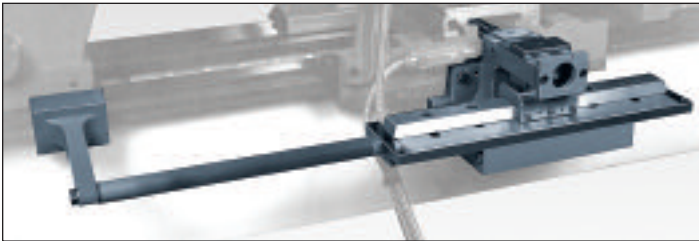


### Taper Attachment



The Taper Attachment is fitted to the rear of the carriage and permits taper turning without disengaging the cross feed screw. It is easy to set, always ready for use and does not interfere with normal operations. Capacity one setting 12" maximum, 2" taper per foot

Part No	Lathe Size & Type	Weight
C13-06	13" swing Gap & St. Bed Geared Head Lathes	80 lbs.
C14-06	14" swing Gap & St. Bed Geared Head Lathes	80 lbs.
C15-06	15" swing Soft Start & Variable Speed Lathes	88 lbs.
C17-06	17" swing Soft Start & Variable Speed Lathes	88 lbs.
C20-06	20" swing Soft Start & Variable Speed Lathes	90 lbs.
C24-06	24" swing Soft Start & Variable Speed Lathes	90 lbs.



### Extra Steady Rest

The Steady Rest provides support for long or slender work and allows heavy cuts without chatter. Capacities are sized for lathe models.

Part No	Lathe Size & Type	Capacity	Fingers	Weight
C13-13	13" swing Gap & St. Bed Geared Head Lathes	.39"-4.52" (10 - 115mm)	Bronze	37 lbs.
C14-13	14" swing Gap & St. Bed Geared Head Lathes	.39"-4.52" (10 - 115mm)	Bronze	40 lbs.
C15-13	15" swing Soft Start & Variable Speed Lathes	.39"-5.12" (10 - 130mm)	Bronze	45 lbs.
C17-13	17" swing Soft Start & Variable Speed Lathes	.39"-5.12" (10 - 130mm)	Bronze	48 lbs.
C20-13	20" swing Soft Start & Variable Speed Lathes	.39"-7.28" (10 - 185mm)	Bronze	55 lbs.
C24-13	24" swing Soft Start & Variable Speed Lathes	.39"-7.28" (10 - 185mm)	Bronze	58 lbs.
C24-13PT	24" swing Soft Start Large Bore Lathes	.78"-8.84" (20 - 250mm)	Bronze	62 lbs.

### Follower Rest

The Follower Rest mounts on the carriage and moves with it, providing workpiece support close to the cutting tool...

Part No	Lathe Size & Type	Capacity	Fingers	Weight
C13-02	13" swing Gap & St. Bed Geared Head Lathes	.39"-2.75" (10 - 70mm)	Bronze	27 lbs.
C14-02	14" swing Gap & St. Bed Geared Head Lathes	.39"-2.75" (10 - 70mm)	Bronze	30 lbs.
C15-02	15" swing Soft Start & Variable Speed Lathes	.39"-3.15" (10 - 80mm)	Bronze	35 lbs.
C17-02	17" swing Soft Start & Variable Speed Lathes	.39"-3.15" (10 - 80mm)	Bronze	38 lbs.
C20-02	20" swing Soft Start & Variable Speed Lathes	.59"-4.92" (15 - 125mm)	Bronze	45 lbs.
C24-02	24" swing Soft Start & Variable Speed Lathes	.59"-4.92" (15 - 125mm)	Bronze	48 lbs.
C24-02PT	24" swing Soft Start Large Bore Lathes	.78"-6.50" (20 - 165mm)	Bronze	52 lbs.



### Live Center

Revolving center is concentric within .0002" T.I.R. 60° point rotates on roller bearings.



Part No.	Lathe Size & Type	Weight
12-510	13" & 14" swing Gap & St. Bed Geared Head Lathes	2 lbs.
15-710	15" & 17" swing Soft Start & Variable Speed Lathes	3 lbs.
17-910	20" & 24" swing Soft Start & Variable Speed Lathes	9 lbs.

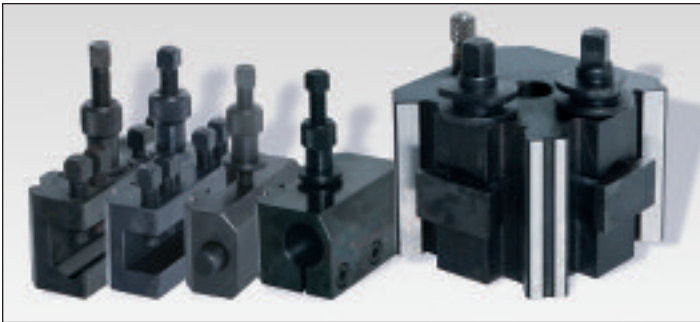


### Round Tool Post

Part No	Lathe Size & Type	Weight
C13-04	13" swing Gap & St. Bed Geared Head Lathes	80 lbs.
C14-04	14" swing Gap & St. Bed Geared Head Lathes	80 lbs.
C15-04	15" swing Soft Start & Variable Speed Lathes	88 lbs.
C17-04	17" swing Soft Start & Variable Speed Lathes	88 lbs.
C20-04	20" swing Soft Start & Variable Speed Lathes	90 lbs.
C24-04	24" swing Soft Start & Variable Speed Lathes	90 lbs.

# Accessories

## Extra Quick Change Tool Post With 4 Holders



Part No	Lathe Size & Type	Weight
C13-05	13" swing Gap & St. Bed Geared Head Lathes	22 lbs.
C14-05	14" swing Gap & St. Bed Geared Head Lathes	22 lbs.
C15-05	15" swing Soft Start & Variable Speed Lathes	30 lbs.
C17-05	17" swing Soft Start & Variable Speed Lathes	33 lbs.
C20-05	20" swing Soft Start & Variable Speed Lathes	43 lbs.
C24-05	24" swing Soft Start & Variable Speed Lathes	46 lbs.



### "V" Tool Holder

Part No	Lathe Size	Capacity	Weight
C13-05A	13" & 14" swing	.75" (21mm)	4 lbs.
C15-05A	15" & 17" swing	1" (27mm)	4 lbs.
C17-05A	20" & 24" swing	1.25" (30mm)	4 lbs.

### Boring Tool Holder

Part No	Lathe Size	Capacity	Weight
C13-05B	13" & 14" swing	1" (25mm)	4 lbs.
C15-05B	15" & 17" swing	1" (25mm)	4 lbs.
C17-05B	20" & 24" swing	1.25" (32mm)	4 lbs.

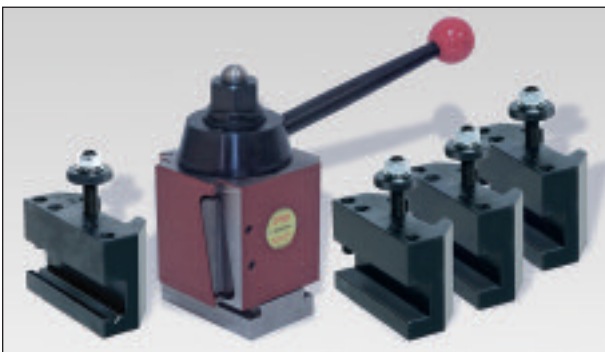


### MT Tool Holder

Part No	Lathe Size	Capacity	Weight
C13-05C	13" & 14" swing	2MT	4 lbs.
C15-05C	15" & 17" swing	3MT	4 lbs.
C17-05C	20" & 24" swing	5MT	4 lbs.

### Straight Tool Holder

Part No	Lathe Size	Capacity	Weight
D13-05D	13" & 14" swing	1" (25mm)	4 lbs.
D15-05D	15" & 17" swing	1" (25mm)	4 lbs.
D17-05D	20" & 24" swing	1.25" (32mm)	4 lbs.



## DORIAN Super Quick Change Tool Post With 4 Holders

Precision Super Quick Change Tool Post with triple action locking system, zero backlash and .0001" repeatability. Equipped with 3 square tool holders and 1 "v" tool holder.

Part No	Lathe Size & Type	Capacity	Weight
D13-05	13" swing Gap & St. Bed Geared Head Lathes	5/8" - 1" (16-25mm)	35 lbs.
D14-05	14" swing Gap & St. Bed Geared Head Lathes	3/4" - 1" (20-25mm)	35 lbs.
D15-05	15" swing Soft Start & Variable Speed Lathes	3/4" - 1" (20-25mm)	35 lbs.
D17-05	17" swing Soft Start & Variable Speed Lathes	3/4" - 1" (20-25mm)	40 lbs.
D20-05	20" swing Soft Start & Variable Speed Lathes	1" - 1-1/4" (25-32mm)	40 lbs.
D20-05	24" swing Soft Start & Variable Speed Lathes	1" - 1-1/4" (25-32mm)	40 lbs.

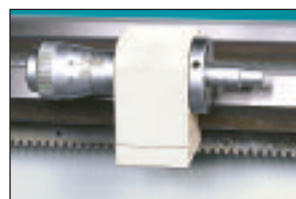
## Roller Fingers for Stead Rest

Part No.	Lathe Size & Type	Weight
C13-07	13" & 14" swing Gap & St. Bed Geared Head Lathes	2 lbs.
C15-07	15" & 17" swing Soft Start & Variable Speed Lathes	3 lbs.
C20-07	20" & 24" swing Soft Start & Variable Speed Lathes	9 lbs.



### Extra Dual Dials (inch/metric)

Part No.	Lathe Size	Weight
C13-08	13" & 14" swing	7 lbs.
C15-08	15" & 17" swing	3 lbs.
C20-08	20" & 24" swing	9 lbs.



### Extra Micro Carriage Stop

Part No.	Lathe Size	Weight
C13-09	13" & 14" swing	7 lbs.
C15-09	15" & 17" swing	3 lbs.
C20-09	20" & 24" swing	9 lbs.

*The last word in toolroom lathe productivity...Pick from one of these three world leading Digital Readout Systems available with Constant Surface Speed.*



**ACU-RITE® 300S LCD Digital Readout available with Constant Surface Speed (CSS)**

The 300S Color digital readout is the ultimate in efficiency. This Intuitive, user-friendly readout comes equipped with machine specific software and easy to read, full color, flat screen 5.7" LCD display.

***The ultimate in efficiency and turning productivity, utilizing state-of-the-art features...***

- Simplify cutting metric threads on lathes with inch leadscrews with the NEW Thread Assist function (optional 1000 line encoder required)
- 16 Tool Offsets for easy compensation of different tool sizes
- Lock Axis feature, used in conjunction with tool offsetting, lets the operator establish tool offsets with the tool under load, resulting in reduced deflection
- Instant radius/diameter conversion reduces math errors and allows operator to machine to print
- Posit-Trac™; a unique feature that lets you easily, quickly and accurately re-establish workpiece zero after power loss
- 2, 3 or 4-axes 5.7" flat-screen LCD display
- Preset and zero reset
- Near-zero warning
- Instant inch/mm conversion
- Linear and non-linear error compensation
- Taper calculator
- Die-cast metal construction
- RS-232-C/V.24 serial port data interface

- Multiple program names with numerous steps
- Multiple display views - DR01 & DR02
- Job clock
- Feed rate display
- Advanced skew compensation
- Multiple language supports
- Absolute/incremental
- Help function
- 4 function calculator

**Precision Glass Scales**

ACU-RITE precision glass scales withstand the elements found in the harshest machine shop environments. As a result, our precision glass scales resist changes in size, shape or density due to temperature and humidity variation.

- Exceptional accuracy  $\pm .00006"$  (1.5 $\mu$ m)
- Available in lengths from 1"–773" (25.4–19634mm)
- Resolution from .00002"–.0005" (.05–10 $\mu$ m)



***Innova 40i DRO, with color TFT screen***



***The FAGOR DRO offers the user features that make the operators job easier***

The Innova 40i for lathe applications offers the operator graphic assistance that no other DRO can offer such as taper calculation, the combination of the Z1 and Z2 axes or the 16 datum points for as many tool offsets that you can store.

- ¥ TFT color LCD display
- ¥ High clarity view from any angle
- ¥ NEW Threading software (TPI and metric threads)
- ¥ Solid graphics & 3D Simulation
- ¥ Conversational graphic help screen
- ¥ Friendly and intuitive operations
- ¥ Easy set-up and diagnosis
- ¥ Distance to Go bar for easy positioning
- ¥ Up to 16 tool offsets with hold feature
- ¥ Built-in calculator with auto recall
- ¥ Feedback alarms
- ¥ Taper calculation
- ¥ Combining the Z1 and Z2 axes
- ¥ Software travel limits for safety
- ¥ Re-Set, Pre-Set, direct mm/inch conversion
- ¥ FAGOR Warranty: 3 years and lifetime on the glass



# NEWALL

## DP900 Graphical DRO Outstanding Features with Leading Edge Technology



Newall's DP900 offers flexible features tailored for turning applications. Plus, with the use of a touch probe, part inspection calculations can be performed without removing the part from the machine.

- Rugged die cast chassis
- Cap-sense keypad
- 5.7" QVGA blue STN with CCFL backlight
- Absolute/Incremental readings
- Switchable resolutions
- Home reference
- Feed rate display
- Multiple program storage
- Data pre-set/re-set
- Tool path graphics in real time
- Probe input
- Polar co-ordinate readings
- Programmable memory with graphical Presentation
- Insert/delete sub data
- Teachmode with graphics
- Zero approach warning
- Sleep/data hold
- Navigation keys
- Zoom
- Intuitive help
- Job timer
- Touch probe option
- Calculator with trig functions
- Taper calculation, tap drill library
- Linear error compensation
- Segmented error compensation
- Vibration filtering
- Audible keystroke entry
- USB-B program storage
- Tool offsets
- Crisp, clean LCD

### Face Plates

Part No	Dia	Lathe Size & Type	Spindle	Weight
C13-01	12"	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	24 lbs.
C15-01	13.75"	15" swing Soft Start & Variable Speed Lathes	D1-6	43 lbs.
C17-01	15.75"	17" swing Soft Start & Variable Speed Lathes	D1-6	48 lbs.
C20-01	19.5"	20" swing Soft Start & Variable Speed Lathes	D1-8	106 lbs.
C24-01	23.5"	24" swing Soft Start & Variable Speed Lathes	D1-8	148 lbs.

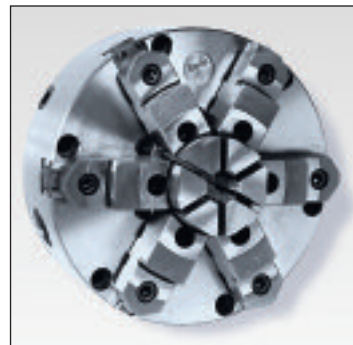
### Halogen Work Light



Part No. FV-9070G



**Atlas Easy-Set™  
Self-Centering 3-Jaw  
Universal Chucks**



**Atlas Easy-Set™  
Self-Centering 6-Jaw  
Universal Chucks**

Atlas Universal Easy-Set™ 3-Jaw Chucks are precision manufactured with a .0005 TIR repeatability on duplicate parts. The semi-steel body allows high metal removal rates. 3-Jaw Easy-Set Chucks are supplied with two-piece tongue and groove jaws. Easy-Set chucks have 4 adjusting screws, hardened scroll and hardened pinion. All chucks have a one year warranty.

Atlas Universal Easy-Set™ 6-Jaw Chucks are precision manufactured with a .0005 TIR repeatability on duplicate parts. The semi-steel body allows high metal removal rates. 6-Jaw Easy-Set Chucks are supplied with two-piece tongue and groove jaws. Easy-Set chucks have 4 adjusting screws, hardened scroll and hardened pinion. All chucks have a one year warranty.

3 Jaw Part No	Dia	Lathe Size & Type	Spindle Size	Max. rpm	Weight
EZ63D5	6"	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	3000	20 lbs.
EZ83D5	8"	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	2800	43 lbs.
EZ103D5	10"	14" swing Gap & St. Bed Geared Head Lathes	D1-5	2500	67 lbs.
EZ83D6	8"	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	2800	43 lbs.
EZ103D6	10"	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	2500	67 lbs.
EZ123D6	12"	17" swing Soft Start & Variable Speed Lathes	D1-6	2100	104 lbs.
EZ103D8	10"	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	2500	67 lbs.
EZ123D8	12"	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	2100	104 lbs.
EZ153D8	15"	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	1800	141 lbs.

3 Jaw Part No	Dia	Lathe Size & Type	Spindle Size	Max. rpm	Weight
EZ66D5	6"	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	3000	18 lbs.
EZ86D5	8"	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	2800	47 lbs.
EZ106D5	10"	14" swing Gap & St. Bed Geared Head Lathes	D1-5	2500	70 lbs.
EZ86D6	8"	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	2800	47 lbs.
EZ106D6	10"	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	2500	70 lbs.
EZ126D6	12"	17" swing Soft Start & Variable Speed Lathes	D1-6	2100	108 lbs.
EZ106D8	10"	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	2500	70 lbs.
EZ126D8	12"	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	2100	108 lbs.



### Atlas 4-Jaw Independent Standard Duty Iron Body Chucks

Atlas Independent Chucks are precision manufactured and supplied with iron bodies, hardened and ground operating screws and solid reversible jaws. Atlas Independent Chucks come with a one year warranty.



### Atlas Self-Centering 3-Jaw Medium-Duty Universal Chucks

Atlas Self-Centering 3-Jaw Universal Chucks are supplied with semi-steel bodies, hardened scroll and pinions and two-piece American Standard tongue and groove jaws. Atlas Self-Centering 3 Jaw Universal Chucks come with a one year warranty.

Part No	Dia	Lathe Size & Type	Spindle Size	Weight
0844-10D5	8"	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	35 lbs
1044-10D5	10"	14" swing Gap & St. Bed Geared Head Lathes	D1-5	52 lbs
1044-10D6	10"	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	54 lbs
1244-10D6	12"	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	82 lbs
1644-10D6	16"	17" swing Soft Start & Variable Speed Lathes	D1-6	146 lbs
1644-10D8	16"	20" & 24" Soft Start & Variable Speed Lathes	D1-8	148 lbs
2044-10D8	20"	24" swing Soft Start & Variable Speed Lathes	D1-8	240 lbs

Part No	Dia	Lathe Size & Type	Spindle Size	Weight
2034-10D8	20"	24" swing Soft Start & Variable Speed Lathes	D1-8	366 lbs
2034-10D11	20"	24" PT swing Soft Start Lathes	D1-11	358 lbs

### 5C Front Mounted Hand Wheel Speed Collet Chuck

Fast and easy, front hand wheel operation reduces operator fatigue with accurate maximum cone TIR .0005". Easy installation, no drawtubes or linkages required. One year warranty.



### Air Powered Front Mounted 5C Dead Length Collet

Easily convert any lathe into a production machine. No hydraulic system required. No draw tube or air feed tubes restricting spindle bore. No rear cylinders and cylinder adapters. Repeats on duplicate parts  $\pm .00015$ .



Part No	Lathe Size & Type	Spindle	Weight
ALT206-5CD5	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	22 lbs.
ALT206-5CD6	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	22 lbs.
ALT206-5CD8	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	22 lbs.

Part No	Lathe Size & Type	Spindle	Weight
PB30-00	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	15 lbs.
PB37-00	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	17 lbs.
PB37-01	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	23 lbs.

### Air Powered Front Mounted 16C Dead Length Collet

No hydraulic system required. No draw tube or air feed tubes restricting spindle bore. No rear cylinders and cylinder adapters. Easily convert any lathe into a production machine. Repeats on duplicate parts  $\pm .00015$ .



Part No	Lathe Size & Type	Spindle	Weight
ALT207-16CD5	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	30 lbs.
ALT207-16CD6	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	30 lbs.
ALT207-16CD8	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	30 lbs.

### Air Powered Front Mounted B42 Dead Length Collet

Repeats on duplicate parts  $\pm .00015$ . No hydraulic system required. No draw tube or air feed tubes restricting spindle bore. No rear cylinders and cylinder adapters. Easily convert any lathe into a production machine.



Part No	Lathe Size & Type	Spindle	Weight
ALT207-B42D5	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	35 lbs.
ALT206-B42D6	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	35 lbs.
ALT206-B42D8	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	35 lbs.

### Air Powered Front Mounted B60 Dead Length Collet

No hydraulic system required. Repeats on duplicate parts  $\pm .00015$ . No draw tube or air feed tubes restricting spindle bore. No rear cylinders and cylinder adapters. Easily convert any lathe into a production machine.



Part No	Lathe Size & Type	Spindle	Weight
ALT207-B60D5	13" & 14" swing Gap & St. Bed Geared Head Lathes	D1-5	46.6 lbs.
ALT206-B60D6	15" & 17" swing Soft Start & Variable Speed Lathes	D1-6	46.6 lbs.
ALT206-B60D8	20" & 24" swing Soft Start & Variable Speed Lathes	D1-8	46.6 lbs.

## Pratt Burnerd Key-Operated Collet Chucks



This extremely accurate, .001" repeatability, economical chuck is completely sensitive for any gripping pressure. Its compact, efficient design is equipped with ball bearings and hardened

and ground components for lasting precision. Capacities from 1/6" through 2-1/2"

Part No	Description	Lathe Size & Type	Bar Stock Capacity	Collet Capacity	Collet Type	Weight
6012-31300	KC15 D5	13" & 14" swing Gap & St. Bed Geared Head Lathes	1/16"-1-1/2"	1-1/2"	EC	18 lbs.
6012-31700	KC20 D5	13" & 14" swing Gap & St. Bed Geared Head Lathes	1/4"-2"	2"	ED	55 lbs.
6012-51700	KC20 D6	15" & 17" swing Soft Start & Variable Speed Lathes	1/4"-2"	2"	ED	55 lbs.
6012-52100	KC25 D6	15" & 17" swing Soft Start & Variable Speed Lathes	1/2"-2-1/2"	2-1/2"	EE	60 lbs.
6012-62100	KC25 D8	20" & 24" swing Soft Start & Variable Speed Lathes	1/2"-2-1/2"	2-1/2"	EE	65 lbs.

## Pratt Burnerd Multi-Size Collets

### for Key-Operated Chuck

The Pratt Burnerd multi-size collets provide an accurate, efficient and economical means of holding work, while eliminating the need for decimal, metric or special size collets. Each multi-size collet has a stepless gripping range of .125" with an extended range of  $\pm .010$ " of size... accommodating both undersize and oversize work.

Most multi-size collets handle hex as well as round stock. Pratt Burnerd multi-size collets are very accurate, with no distortion. Gripping pressure is adjustable and the full-grip blades permit machining up to collet face. Accuracy is .0005" maximum eccentricity at the nose.



EC Collets		ED Collets		EE Collets	
1/16-3/16	3150-30200	1/4-3/8	3150-40400	1/2-5/8	3150-50600
1/8-1/4	3150-30300	3/8-1/2	3150-40500	5/8-3/4	3150-50700
1/4-3/8	3150-30400	1/2-5/8	3150-40600	3/4-7/8	3150-50800
3/8-1/2	3150-30500	5/8-3/4	3150-40700	7/8-1	3150-50900
1/2-5/8	3150-30600	3/4-7/8	3150-40800	1-1 1/8	3150-51000
5/8-3/4	3150-30700	7/8-1	3150-40900	1 1/8-1 1/4	3150-51100
3/4-7/8	3150-30800	1-1 1/8	3150-41000	1 1/4-1 3/8	3150-51200
7/8-1	3150-30900	1 1/8-1 1/4	3150-41100	1 3/8-1 1/2	3150-51300
1-1 1/8	3150-31000	1 1/4-1 3/8	3150-41200	1 1/2-1 5/8	3150-51400
1 1/8-1 1/4	3150-31100*	1 3/8-1 1/2	3150-41300	1 5/8-1 3/4	3150-51500
1/4-1 3/8	3150-31200	1 1/2-1 5/8	3150-41400	1 3/4-1 7/8	3150-51600
1 3/8-1 1/2	3150-31300	1 5/8-1 3/4	3150-41500	1 7/8-2	3150-51700
SET	3160-31300	1 3/4-1 7/8	3150-41600*	2-2 1/8	3150-51800
		1 7/8-2	3150-41700*	2 1/8-2 1/4	3150-51900
		SET	3160-41700	2 1/4-2 3/8	3150-52000*
				2 3/8-2 1/2	3150-52100*
				SET	3160-52100

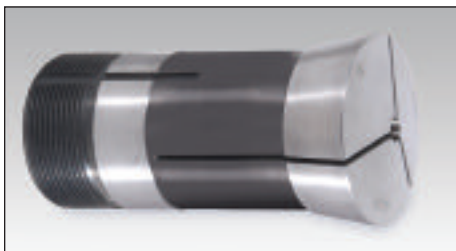
\*For round stock only

## Crawford 5C Round Collets



Part No.	Sizes
0123-R	1/8" thru 1-1/8 by 64ths
<b>5C Round Collet Sets</b>	
0123-SET-4	1/16" thru 1-1/16" by 64ths
0123-SET-5	1/16" thru 1-1/16" by 32nds
0123-SET-6	1/16" thru 1-1/16" by 16ths
0123-SET-7	1/8" thru 1" by 8ths
7659	Collet Rack for 13" and 15" lathes

## Crawford 16C Round Collets



Part No.	Sizes
G119-R	1/16" thru 1-5/8 by 16ths

## Crawford B-42 Round Collets



Part No.	Sizes
4728-R	1/16" thru 1-5/8 by 16ths

## Crawford B-60 Round Collets



Part No.	Sizes
4291-R	1/16" thru 2-5/16 by 16ths