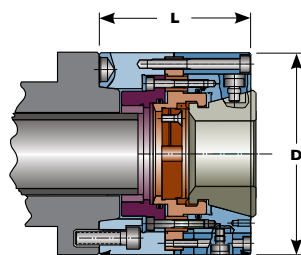


### 80mm\* Style DL Spindle Mount: Push-to-Close

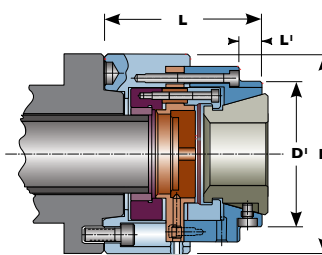
Spindle Style	Part Number	D' - Dia.	D - Dia.	L' - Length	L - Length
A2-6	V80-6DL06200	5.950" (151.2)	7.700" (195.6)	1.354" (34.4)	4.957" (125.9)
A2-8	V80-8DL06300	5.950" (151.2)	8.250" (209.6)	1.354" (34.4)	5.207" (132.3)

(L) length dimension may vary when mounted on non-Hardinge brand CNC lathes.

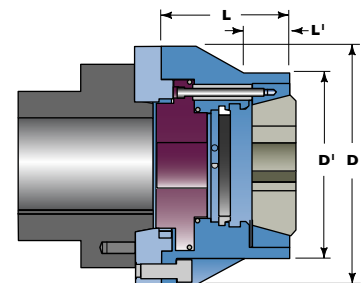
\* Limited to machine capacity. Workstop not included. (millimeters in parentheses)



Spindle Style Drawing 1



Spindle Style Drawing 2



80mm systems





- Round smooth
- Round serrated
- Hexagon serrated
- Square smooth
- Emergency style
- Masters
- Industry Compatible



## Manufacturing process control in a dedicated work cell environment

Hardinge has invested in the latest vulcanizing machines made by DESMA, a world leader in injection molding technology. The vulcanization process joins the collet segments together as a one-piece unit with a permanent bond. Vulcanized rubber has elasticity for repeated opening and closing over the life of the collet that makes it ideal for a quick-change product. It will not become brittle and is resistant to coolant. It also prevents chips from entering the collet system. Hardinge test results from repeated cycles of collet actuation assure long life of the Hardinge vulcanization process.

Hardinge guarantees a collet head concentricity of .0002" (.005mm) TIR for round smooth after the segments are joined in the vulcanization process. Collets change in just seconds!

FlexC Collets	Round Smooth	Round Serrated	Hexagon Serrated	Square Smooth	Manual Wrench
42mm Inch Part Numbers 1/16" increments *	C0-4200-19 7/32 to 15/8"	C0-4200-59 7/32 to 15/8"	C0-4200-69 5/16 to 13/8"	C0-4200-39 5/16 to 19/64"	C 4200000-WREN —
42mm Metric Part Numbers 1mm increments *	C0-4200-17 5 to 42	C0-4200-57 5 to 42	C0-4200-67 8 to 36	C0-4200-37 8 to 29	C 4200000-WREN —
65mm Inch Part Numbers 1/16" increments*	C0-6500-19 1/4 to 29/16"	C0-6500-59 1/4 to 29/16"	C0-6500-69 5/16 to 21/8"	C0-6500-39 5/16 to 113/16"	C 6500000-WREN —
65mm Metric Part Numbers 1mm increments *	C0-6500-17 5 to 65	C0-6500-57 5 to 65	C0-6500-67 8 to 56	C0-6500-37 8 to 46	C 6500000-WREN —
80mm Inch Part Numbers 1/16" increments*	C0-8000-19 15/32 to 31/4"	C0-8000-59 3/4 to 31/4"	C0-8000-69 15/32 to 21/4"	C0-8000-39 15/32 to 21/4"	C 8000000-WREN —
80mm Metric Part Numbers 1mm increments *	C0-8000-17 12 to 82.5	C0-8000-57 19 to 82.5	C0-8000-67 12 to 69.9	C0-8000-37 12 to 57.2	C 8000000-WREN —

\* limited to maximum bar capacity of your machine for thru-hole bar work.

FlexC Style-S Master Collets	S16	S20	S22	S26	S30
65mm	C0650S16MASTER	C0650S20MASTER	C0650S22MASTER	—	—
80mm	—	—	—	C0800S26MASTER	C0800S30MASTER



Emergency Collets Size / Pilot Hole	Emergency Collet Part Number	Manual Wrench Part Number	Boring Ring Part Number
42mm / 5mm Pilot	C0420000000005	C 4200000-WREN	C042000000RING
42mm / 15mm Pilot	C0420000000015	C 4200000-WREN	C042000000RING
42mm / 30mm Pilot	C0420000000030	C 4200000-WREN	C042000000RING
65mm / 8mm Pilot	C0650000000008	C 6500000-WREN	C065000000RING
65mm / 20mm Pilot	C0650000000020	C 6500000-WREN	C065000000RING
65mm / 40mm Pilot	C0650000000040	C 6500000-WREN	C065000000RING
80mm / 12mm Pilot	C0800000000012	C 8000000-WREN	C080000000RING
80mm / 25mm Pilot	C0800000000025	C 8000000-WREN	C080000000RING
80mm / 40mm Pilot	C0800000000040	C 8000000-WREN	C080000000RING

## Custom Manufacturing

Standard collets are stocked in round smooth, round serrated and hex shape. Square sizes are made to order. Anything between the size increments shown below can be custom manufactured. Other special applications include stepped holes, special shapes, off-center, etc. that can be made from stock blanks.

## Machine Spindle and Drawbar Configuration

Drawbar Linkups are required for mounting the FlexC™ Collet System to CNC lathes. Fill in the requested information and dimensions corresponding to the illustration below if you would like Hardinge to machine the drawbar linkup for your specific application. You may contact Hardinge for a preliminary quote prior to filling out this form at 800-843-8801.

Fax this form to Hardinge Customer Service at 607-734-3886.

Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City, State, Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

FlexC™ Collet System part no. desired:  
 \_\_\_\_\_

Machine Mfr.: \_\_\_\_\_

Machine Model No.: \_\_\_\_\_

Actuator Mfr.: \_\_\_\_\_

**C\* Spindle Configuration:**

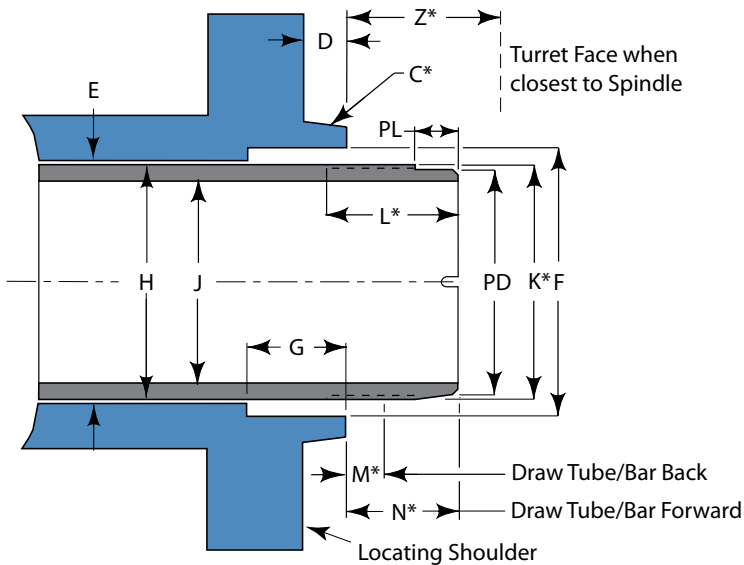
A2-5    A2-6    A2-8

Or Other \_\_\_\_\_

Mounting Bolt Size: \_\_\_\_\_

Mounting Bolt Pitch: \_\_\_\_\_

Letters below correspond to dimensions in illustration:



**D Length of Spindle Nose:** \_\_\_\_\_

**E Spindle Through Hole:** \_\_\_\_\_

**F Spindle I.D. Step Diameter or Tapers (if any):** \_\_\_\_\_

**G Depth of Steps:** \_\_\_\_\_

**H O.D. of Draw Tube / Bar:** \_\_\_\_\_

**J I.D. of Draw Tube / Bar:** \_\_\_\_\_

**K\* Draw Tube / Bar Thread:** \_\_\_\_\_  
 Left- or  Right-hand

Internal or  External Thread

**L\* Length of Thread:** \_\_\_\_\_

**PL Pilot Length (if any):** \_\_\_\_\_

**PD Pilot Depth (if any):** \_\_\_\_\_

**M/N\* Distance from Front of Spindle to Front of Draw Tube / Bar when Forward and Retracted:**

(indicate Positive {+} if the draw tube / bar is in Front of the Spindle Face, or Negative {-} if Behind the Spindle Face)

**M Retracted (back):** \_\_\_\_\_

**N Forward:** \_\_\_\_\_

**Z\* Turret Face when closest to Spindle**  
 \_\_\_\_\_

\*C, K, L, M/N and Z info/dimensions are required.



Over the years, The Hardinge Group™ steadily diversified both its product offerings and operations. Today, the company has grown into a globally diversified player with manufacturing operations in North America, Europe and Asia. In addition to designing and building turning centers and collets, Hardinge is a world leader in grinding solutions with the addition of the Kellenberger, Jones & Shipman, Hauser, Tschudin and Usach brands to the Hardinge family. The company also manufactures Bridgeport machining centers and other industrial products for a wide range of material cutting, turnkey automation and workholding needs.

Expect more from your Hardinge products. Choose Hardinge precision and reliability for increased productivity and value!

Call us today, we've got your answer.

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