Computerized N/C
CHNC® CHUCKER and BAR MACHINES
with Axis Repeatability within 50 Millionths of an Inch

Now Available with 4000 RPM Spindle Drive

CHNC®-5C and CHNC-16 Chuckers
The Super-Precision® CHNC Chuckers and Bar Machines provide offset capabilities of 0.00010" (1/4 Micron) and Direct CSS/RPM Programming. The CHNC Chuckers are available with a 4000 rpm inland drive, which delivers a maximum continuous seven horsepower.

The totally enclosed CHNC Chuckers permit super-close production tolerances and low micro finishes without grinding. The new guard, with extra thick Lexan® and reinforced frame, provides an improved enclosure to better confine chips and coolant.

The vertical cutoff slide, the part pickup chute and the Hardinge Pneumatic Vari-Grip® Collet Closer are standard equipment. The CHNC Chuckers use 3/8" square and 5/8" round tooling with the interchangeable 3/8" turret top plate or 1/2" square and 5/8" or 3/4" round tooling with the 1/2" top plate.

Request Bulletin C-57 for complete details.

Lexan is a trademark of the General Electric Company

CNC Control Units
A choice of two Computerized Numerical Controls is offered for the HARDINGE CHNC-5C and CHNC-16 Chuckers. The General Numeric G96T-B Control with Bubble Memory and the Allen-Bradley 7370A Control offer 0.00010" programmable resolution, as well as the most complete, comprehensive, practical and easy-to-use CNC features available.

CHNC-5C Chuckers
- 1-1/16" Collet Capacity
- 6" Step Chuck Capacity
- Threading from the Turret
- Optional Spindle Speeds—
  Up to 3000 rpm with Threaded Nose Spindle
  Up to 4000 rpm with A2-5" Spindle

CHNC-16 Chuckers
- 1-1/8" Collet Capacity—
- 1-1/16" with 16C Spindle Adapter
- 6" Step Chuck Capacity
- Threading from the Turret
- Spindle Speeds Up to 4000 rpm
  A2-5" Spindle

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www.OzarkToolManuals.com
Computerized Numerical Control from

**General Numeric**

**CONTROL PANEL**

Alpha-numeric keyboard for manual data entry, editing and offset capabilities.

The 9" CRT display provides easy-to-read program information. Test and diagnostic system provides convenient method of pinpointing areas requiring maintenance.

Part programs can be loaded by tape, keyboard or remotely through the RS-232-C and ASR Teletype Interfaces.

**TAPE READER**

Photoelectric Tape Reader reads up to 300 characters/second of 1" punched tape and has automatic selection of EIA or ASCII (ISO) code.

Automatic tape rewind, parity and chad detection, multiple block buffer and part storage for approximately 132 feet (40 meters) of tape are standard.

**Allen-Bradley**

**CONTROL PANEL**

Complete alpha-numeric keyboard for manual data entry and a 12" CRT for program information display.

Part programs can be loaded by tape, remotely through the RS-232-C Interface, or by keyboard. Operator messages, editing and offset information can be entered by keyboard.

**Application Logic (PAL) allows rapid troubleshooting of machine interface logic in familiar ladder-diagram form.** Primary and Secondary System Diagnostics provide a convenient method of locating areas requiring maintenance.

**TAPE READER**

Photoelectric Tape Reader reads up to 200 characters/second of 1" punched tape and has automatic selection of EIA or ASCII (ISO) code. Automatic tape rewind, parity and chad detection, multiple block buffer and part storage of approximately 90 feet (27 meters) of tape are standard.
**Specifications:**

- 0" Step Chuck Capacity
- 1 1/4" Collet Capacity
- Speeds to 3000 rpm
- Infinitely Adjustable Feeds
- Cross Slide Travel 3"
- Carriage Travel 8"
- Machine is Completely Enclosed
- Production Threading Unit
- Taper Turn Available

**AHC®-TV Fully Automatic Chucker and Bar Machine**

The AHC-TV Fully Automatic Chucker and Bar Machine has a simple direct unit for programming automatic cycle, including the closing and opening of collets, operation of the cross slide, carriage, vertical slide, automatic threading unit, and all six stations of the turret. The AHC-TV Automatic can turn, face, bore and thread with ONE Chucking and ONE Handling.

The totally enclosed, self-contained Automatic Chucker and Bar Machine permits super-close production tolerances and low micro inch finish without grinding. The transparent front guard door is electrically interlocked with cycle start.

Highlighting the list of several new features are the taper turn, taper bore, or taper face capabilities.

*Request Bulletin C-55 for complete details.*

**Simple Direct Programming**

Once the machine has been set up and programmed, the operator is required only to push the cycle start button for completely automatic production.

Selector switches permit manual operation for setup of vertical slide, spindle direction, speed change, index, chasing head, turret four-way switch and part chute for setting tooling, stop screws, feed rates, etc.
Specifications:
1 1/4" Collet Capacity
2 Independent Cross Slides
1 Vertical Slide
6-Station Turret
Infinitely Adjustable Feeds
Speeds to 4200 rpm

DSM™-A Bar and Second Operation Automatic

The DSM-A Bar and Second Operation Automatic provides fully automatic production for bar work and second operation chucking. Instant direct programming is accomplished at the machine. Simply press the trip blocks to instantly position with finger pressure. The trip blocks operate micro switches which control the six turret positions, front and rear slides, vertical slide, spindle speed change and other programming functions to produce Super-Precision results.

A wide variety of operations can be accomplished with low-cost standard tooling applied to the nine tooling positions to simplify fast setup and fast changeover from job to job. With a Hardinge Bar Feed you can instantly change over from second operation to bar work. Each turret station, two cross slides and the vertical slide have infinitely variable feeds to handle different materials and work configurations.

The DSM-A Automatic assures precision results at minimum cost.

Request Bulletin C-25 for complete details.
HSL™-59 Speed Lathe

For simple lathe operations, the HSL-59 Speed Lathe is limited only by your imagination. With the wide range of interchangeable tooling and attachments available, the HSL-59 Lathe can be used to face, chamfer, drill, turn, external thread, radius turn, taper turn, form, knurl and cutoff.

An operator tending an automatic lathe can easily do a second operation on the HSL-59 Lathe while the automatic is cycling.

The Speed Lathe compactness permits installation on a work bench or is available with welded steel pedestal base.

Request Bulletin C-30.

Specifications:
1 1/4" Collet Capacity
6" Step Chuck Capacity
5" Jaw Chuck Capacity
9" Swing
Speeds to 3000 rpm

TFB™-H Production Lathe

A high speed machine for precision power feed turning, facing and boring. Easy and fast to operate, the TFB-H Lathe is a rugged machine intended for manufacturing parts which do not require thread cutting operations.

Request Bulletin C-20 for complete details.

Specifications:
1 1/4" Collet Capacity
6" Step Chuck Capacity
5" Jaw Chuck Capacity
11" Swing
18" Center Distance
Speeds to 3000 rpm
Independent Electric Variable Feeds
Transparent Chip and Coolant Shield
HC™-AT With Automatic Threading Head

The HC-AT Chucking Machine can finish diameters, shoulders and end faces, and cut precision threads in one setting — all concentric with each other. Adjustable, exact cutting positions produce close tolerance parts on a production basis.

Request Bulletin C-41.

Specifications:
- 6" Step Chuck Capacity
- 1 1/16" Collet Capacity
- 5" Jaw Chuck Capacity
- 9" Fixture Diameter
- 8-Station Turret
- Speeds to 3000 rpm
- Independent Electric Variable Feeds
- 6" External, 5" Internal Max. Diameter for Threading
- 1 3/4" Maximum Length for Threading
- 12-64 Pitch Threads
- (Lead Screw and Follower)
- Transparent Chip and Coolant Shield

Automatic Threading Unit
Tool Storage Compartment
Selector Speed Control
Fast Lever Collet Chucking
Independent Electrical Variable Feeds
DSM™ 59 Bar and Second Operation Machine

This time-tested production machine is easy to set up and enables relatively inexperienced operators to turn out parts rapidly within close tolerances and to fine finish. Operations on this machine reduce expensive tooling, upkeep and downtime.

Request Bulletin C-10 for complete details.

Specifications:
1 1/2" Collet Capacity
6" Step Chuck Capacity
5" Jaw Chuck Capacity
9" Fixture Diameter
6 Position Turret
Two Cross Slide Positions
Speeds to 3500 rpm
Transparent Chip and Coolant Shield

Infinity Variable Spindle Speeds
Six-Station Turret
Double Tool Cross Slide
Fast Lever Collet Chucking
HLV™-H 10” Toolroom Lathe

The Hardinge Super-Precision Toolroom Lathe meets the close tolerance and fine finish requirements of toolrooms, laboratories, and research and development departments.

The HLV-H Toolroom Lathe fills the gap between the plain precision lathe and the heavy-duty engine lathe. Its infinitely variable speeds and feeds permit the toolmaker to perform all operations needed for creating prototypes, turning and threading, collet work and jaw chucking. The Hardinge Toolroom Lathe is also available with all metric dials and gearbox for threading.

Request Bulletin C-15 for complete details.

Specifications:

- 1 3/16” Collet Capacity
- 6” Step Chuck Capacity
- 18” Center Distance
- Thread Range 11 to 108
- 11” Swing
- Speeds to 3000 rpm
- Transparent Chip and Coolant Shield

Infinitely Variable Spindle Speeds
Independent Electric Variable Feeds
Gearbox for Threading Only
Solid Full Bearing Tailstock

Super-Precision Preloaded Ball Bearing Spindle
DV™59
Model Shop Lathe

Designed to meet the requirements of extreme lasting accuracy, high spindle speeds, and the ease in operation required for the smaller diameter work range found in every toolroom, laboratory, and production department.

Request Bulletin C-5 for complete details.

Specifications:
1½" Collet Capacity
6" Step Chuck Capacity
5" Jaw Chuck Capacity
9" Swing
Speeds to 3500 rpm
Transparent Chip and Coolant Shield

HLV™-EM
ENGLISH/METRIC Toolroom Lathe

Cut English or Metric Threads through the gearbox by simply turning the shift knob. With outside change gears, pitches from 10 to 250 threads per inch or from 3.00 to .10mm can be cut.

All feed screws and the carriage handwheel have dual dials with sliding covers to expose only the dial in use.

Request Bulletin C-16 for complete details.

Gearbox Thread Range
11 to 108 English
.275 to 2.7 mm
**HF-1 Spindle Bar Feed**

The **HF-1 Spindle Bar Feed** is ideal for the small shop or limited floor space installation.

The range of the air-operated HF-1 is 1/32" round to and including 3/4" round and it will handle bars up to two feet in length. This unit rotates with the spindle, eliminating whip and bar rattle commonly associated with bar feed units.

*Request Bulletin C-200 for complete details.*

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**Optional Tool Pre-Setter™ Unit**

The Optical Tool Pre-Setter is available for use with Hardinge Numerical Control Chuckers. Production interruptions are significantly reduced because the Pre-Setter permits tooling to be preset off and away from the machine on an interchangeable top plate by a semi-skilled worker.

*Request Bulletin C-247.*

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The Hardinge-designed and manufactured Bar Feed provides quiet operation, economy and efficient performance. By equipping your Hardinge production machine with the low-cost pneumatic bar feed, you can easily changeover from chucking to bar work.

Two lengths are available. The HF-6 will accommodate a six-foot bar and the HF-12 will take bars up to twelve feet in length.

*Request Bulletin C-240 for complete details.*

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**HF-6 and HF-12 Spindle Bar Feeds**
5C SPINDLE TOOLING

- 5C Collets (see page 14)
- Dead Length Work Stops
- Dead-Length® Collet
- Expanding Collet
- Step Chucks
- Collet Stops
- Dead-Length® 2" Step Chuck
- Master Expanding Collet
- Face Plates
- Fixture Plates
- Independent Jaw Chuck
- Universal Jaw Chuck

SHANK TOOLING


- Knurling Holder
- Knee Tool
- Adjustable Knee Tool
- Fine Adjustable Knee Tool
- Collet Releasing Tap Holder
- Slide Tool
- Recessing Tool
- Tool Holder Bushings
- Adjustable Revolving Stock Stop
- Tool Holder Extension
- Collet Type Holder
- Adjustable Holder

For complete information request Bulletin C-226.
CHUCKER TOOLING

- Boring Tool Adapter
- Knurling Tool
- Cutoff Tool
- Universal Tool Post
- Fine Adjustable Tooling
- Triple Tool Holder
- Single and Double Tool Holders
- Extension Tool Holder
- Fine Adjustable Tooling
- Drill and Shank Tool Holder
- Extension Tool Bit Holder
- Boring Tool Holder

MACHINE ATTACHMENTS and TOOLING

- Contour Tracing Attachment for HLV-H & TFB-H
- Tailstock Tooling For DV-59, HLV-H & TFB-H
- Radius Turning Attachment For DV-59, HLV-H, TFB-H & HSL-59
- Taper Slide For HC
- Quick Acting Recessing Tool for DSM-59 and HC Machines
- Tool Setting Gages for All Lathes
- Fast-Change Tool Holder For DV-59, HLV-H, TFB-H & HSL-59
- Carbide Cutting Tools
- Indexable Insert Tooling

For complete information request Bulletin C-55.
The Hardinge 5C Collet

The Hardinge 5C Collet is manufactured to exacting standards from special alloy steel. The threads are heat treated and the body spring tempered to assure accuracy and durability at low cost.

Hardinge 5C Collets offer a through-capacity to and including 1½” round, ½” hexagon and ¾” square.

Stock Delivery

A complete selection of standard sizes and shapes, and some not so standard, is available for immediate off-the-shelf delivery from a Hardinge stocking office near you.

5C Collets are stocked in all fractional sizes of round, hexagon and square to capacity. In addition, round collets are stocked in metric, decimal, letter and number sizes. Round-serrated, taper hole and even rectangular collets, in popular sizes, are also available for stock delivery.

5C-E Emergency Collets

The soft face and pilot hole of the 5C-E Emergency Collets permit rapid drilling, boring or stepping out to the exact size required. 5C-E Emergency Collets have internal threads for positive stops.


Hardinge-Sjogren

Speed Collet Chucks

Five-Collet Capacity Sizes: 1½”, 1¾”, 1¾”, 2¾”, 3½”.

A Hardinge-Sjogren Speed Collet Chuck gives greater capacity, saves time, increases accuracy and assures better results.

It is readily adapted for use on the spindle nose of your lathes, takes precision collets — enabling the operator to do better work... faster!

Request Sjogren Bulletins for Toolroom Lathes, Engine Lathes and Grinders.

Hardinge Collets

for Lathes and Millers

The name HARDINGE is a guarantee of accuracy and durability.

Collets in all sizes are in stock for American, Cincinnati, Hardinge, Hendey, LeBlond, Lehmann, Lodge & Shipley, Monarch, Pratt & Whitney, Sebastian, South Bend, Springfield and other lathes and milling machines.

Request Bulletin HA-5.

Collets, Feed Fingers and Pads for Brown & Sharpe Machines

Brown & Sharpe Collets & Feed Fingers are available in fractional round, hexagon, square and decimal round sizes, round and hexagon serrated collets, extended nose, short bearing, angular slotted & rectangular collets, milled-thru-end feed fingers and finished boring collets.

Request Bulletin HA-110.
Master Collets, Feed Fingers and Pads

Style “S”
Master Collet and Pads

For better performance at lower cost—Hardinge offers the only Master Collet with no work pressure on the screw and the only Master Feed Finger with no screws or pins to cause trouble.

Hardinge Style “S” Master Collets and Style “B” Master Feed Fingers are available for: Cleveland, Cone, Greenlee, Gridley and Acme-Gridley, National Acme, New Britain, and Warner & Swasey.
Request Catalog No. 36.

Hardinge Solid Collets, Master Collets and Pads

For your turret lathes — Advance, Bardons & Oliver, Defiance, Diehl, Foster, Gisholt, Jones & Lamson, Logan, Midland, Morey, Oster, Pratt & Whitney, Simmons, Warner & Swasey.
Request Catalog No. 36.

Style “B”
Master Feed Finger and Pads

Hardinge Collets and Feed Fingers for Automatics

For your automatic screw machines — Acme-Gridley, B.S.A., Cleveland, Cone, CVA, Davenport, Greenlee, Gridley, Index, National Acme, New Britain, Traub, Warner & Swasey and Wickman.
Request Catalog No. 36.

Style “AF”
Master Feed Finger with Snap-in Bushings and Pads

HARDINGE Style “AF” Master Feed Fingers, with Snap-in Bushings and Pads are available for: Acme-Gridley, Brown & Sharpe, Cone, Davenport, Greenlee, Gridley, and New Britain.

The Hardinge “AF” Master Feed Finger is designed for maximum operating efficiency and low cost.

The low-cost hardened steel or chromed hardened steel pads are adjustable for exact tension to properly feed bars or tubing.
Request Bulletin HA-175.

Special Shapes

For holding odd shaped parts or extruded stock, Hardinge will manufacture a special Collet to fill your requirements.

For an estimate, send a sample, print or diagram to your nearest Hardinge office.
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