

WORKHOLDING



FlexC™ Collet Systems
for CNC Lathes



TURNING MILLING GRINDING WORKHOLDING ROTARY

www.hardinge.com



FlexC™ Collet Systems for CNC Lathes

Flexibility without Compromise

Hardinge welcomes the FlexC to its family of Collets, Step Chucks and Collet Chucks.



Machine Compatibility and Flexibility

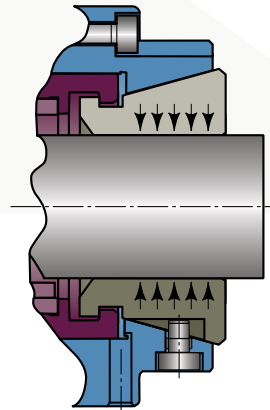
The precision-engineered Hardinge® FlexC Collet Systems mount to A2-5, A2-6, A2-8 and some flat-back spindle noses. Pull-back thru-hole, pull-back dead-length® and push-to-close dead-length® styles are available for single and dual-spindle CNC lathes.

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.

Bar stock variation is no problem. A typical FlexC collet head has a gripping range of ± 0.020 " (.5mm) above and below its nominal size to allow variation in bar stock without having to change out the collet.

Accuracy

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



True Parallel Gripping

There is no collet shank. Therefore, the collet segments remain parallel to the stock even when there are variations in the stock size. Parallel clamping minimizes stock "push back" and requires less draw bar force to achieve the same gripping capability as conventional collets.

What are your job requirements ?

- 1) Collet Changeover...
- 2) Gripping Range...
- 3) Concentricity...

**FlexC™
Collet System**

20 seconds
 ± 0.020 " (.5)
.0004" (.010)

(millimeters in parentheses)

Hardinge FlexC Collet Systems, manufactured in Elmira New York, are competitively-priced and in stock for same-day delivery. Non-stock shapes and sizes are available in 18-23 days.

FlexC™ Collet System — Style D, 42 and 65mm Pull-back style with thru-hole for bar work



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.

Speed and Precision
Made in the U.S.A.

Manufacturing process control for the FlexC Systems

Hardinge spindle mounts are turned on a rugged Hardinge™ GS200 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.

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

Style D Spindle Mount: Pull-back style with thru-hole (42mm capacity*)

Spindle Style	Part Number	D' - Dia.	D - Dia.	L' - 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)

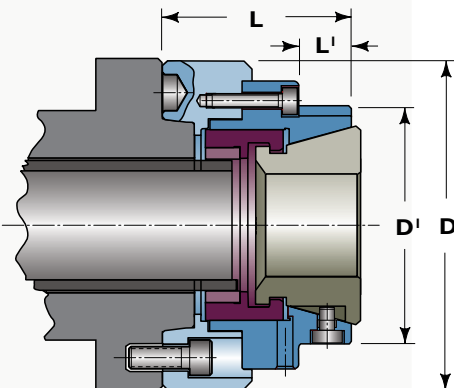
Style D Spindle Mount: Pull-back style with thru-hole (65mm capacity*)

Spindle Style	Part Number	D' - Dia.	D - Dia.	L' - 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)

Collets and wrench sold separately (millimeters in parentheses).

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

* Limited to machine capacity



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

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

Hardinge A2-8 lathes:

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

FlexC™ Collet System — Style A, 42 and 65mm Pull-back style with Dead-length® work stop



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.

Speed and Precision
Made in the U.S.A.

FlexC Collet Systems offer increased productivity

Replace your standard collet or 3-jaw chuck to ramp up productivity. When compared to a jaw chuck, the reduction in weight and the unique, 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.

The collet draws in the part against a stationary workstop for part length control in the Style A spindle mount. 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.

Style A Spindle Mount

Pull-back style with removable dead-length work stop (42mm capacity)

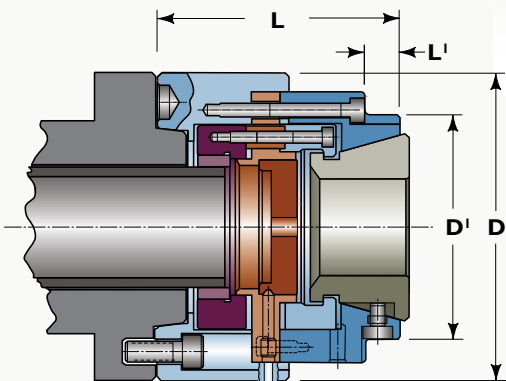
Spindle Style	Part Number	D ^I - Dia.	D - Dia.	L ^I - Length	L - Length
A2-5	V42-5A01000	4.016" (102)	5.512" (140)	.610" (15.5)	4.764" (121)
A2-6	V42-6A01100	4.016" (102)	6.496" (165)	.610" (15.5)	4.764" (121)
140MM	V42-140A01600	4.016" (102)	5.906" (150)	.610" (15.5)	4.961" (126)

Pull-back style with removable dead-length work stop (65mm capacity)

Spindle Style	Part Number	D ^I - Dia.	D - Dia.	L ^I - 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)
170	V65-170A01800	4.736" (120.3)	6.299" (160)	.728" (18.5)	5.118" (130)

Collets and wrench sold separately (millimeters in parentheses).

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



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

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

Hardinge A2-8 lathes:

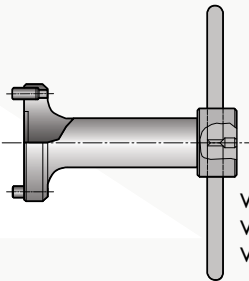
SR 200 BB
GS 250 (L=4.840")
Talent 10/78 (L=4.840")
CONQUEST T65
COBRA 65
SV250

FlexC™ Collet System – Style DL, 42 and 65mm Push-to-close Dead-length® style



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.

Speed and Precision
Made in the U.S.A.



Work stop wrench
V65-6DL05810 (65mm) or
V42-5DL05410 (42mm)

FlexC offers greater grip force and faster machining times

Because there are no collet leaves in any of the FlexC systems, additional gripping pressure is directly applied to the workpiece. Higher feed rates and higher spindle speeds are possible. With the extra gripping force, tool life increases and parts come off the machine quicker.

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

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

Style DL Spindle Mount: Push-to-close style (42mm capacity)

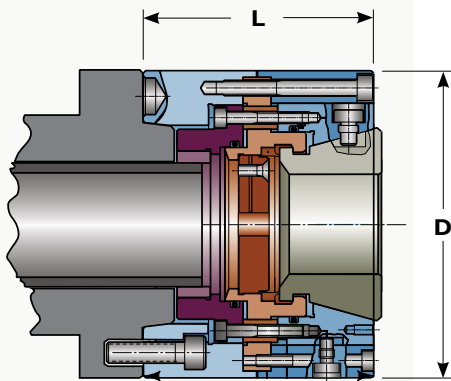
	Spindle Style	Part Number	D ¹ - Dia.	D - Dia.	L ¹ - Length	L - Length
(1)	A2-5	V42-5DL05400		5.315" (135)		4.724" (120)
(2)	A2-6	V42-6DL05500	5.315" (135)	6.299" (160)	2.953" (75)	4.724" (120)

Style DL Spindle Mount: Push-to-close style (65mm capacity)

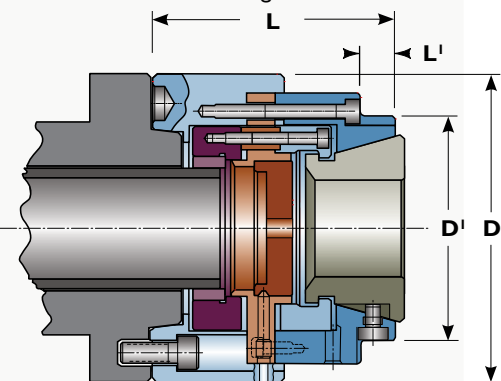
	Spindle Style	Part Number	D ¹ - Dia.	D - Dia.	L ¹ - Length	L - Length
(1)	A2-5	V65-5DL05700		6.299" (160)		4.921" (125)
(1)	A2-6	V65-6DL05900		6.299" (160)		4.724" (120)
(2)	A2-8	V65-8DL06000	6.299" (160)	8.268" (210)	2.402" (61)	4.921" (125)

Collets and collet wrench sold separately (millimeters in parentheses).

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



Drawing 1



Drawing 2

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

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

Hardinge A2-8 lathes:

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

FlexC™ 42mm and 65mm Collets



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



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.

An **Emergency Collet** can be kept on hand for immediate use when you don't have the hardened collet size that you need for a rush job.



Change collets in seconds...

Pins on the changing wrench insert into the corresponding holes in the face of the collet. The wrench compresses the collet for quick and easy removal and replacement.

Hardinge collets are compatible with competitor's models!

Masters for S Pads:	
S16:	C0650S16MASTER
S20:	C0650S20MASTER
S22:	C0650S22MASTER

Size and Pilot Hole	Part Number	Manual Wrench
42MM with 5MM Pilot	C0420000000005	C 4200000-WREN
42MM with 15MM Pilot	C0420000000015	C 4200000-WREN
42MM with 30MM Pilot	C0420000000030	C 4200000-WREN
42MM Boring Ring	C042000000RING	
65MM with 8mm Pilot	C0650000000008	C 6500000-WREN
65MM with 20mm Pilot	C0650000000020	C 6500000-WREN
65MM with 40mm Pilot	C0650000000040	C 6500000-WREN
65MM Boring Ring	C065000000RING	

Custom Manufacturing Available

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.

Collet Sizes and Styles:	Round Smooth	Round Serrated	Hexagon Serrated	Square Smooth	Manual Wrench
42mm Inch Part Numbers 1/16" increments *	C0-4200-19 7/32 to 1-5/8"	C0-4200-59 7/32 to 1-5/8"	C0-4200-69 5/16 to 1-3/8"	C0-4200-39 5/16 to 1-9/64"	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 2-9/16"	C0-6500-59 1/4 to 2-9/16"	C0-6500-69 5/16 to 2-1/8"	C0-6500-39 5/16 to 1-13/16"	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

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

Hardinge Drawbar Linkup Order Form — (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 Collet 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:

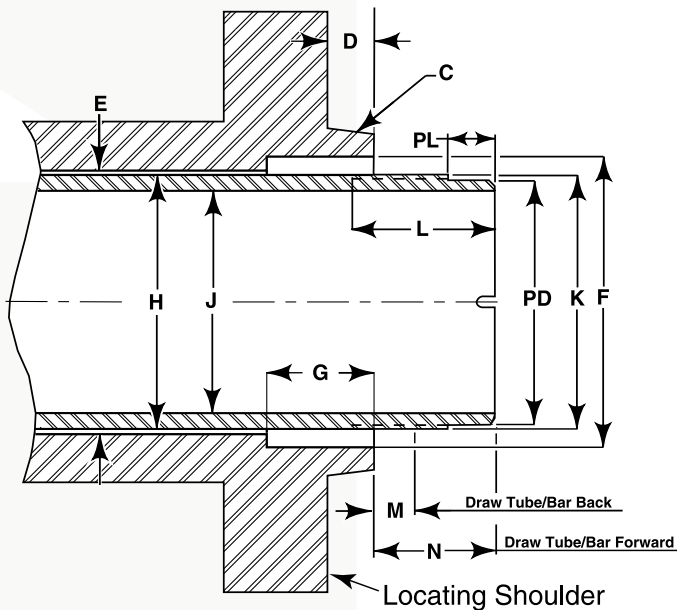
A2-5 A2-6 A2-8

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: _____

Spindle Tooling for Manual & CNC Lathes

Collets for Automatics, Turret Lathes & Rotary Transfer Machines

Swiss-Type Collets, Guide Bushings & Barloader Collets

FlexC™ Collet Systems

Sure-Grip® Expanding Collet Systems

HQC® Quick-Change Collet Systems

HCAC® Collet Adaptation Chucks

Sure-Grip® 3-Jaw Power Chucks

Chuck Jaws

Toolholder Collets, Bushings & Tool Holders

Precision CNC Tooling for Mills

Collet Blocks

Rotary Indexing Products

Custom Workholding

Machine Tools

Hardinge manufactures workholding for all brands of lathes, mills, grinding machines, automatic screw machines, rotary transfer machines, turret lathes, automation and assembly. Expect more from your workholding. Choose Hardinge precision and reliability for increased productivity and value!

Call us today, we've got your answer.

Hardinge Inc. One Hardinge Drive | P.O. Box 1507 | Elmira, New York 14902-1507 USA

USA: 800-843-8801 | Canada: 800-468-5946 | Fax: 607-734-3886

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