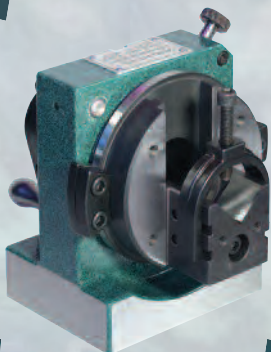
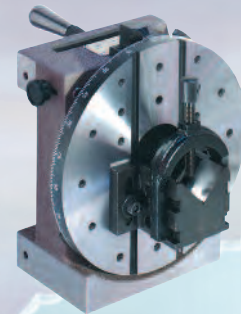


# Harig

WORLD  
CLASS  
TOOLS



Harig  
Manufacturing  
Corporation

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

Volume 6

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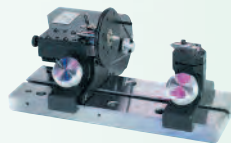


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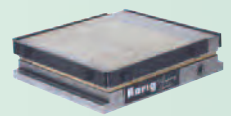
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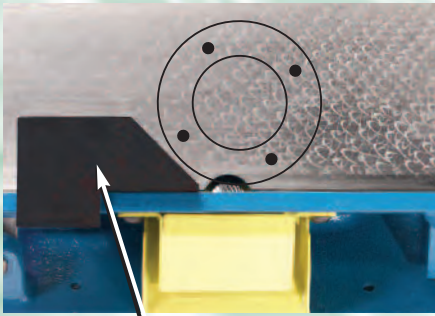
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P/N 92044

P/N 92045

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P/N 92048

Harig has acquired Simco's BUR-BEAYER tabletop deburring Model BB-920 and is reintroducing it to the marketplace. The industry standard, still made in the U.S.A., deburrs and cuts perfect 45 degree bevels on the outside edges of flat and square bar stock and rounds. Harig is committed to improving the Simco line of high performance deburring, chamfering, and beveling machines, and proud to have the Bur-Beaver as part of our line of "world class tools".

### FEATURES

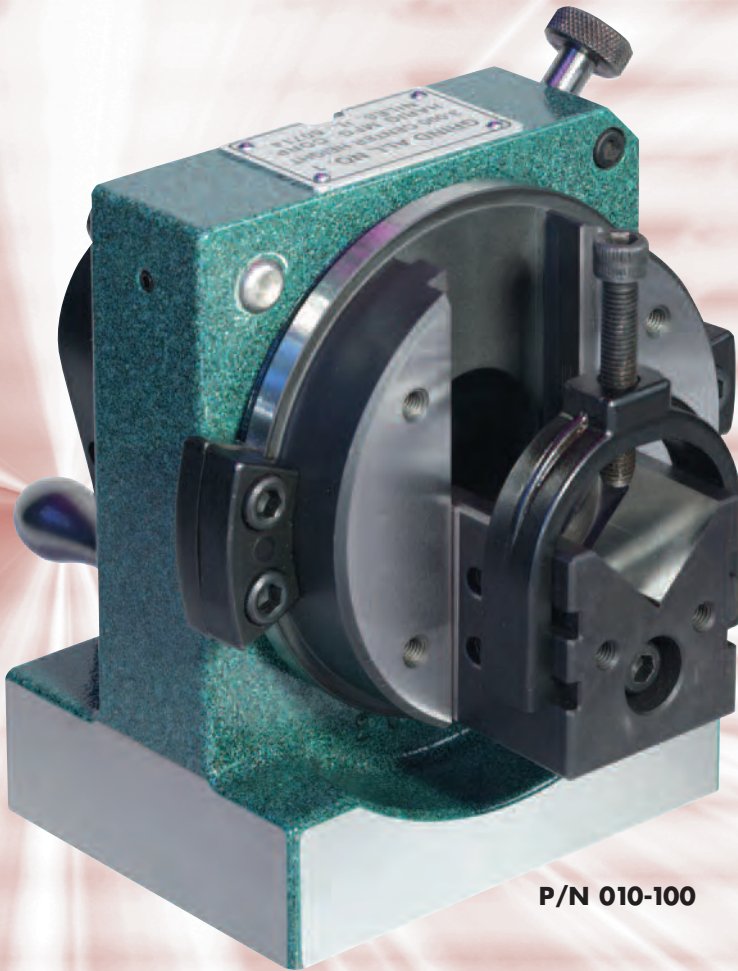
- Fast, safe, easy to operate
- Ideal for steel, aluminum, and plastic
- Cutter has minimum exposure to protect operator
- Table is fixed at standard 45 degrees
- Table moves up and down to easily adjust depth of cut
- Table lifts to change cutter
- Extra quiet, vibration free, variable speed permanent magnet motor
- One piece cast aluminum housing
- Includes one 18-FLUTE CUTTER (p/n 92048)
- Optional GUIDE (p/n 265-50) permits deburring the O.D. of flat rounds
- Full repair service and replacement parts available

### SPECS

Motor	3/4 horsepower
Variable Speed	up to 7,000 rpm (no load)
Electrical	115V - 60Hz
Table	12" long x 4" high
Overall size	10" x 10" x 7" high
Weight	30 lbs

### REPLACEMENT CUTTERS

- p/n 92044 BB-35Q 27-Flute Cutter for fine finishes minimum depth chamfers on steel
- p/n 92045 BB-35R Borazon Abrasive Wheel Deburrs stainless and hardened steel
- p/n 92046 BB-35N 9-Flute Cutter deburrs and chamfers aluminum, plastic, cast iron
- p/n 92047 BB-35S Crosshatch Cutter for fine finish deburring of steel
- p/n 92048 BB-35P 18-Flute Cutter for medium finish chamfers on steel to 1/8" (most popular)



P/N 010-100

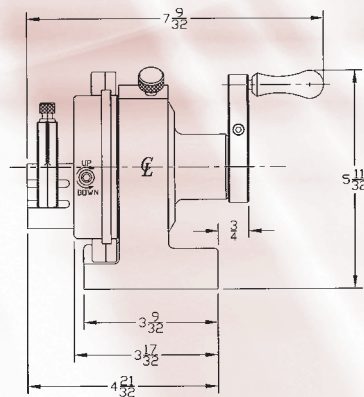
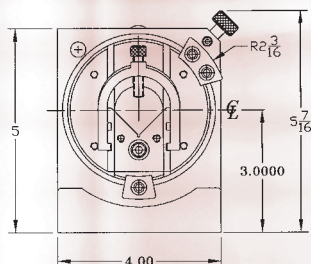
Harig's benchmark precision v-block fixture has improved toolroom productivity since 1951. The original patent holder, copied but never duplicated, is the most accurate indexer of its kind available today. Time tested for high precision work within "tenths," the Grind-All No.1 sets the standard for grinding punches, core pins, and EDM electrodes. Also used for precision indexing, inspecting, milling, boring, and radius dressing. Complete line of accessories increase applications, and make the Grind-All No.1 the most versatile v-block fixture ever. Over 20,000 units in action worldwide. When accuracy is of the utmost importance, the Grind-All No.1 enables you to work with close tolerances. Reliability backed by Harig's trademark service.

### FEATURES

- Hardened and ground tool steel with solid one piece construction
- Preloaded ball and race design provides highest accuracy
- V-Block adjusting screw allows for quick movement of v-block to  $\pm 0.0001$  without tapping
- Single screw for fast locking of v-block
- 360 degree graduated dial for convenience
- 24 division index plate with precision index pin locks in every 15 degrees to  $\pm 10$  seconds
- 2 adjustable stops work with stop pin to set accurate angles between index locations
- U-Clamp and screw secure piece part in v-block
- Removable v-block for accurate face-plate work
- Narrow profile maximizes work area under grinding wheel
- Mounting holes on base of unit for use with Harig accessories
- Lightest fixture of its kind for easy handling
- Includes carrying case for protective dust-free storage
- Full repair service and replacement parts available



Punch shapes possible with Grind-All No. 1

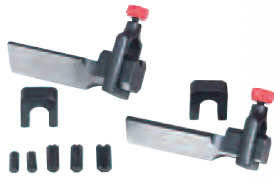


### SPECS

V-Block Capacity	1 1/4"
Center height	3.000"
Through hole	1 3/16"
Graduation	360 degree
24 division indexing	$\pm 10$ seconds
V-Block within	0.0001
Square and parallel to	0.0001
Weight	12 lbs.

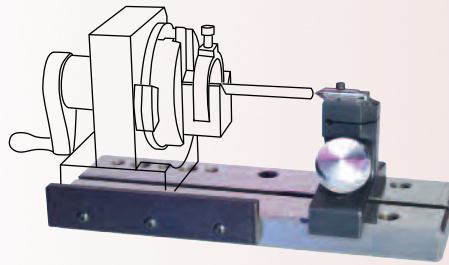
# GRIND-ALL NO.1 ACCESSORIES

# Harig



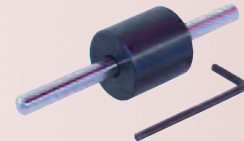
**SUPER WEE-BLOCKS** P/N 065-100

- Accurately holds small parts from 0.030" to  $\frac{1}{32}$ "
- Set consists of 2 wee-blocks and 2 bridges
- Retaining bars: (2)  $\frac{5}{32}$ ", (2)  $\frac{1}{8}$ ", (1)  $\frac{3}{16}$ "
- Hardened and ground to "tenths" accuracy
- Includes case



**BASE-PLATE & TAIL-STOCK** P/N 015-100

- 4" x 11" with rail
- 6" capacity between centers
- 18" base-plate also available
- Hardened and ground tool steel



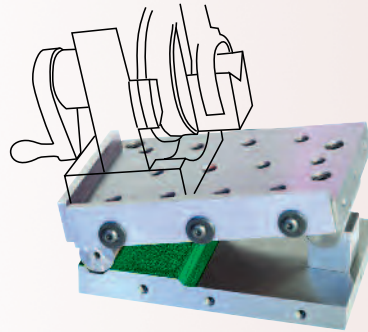
**LENGTH STOP** P/N 10-95

- For multiple piece parts



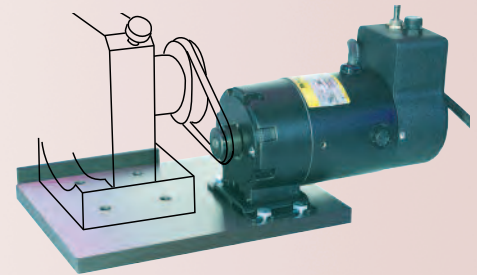
**SINE-CHUCK** P/N 105-100

- 6" x 6" with 2 rails
- Permanent magnet
- Single angle (5" sine)
- 1 single strap



**SINE-PLATE** P/N 055-100

- 4" x 6" with 2 rails
- Single angle (5" sine)
- 0.200 minute angle step
- Hardened and ground tool steel



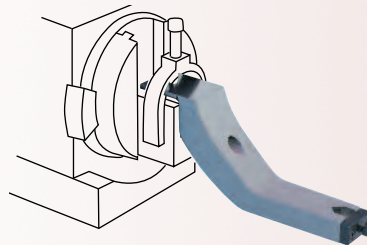
**MOTO-GRIND** P/N 10-70

- For light duty work
- Includes motor, base plate, drive belt, & case
- Variable speed from 50-550 rpm (load)
- .07 hp, .82 amp, 115V DC motor



**STEADY-REST** P/N 135-100

- Assists in grinding very small diameters
- Magnetic base
- Spring loaded plunger



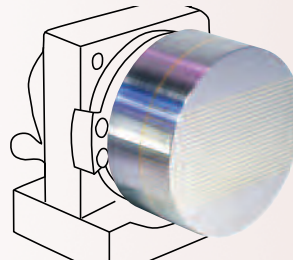
**RADIUS DRESSER ARM** P/N 10-52

- For dressing wheels up to 10" diameter
- OD diamond nib (P/N 91002)
- ID diamond nib (P/N 91003)



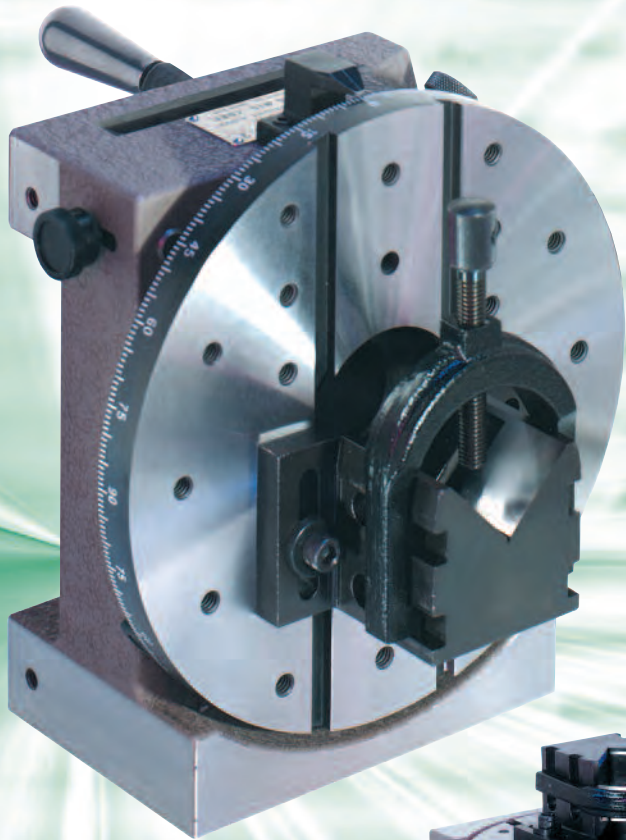
**FACE PLATE** P/N 10-90

- 6" diameter
- Hardened and ground tool steel



**MAGNETIC CHUCK** P/N 10-40

- 4" diameter
- Permanent magnet



P/N 020-100

P/N 020-100  
+ 20-92  
+ 20-70



Special order



P/N 021-100

Harig's largest precision v-block fixture incorporates the advantages of the Grind-All No.1 with greater capacity. 2" diameter v-block and 6 7/8" face-plate diameter fits every toolroom's need for grinding larger punches, core pins, and EDM electrodes. Also used for precision indexing, inspecting, milling, boring, and radius dressing. Time tested to meet close tolerances for high precision work within "tenths". Uniquely designed to also mount horizontally. Complete line of accessories includes optional rotary table mechanism that rotates the Grind-All No. 2 (P/N 021-100) in the horizontal position for milling and index table work. Also available as a motorized magnetic rotary table by special order. When precision v-block work is required, the Grind-All No. 2 is the most complete large capacity v-block fixture available. Reliability backed by Harig's trademark service.

### FEATURES

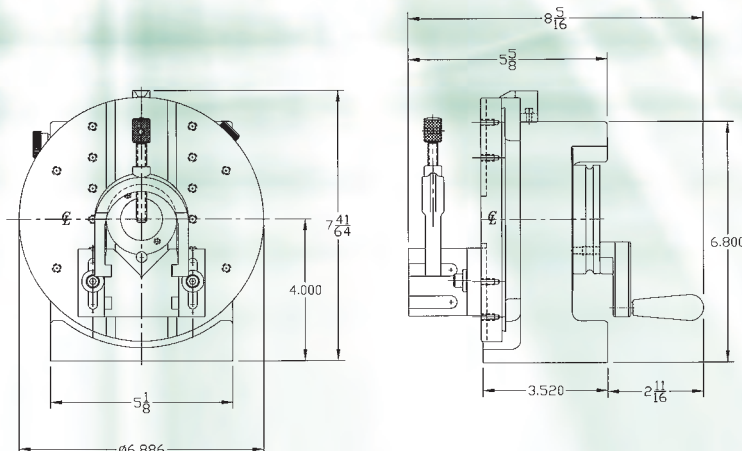
- Hardened and ground tool steel with solid one-piece construction
- Preloaded ball and race design provides highest accuracy bearing
- Graduated 360 degrees for convenience
- 24 division index plate with precision index pin locks in every 15 degrees to +/- 10 seconds
- 2 adjustable stops work with stop pin to set accurate angles between index locations
- Locking screw locks spindle at any position between indexes
- U-Clamp and screw secure piece part in v-block
- Removable v-block for accurate face-plate work
- 6 7/8" diameter face plate has tapped holes for mounting purposes
- Hand crank for easy rotation is removable when used horizontally
- Optional rotary table mechanism provides geared rotation in the horizontal position
- Full repair service and replacement parts available

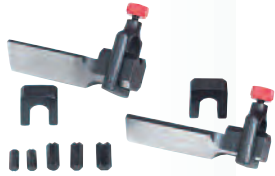
### SPECS

V-Block Capacity	2"
Center height	4.000"
Punch head clearance	2"
Through hole	1 3/16"
Face-plate diameter	6 7/8"
Graduation	360 degree
24 division indexing	+/- 10 seconds
V-Block within	0.0001
Square and parallel to	0.0001
Weight	30 lbs.



Punch shapes possible with Grind-All No. 2





### **SUPER WEE-BLOCKS** P/N 065-100

- Accurately holds small parts from 0.030" to  $\frac{9}{32}$ "
- Set consists of 2 wee-blocks and 2 bridges
- Retaining bars: (2)  $\frac{5}{32}$ ", (2)  $\frac{1}{8}$ ", (1)  $\frac{3}{16}$ "
- Hardened and ground to "tenths" accuracy
- Includes case



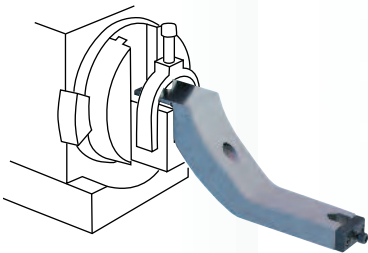
### **CARRYING CASE** P/N 20-65

- Fits Grind-All No. 2 with or without rotary table mechanism
- Provides protective, dust-free storage



### **SINE-CHUCK** P/N 105-100

- 6" x 6" with 2 rails
- Permanent magnet
- Single angle (5" sine)
- 1 single strap



### **RADIUS DRESSER ARM** P/N 10-52

- For dressing wheels up to 10" diameter
- OD diamond nib (P/N 91002)
- ID diamond nib (P/N 91003)



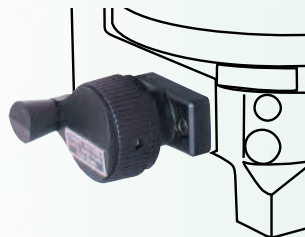
### **STEADY-REST** P/N 135-100

- Assists in grinding very small diameters
- Magnetic base
- Spring loaded plunger



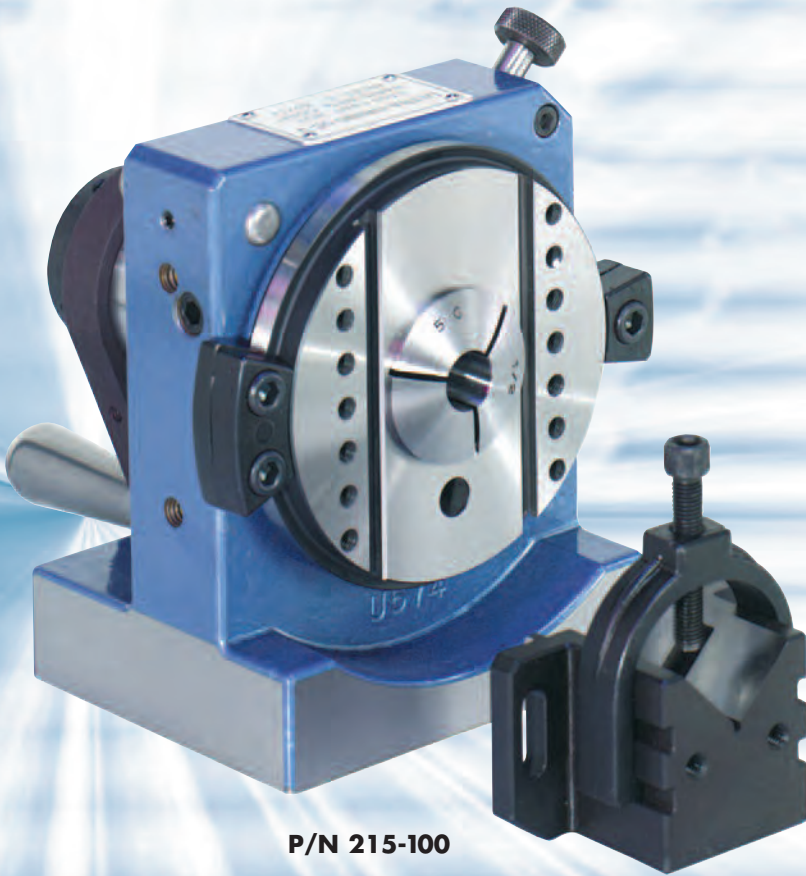
### **No. 2 MOTOR ATTACHMENT** P/N 20-70

- For light duty work
- Includes motor, bracket & drive belt
- Variable speed from 50-450 rpm
- 0.1 hp, 1.1 amp, 90V DC motor



### **ROTARY TABLE MECHANISM KIT** P/N 20-50

- For rotating face plate in horizontal position
- Ideal for light milling and index table work
- Factory installation available



P/N 215-100

Harig's enhanced version of the Grind-All No. 1; this ultra-precise combination 5C Collet/v-block fixture is the most versatile unit in the Harig line. Quick, easy changeover from collet to v-block while maintaining "tenths" accuracy, the Ultra-Grind is the toolroom solution for grinding punches, core pins, and EDM electrodes. Also used for precision indexing, inspecting, milling, boring, and radius dressing. Lube and purge port permits additional EDM applications, while advanced bearing is ideal for motorization. Complete line of accessories compliments the Ultra-Grind. When a precision combination 5C Collet/v-block fixture is needed, the Ultra-Grind is up to any toolroom task. Reliability backed by Harig's trademark service.

### FEATURES

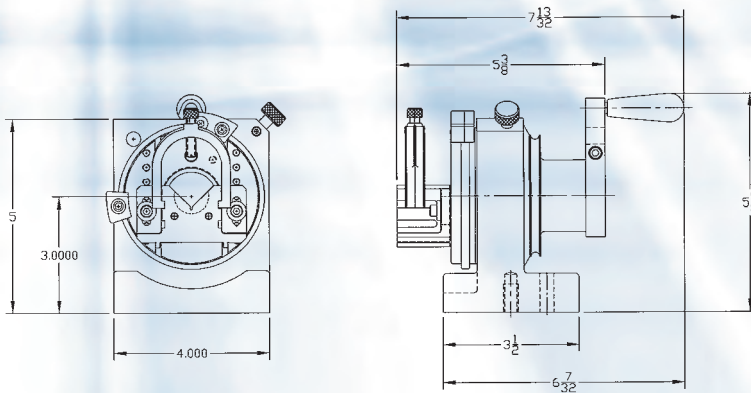
- Hardened and ground tool steel with solid one piece construction
- Preloaded ball and curved race design provides highest accuracy bearing ideal for motorization
- 360 degree graduated dial for convenience
- 24 division index plate with precision index pin locks in every 15 degrees to +/- 10 seconds
- 2 adjustable stops work with stop pin to set accurate angles between index locations
- Locking screw locks spindle at any position between indexes
- U-Clamp and screw secure piece part in v-block
- Removable v-block makes accurate 5C collet use easy
- Lube and purge port permits more EDM applications
- Narrow profile maximizes work area under grinding wheel
- Mounting holes on base of unit for use with Harig accessories
- Lightest fixture of its kind for easy handling
- 1/2" 5C collet included
- Includes carrying case for protective, dust-free storage
- Full repair service and replacement parts available



Punch shapes possible with Ultra-Grind No. 5C-V

### SPECS

V-Block Capacity	1 1/4"
Collet	5C up to 1"
Center height	3.000"
Through hole	1 3/16"
Graduation	360 degree
24 division indexing	+/- 10 seconds
Purge port	1/8 NPT tapped entry port
Spindle runout	0.00005
V-Block within	0.0001
Square and parallel to	0.0001
Weight	14 lbs.





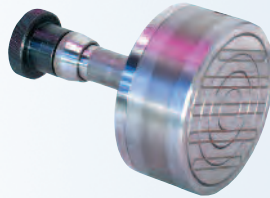
# ULTRA-GRIND NO. 5C-V ACCESSORIES

# Harig



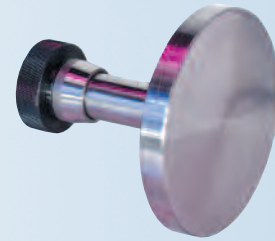
**3-JAW CHUCK** P/N 120-60

- 1 3/8" maximum opening with straight jaws
- 3 3/8" maximum opening with step jaws
- 3/4" thru hole (chuck only)
- With adapter shank



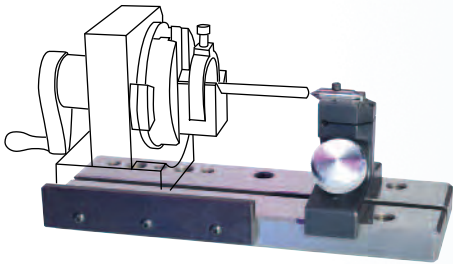
**MAGNETIC CHUCK** P/N 120-70

- 4 3/4" diameter, 2 1/4" thick
- Standard pole permanent magnet
- With adapter shank



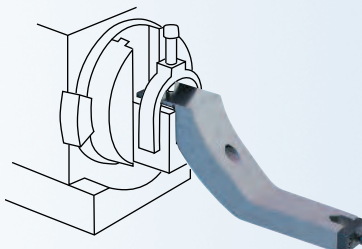
**FACE PLATE** P/N 120-50

- 5" diameter
- Soft face
- With adapter shank



**BASE-PLATE & TAIL-STOCK** P/N 015-100

- 4" x 11" with rail
- 6" capacity between centers
- 18" base-plate also available
- Hardened and ground tool steel



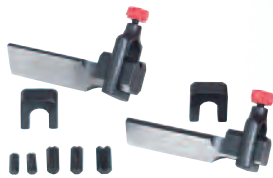
**RADIUS DRESSER ARM** P/N 10-52

- For dressing wheels up to 10" diameter
- OD diamond nib (P/N 91002)
- ID diamond nib (P/N 91003)



**SINE-CHUCK** P/N 105-100

- 6" x 6" with 2 rails
- Permanent magnet
- Single angle (5" sine)
- 1 single strap



**SUPER WEE-BLOCKS** P/N 065-100

- Accurately holds small parts from 0.030" to 9/32"
- Set consists of 2 wee-blocks and 2 bridges
- Retaining bars: (2) 5/32", (2) 1/8", (1) 3/16"
- Hardened and ground to "tenths" accuracy
- Includes case



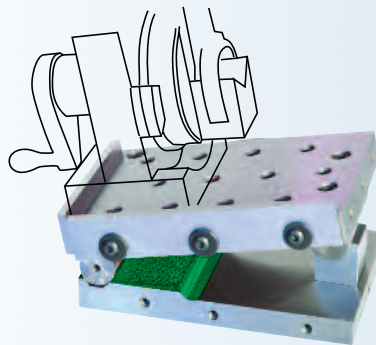
**STEADY-REST** P/N 135-100

- Assists in grinding very small diameters
- Magnetic base
- Spring loaded plunger



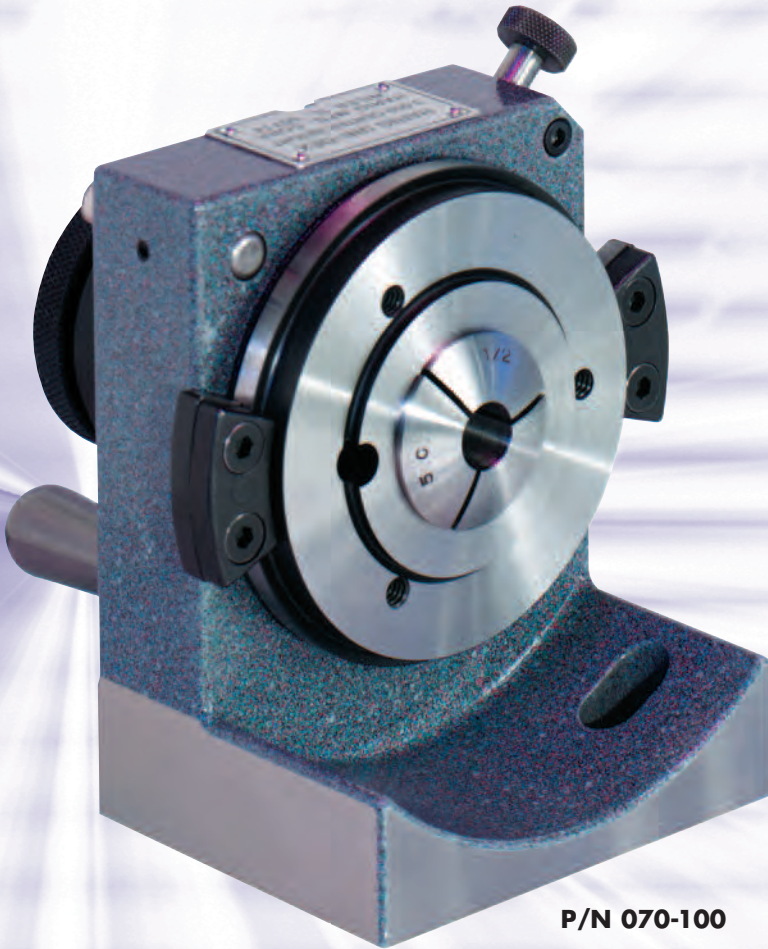
**ULTRA-GRIND MOTOR ATTACHMENT**  
P/N 210-70

- Includes motor, bracket and drive belt
- Mounts to side of unit
- Variable speed from 50-550 rpm (load)
- .07 hp, .82 amp, 115V DC motor



**SINE-PLATE** P/N 055-100

- 4" x 6" with rail
- Single angle (5" sine)
- 0.200 minute angle step
- Hardened and ground tool steel

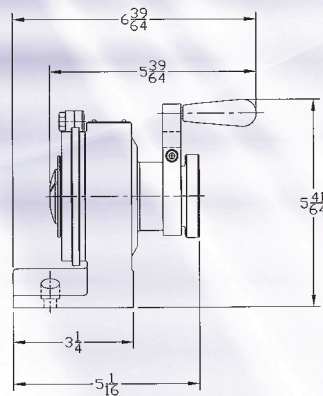
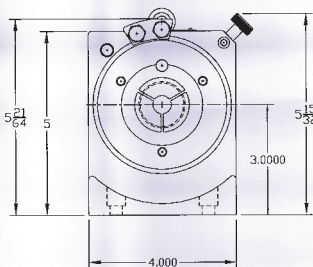


P/N 070-100

Harig's precision universal 5C collet indexing fixture can be used for a wide variety of tool room and production applications. Index arrangement ensures extreme positioning accuracy when grinding, inspecting, milling, and boring. Minimal spindle runout means the Uni-Dex is essentially as accurate as your 5C collet and allows you to work with "tenths". Extended base provides exceptional rigidity and minimal deflection even with heavier workpieces. Increase the versatility of the Uni-Dex by pairing it with one of the many Harig accessories. When precise indexing in a 5C collet configuration is a must, trust the Uni-Dex to do the job accurately and efficiently. Reliability backed by Harig's trademark service.

### FEATURES

- Hardened and ground tool steel with solid one piece construction
- Preloaded ball and race design provides highest accuracy bearing
- 5C collet holder ground in assembly to under 0.00005 runout
- 360 degree graduated dial for convenience
- 24 division index plate with precision index pin locks in every 15 degrees to +/- 10 seconds
- 2 adjustable stops work with stop pin to set accurate angles between index locations
- Locking screw locks spindle at any position between indexes
- Draw sleeve for quick set-ups of collets and accessories
- Extended base for minimal deflection even with heavier parts
- Mounting holes on base of unit for use with Harig accessories
- Lightest fixture of its kind for easy handling
- 1/2" 5C collet included
- Includes carrying case for protective, dust-free storage
- Full repair service and replacement parts available



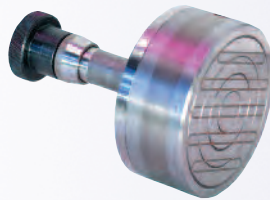
### SPECS

Collet	5C up to 1"
Center height	3.000"
Graduation	360 degree
24 division indexing	+/- 10 seconds
Spindle runout	0.00005
Square and parallel to	0.0001
Weight	11 lbs



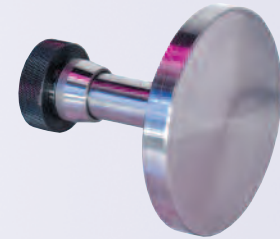
**3-JAW CHUCK** P/N 120-60

- 1 3/8" maximum opening with straight jaws
- 3 3/8" maximum opening with step jaws
- 3/4" thru hole (chuck only)
- With adapter shank



**MAGNETIC CHUCK** P/N 120-70

- 4 3/4" diameter, 2 1/4" thick
- Standard pole permanent magnet
- With adapter shank



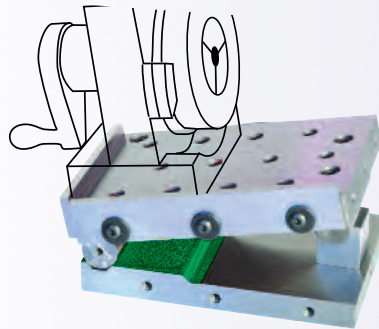
**FACE PLATE** P/N 120-50

- 5" diameter
- Soft face
- With adapter shank



**STEADY-REST** P/N 135-100

- Assists in grinding very small diameters
- Magnetic base
- Spring loaded plunger



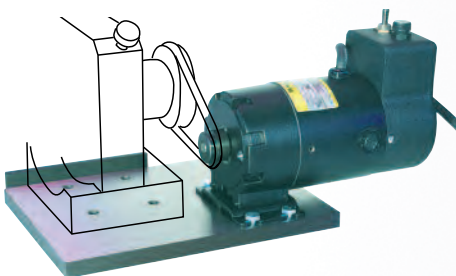
**SINE-PLATE** P/N 055-100

- 4" x 6" with 2 rails
- Single angle (5" sine)
- 0.200 minute angle step
- Hardened and ground tool steel



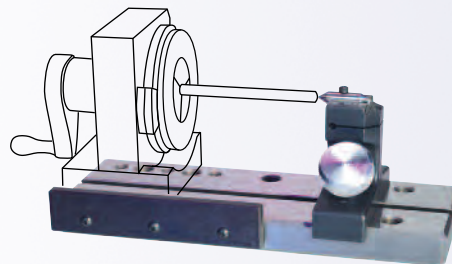
**SINE-CHUCK** P/N 105-100

- 6" x 6" with 2 rails
- Permanent magnet
- Single angle (5" sine)
- 1 single strap



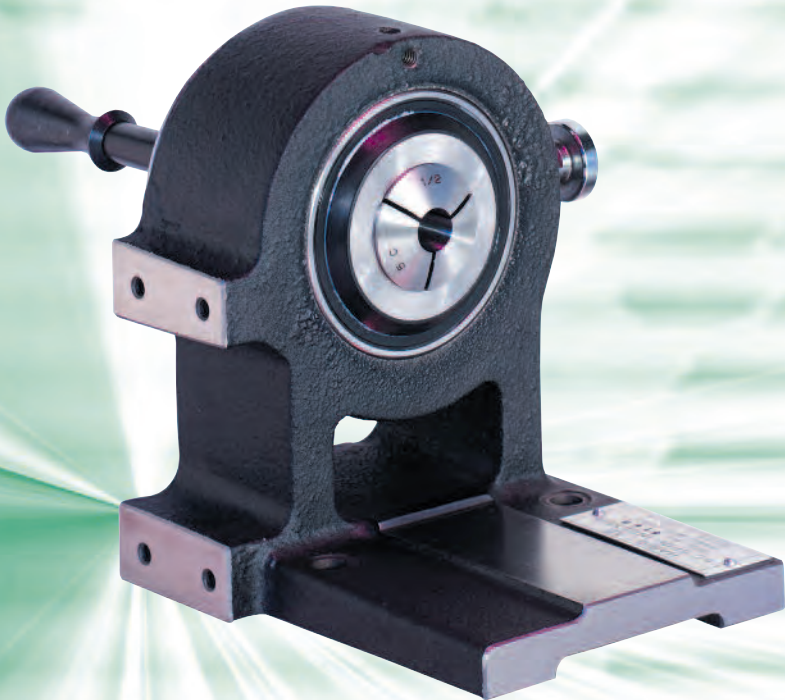
**MOTO-GRIND** P/N 70-70

- For light duty work
- Includes motor, base plate, drive belt, & case
- Variable speed from 50-550 rpm (load)
- .07 hp, .82 amp, 115V DC motor

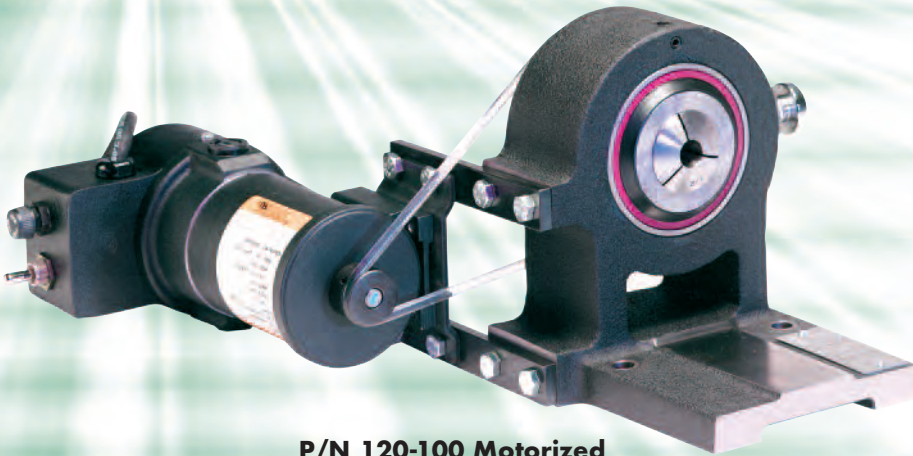


**BASE-PLATE & TAIL-STOCK**

- P/N 015-100**
- 4" x 11" with rail
  - 6" capacity between centers
  - 18" base-plate also available
  - Hardened and ground tool steel



**P/N 122-100 Manual**



**P/N 120-100 Motorized**



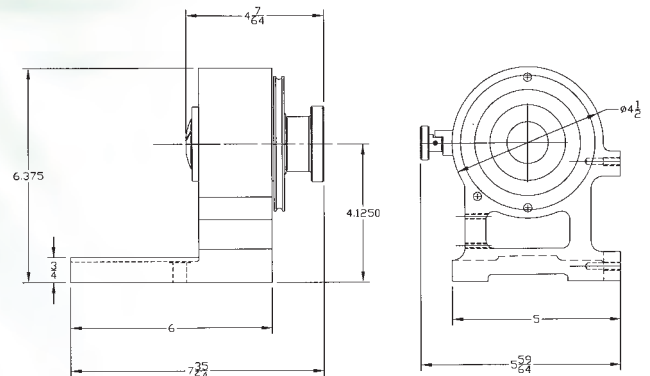
Harig's durable 5C collet spin fixture offers "production plus" capabilities and is easily motorized. Suitable for a variety of machining applications, this unit quickly becomes the most useful "spinner" in your toolroom. Variable speed motor attachment can be mounted to Spin-Indexer (P/N 120-100) in forward or rearward position, and makes accurate production work easy. Most complete line of accessories broadens applications. When production work is called for, the Spin-Indexer can be motorized to do the job even more efficiently. Reliability backed by Harig's trademark service.

### FEATURES

- Sturdy and dimensionally stable cast iron housing
- Large preloaded ball bearings are durable and accurate - ideal for motorization
- 5C collet holder ground in assembly to under 0.0001 runout
- 24 division index plate with precision index pin locks in every 15 degrees to +/- 30 seconds
- Draw sleeve for quick set-ups of collets and accessories
- Extended base for minimal deflection even with heavier parts
- 1/4" diameter mounting hole on top of housing for diamond dresser
- Mounting holes on base of unit for use with Harig accessories
- Crank handle easily removed for motorized set-up
- Unique design allows for mounting of variable speed motor in forward or rearward position
- Full repair service and replacement parts available

### SPECS

Collet	5C up to 1"
Center height	4 1/8"
24 division indexing	+/- 30 seconds
Spindle runout	0.0001
Spindle parallel to base	0.0002 in 6"
Motor	.07 hp, .82 amp, 115V DC motor
Variable Speed	50-450 rpm (load)
Weight	17 lbs



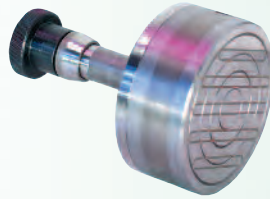
## SPIN-INDEXER ACCESSORIES

# Harig



**3-JAW CHUCK** P/N 120-60

- 1 <sup>3</sup>/<sub>8</sub>" maximum opening with straight jaws
- 3 <sup>3</sup>/<sub>8</sub>" maximum opening with step jaws
- <sup>3</sup>/<sub>4</sub>" thru hole (chuck only)
- With adapter shank



**MAGNETIC CHUCK** P/N 120-70

- 4 <sup>3</sup>/<sub>4</sub>" diameter, 2 <sup>1</sup>/<sub>4</sub>" thick
- Standard pole permanent magnet
- With adapter shank



**FACE PLATE** P/N 120-50

- 5" diameter
- Soft face
- With adapter shank



**MANUAL COLLET CLOSER** P/N 140-100

- Lever action
- For quick set ups of collets and accessories



**DIAMOND NIB** P/N 91005

- Inserts into top of fixture
- Easily dresses wheels



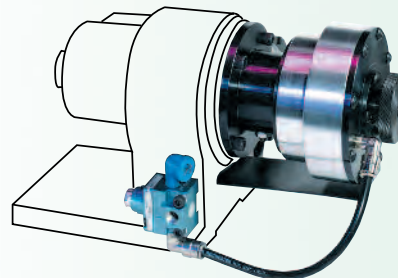
**STEADY-REST** P/N 135-100

- Assists in grinding very small diameters
- Magnetic base
- Spring loaded plunger



**COLLET STOP SET** P/N 145-100

- Adjustable and threaded
- 4 piece set
- Assists in production work



**AIR COLLET CLOSER** P/N 165-100

- Only for use with motorized Spin-Indexer P/N 120-100
- Mounts directly to back of spindle pulley
- Spring set and air released by push button air valve
- Minimum air pressure of 50 psi required



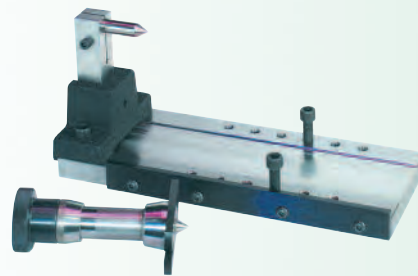
**SINE-CHUCK** P/N 105-100

- 6" x 6" with 2 rails
- Permanent magnet
- Single angle (5" sine)
- 1 single strap



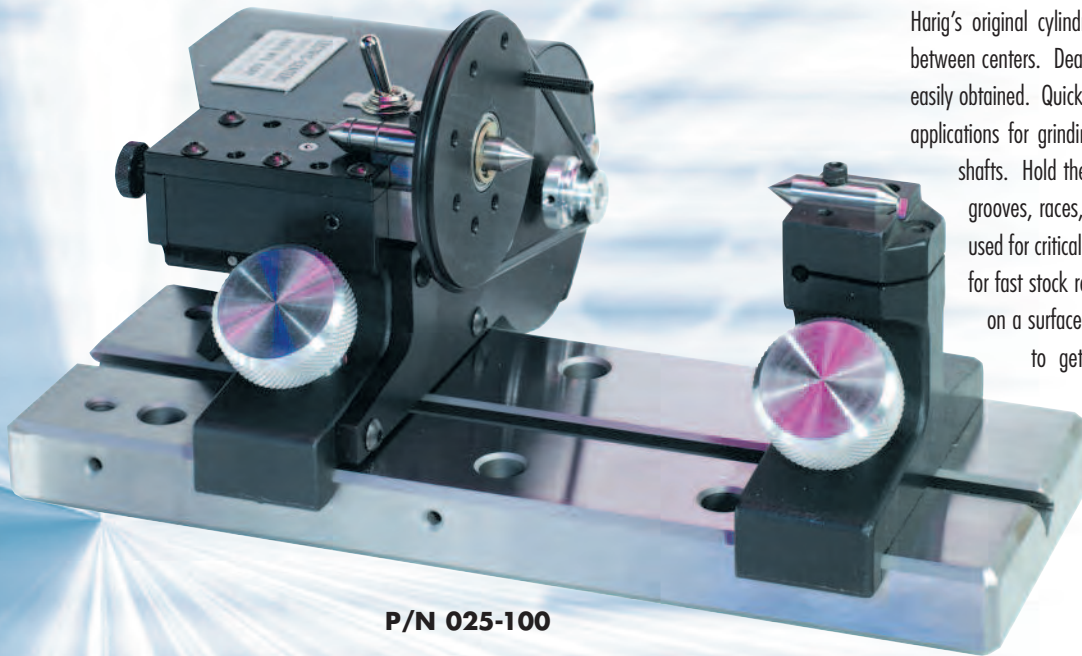
**MOTOR ATTACHMENT** P/N 120-80

- Motorizes manual Spin-Indexer (P/N 122-100)
- Includes motor, bracket, & drive belt
- Mounts in forward or rearward position
- Variable speed from 50-450 rpm (load)
- .07 hp, .82 amp, 115V DC motor



**ADAPTER PLATE** P/N 130-100

- <sup>3</sup>/<sub>4</sub>" x 4 <sup>1</sup>/<sub>2</sub>" x 12"
- 2" minimum between centers
- 7 <sup>1</sup>/<sub>2</sub>" maximum between centers
- <sup>1</sup>/<sub>2</sub>" x 2" tail center is adjustable
- Includes 5C solid center with drive plate

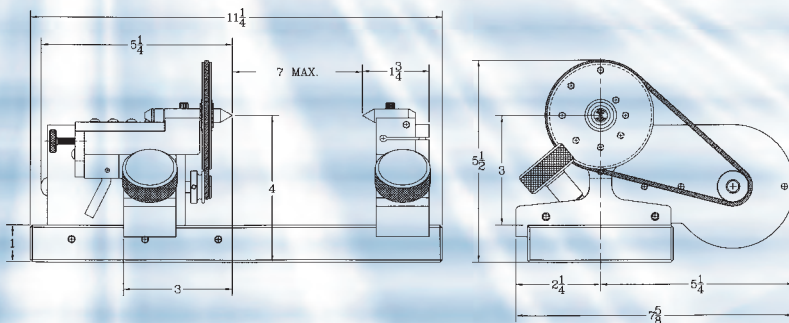
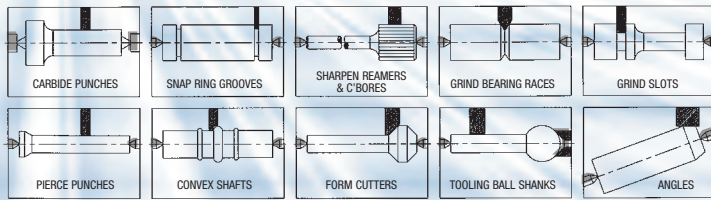


**P/N 025-100**

Harig's original cylindrical grinding fixture used for precision grinding between centers. Dead center design permits "tenths" accuracies to be easily obtained. Quickly converts a surface grinder to cylindrical grinding applications for grinding punches, pins, reamers, cutters, shanks, and shafts. Hold the piece part in the Letric-Centers to grind angles, grooves, races, and slots accurately and efficiently. Also can be used for critical inspection. Motorized head and two-speed pulley for fast stock removal. When external grinding between centers on a surface grinder is a must, trust the Letric-Centers fixture to get the job done accurately. Backed by Harig's trademark service.

### FEATURES

- Hardened and ground tool steel base allows grinding between centers up to 7" (14" with 18" baseplate)
- Grind and check parts within 0.00005 TIR
- Fan cooled motor and 2 speed pulley for efficient operation
- Interchangeable hardened tool steel centers are male on one end, female on the other
- Tail-stock taper adjustment allows extremely accurate settings to be obtained
- Head-stock center is on lever controlled sliding ram and has adjusting screw for spring tension
- Head stock and tail stock are both adjustable for greater flexibility
- Base-Plate & Tail-Stock with addition of rail can be used with other Harig fixtures
- Built in diamond holder for quick dressing of grinding wheels

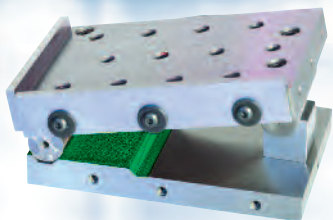


### SPECS

Obtainable runout	0.00005 TIR
Grinding between centers	up to 7" (or 14")
Center height	3.000"
Swing	6"
Motor	115V, 60C
Speeds	180 & 360 rpm
Weight	20 lbs

### ACCESSORIES

18" BASE PLATE	P/N 15-30
DIAMOND NIB	P/N 91005



**SINE-PLATE P/N 055-100**

- 4" x 6" with 2 rails
- Single angle (5" sine)
- 0.200 minute angle step
- Hardened and ground tool steel



**SINE-CHUCK P/N 105-100**

- 6" x 6" with 2 rails
- Permanent magnet
- Single angle (5" sine)
- 1 single strap

Harig's economical EDM spindle mounts to conventional EDM machines to increase productivity. The Roto-Spindle spins your electrode to improve accuracy, decrease electrode wear, and increase hole-making speed up to 50%. Available in 2 models, the E-5 Roto-Spindle (P/N 170-100) uses ER-20 or RD-20 collets up to 1/2", while the E-20 Roto-Spindle (P/N 175-100) holds 20mm tooling. Motor has built-in variable speed control for ideal operation between 10-260 RPM. When looking to improve burning times and accuracy on conventional EDM machines, the Roto-Spindle will do the job economically and efficiently. Reliability backed by Harig's trademark service.

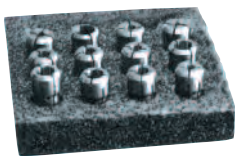
## FEATURES

- E-5 Roto-Spindle (P/N 170-100) uses collets from 1/16" to 1/2"
- E-20 Roto-Spindle (P/N 175-100) uses 20mm tooling
- Compatible with Harig Flush Chucks used for holding smaller electrodes
- Adapts to all vertical ram conventional EDM machines
- Increases cutting rate up to 50%
- Improves finish and electrode wear
- Allows excellent flushing for efficient operation
- Improves concentricity and allows operator to work with "tenths"
- Variable speed motor operates on 110V from 10-260 RPM
- Spindle housing is insulated from motor
- Current through spindle 10 amp max
- Compact, lightweight, and easy to use
- Includes spindle wrench, drive belt, and carrying case
- Full repair service and replacement parts available

## SPECS

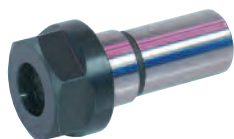
Spindle runout	0.0001"
Motor	.07 horsepower 115V AC
Variable speed	10-260 RPM
Weight	9 lbs
Flushport	1/8" - 27 NPT

## ACCESSORIES



### COLLET SET OF 12 P/N 170-70

- For E-5 Roto-Spindle (P/N 170-100)
- Range from 0.039 - 0.512
- Individual collets also available

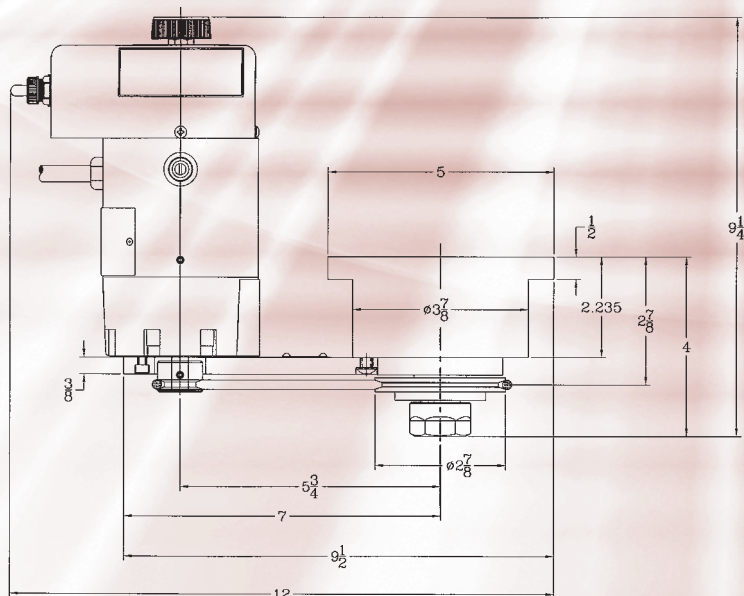


### E-20 COLLET CHUCK P/N 161-100

- Allows E-20 Roto-Spindle to accept collets



P/N 170-100 Model E-5  
P/N 175-100 Model E-20



### FLUSH-CHUCK

Harig's Flush-Chucks allow the use of small electrodes in the Harig Roto-Spindle and other EDM rotating spindles. Unique sealing system permits use of longer electrodes by putting seal close to nose of spindle and cuts downtime for electrode replacement.

- Model E-5 Flush-Chuck has 1/2" shank
- Model E-20 Flush-Chuck has 20mm shank
- Uses precision keyless chuck with up to 1/8" capacity
- Includes three seals: 1/16", 3/32", and 1/8"
- Quick set-up, easy to use

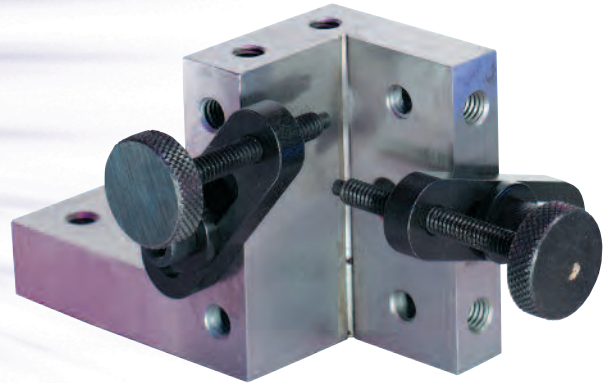
**P/N 155-100 Model E-5**  
**P/N 160-100 Model E-20**



### TWIN-ANGLE

Harig's precision holding fixture mounts electrodes in vertical ram of conventional EDM machine, and serves as a workholder for wire EDM applications. Also can be used for surface grinding applications. Two sizes available with 2-V's each, to accurately hold workpieces within "tenths".

- Twin Angle No. 1: 2 5/8" x 2 7/8" and 1 3/8" x 1 7/8"
- Twin Angle No. 2: 3 1/4" x 2 1/4" and 2 1/4" x 2"
- Includes 2 clamps
- Optional 3/4" shank (P/N 40-02) or 20mm shank (P/N 40-04) is available
- Hardened and ground to "tenths" accuracy

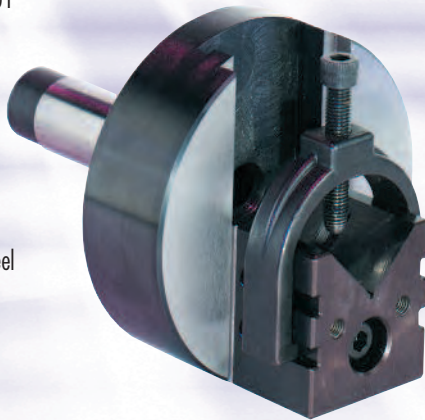


**P/N 040-100 No.1 Twin Angle**  
**P/N 185-100 No.2 Twin Angle**

### ADJUSTA-V

Harig's v-block electrode holder mounts to conventional EDM machines and centers electrodes accurately. Can be used as a v-block attachment with any collet fixture. Versatile unit makes centering workpiece with odd or dimensionally varied shank diameters quick and easy. Holder is more rigid than collets and allows operator to work with "tenths".

- 1 1/4" v-block capacity
- Positioning accuracy to 0.0001"
- 3/4" adjustment to either side of center
- Shank has center hole for holding longer electrodes
- Single screw for fast locking of v-block
- Hardened and ground tool steel



**P/N 190-100 with 1" diameter shank**  
**P/N 191-100 with 20mm diameter shank**  
**P/N 192-100 with 30mm taper shank**  
**P/N 193-100 with 40mm taper shank**





## 20mm EDM INDEXER

- Accepts 20mm tooling and uses System 3R's #3R-321.2 mini manual chuck
- Incorporates Harig's gear rack to allow for precise offset movements
- System 3R's mini reference system offers unparalleled repeatability and accuracy and is the most widely used electrode holder system
- 13 lbs.

**P/N 245-100**

**Other EDM  
mfg models  
available**

The precision indexing technology in Harig's Grind-All No.1 head is paired with System 3R's most popular chucks to create two dedicated electrode makers. The marriage of a System 3R chuck with a Harig grinding fixture allows the operator to accurately produce electrodes and easily transfer them between machines. Harig EDM indexers enhance your company's existing System 3R reference system, providing unmatched repeatability, improved precision, and shorter set-up times.

### Specs

Center height	3.000"
Graduation	360 degree
24 division indexing	+/- 10 seconds
Angles between indexes	via adjustable stops
Square and parallel to	0.0001"
Extended base	better balance & minimal deflection

## MC EDM INDEXER

- Uses System 3R's #3R-460.34 manual combi chuck
- System 3R's MacroCombi reference system provides simultaneous access to the highly accurate Macro System or the economical MacroJunior system without adapters
- 11 lbs.

**P/N 250-100**



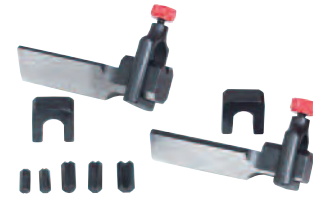
**system 3R**  
**EDM TOOLING SYSTEM**



**P/N 235-20**

### MULTI-6 V-BLOCK

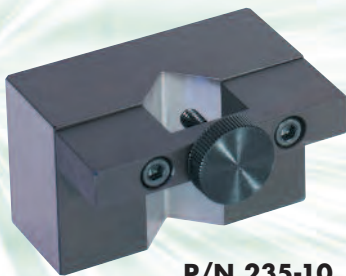
- 6" x 2" x 1 3/4" height
- Has 6 V's with 1/2" diameter capacity
- Centers of V's are 7/8" apart
- For end finishing of multiple parts
- Can be used vertically or horizontally as a "stand alone"
- Hardened and ground



### SUPER WEE-BLOCKS

- Accurately holds small parts from 0.030" to 9/32"
- Set consists of 2 wee-blocks and 2 bridges
- Retaining bars: (2) 5/32", (2) 1/8", (1) 3/16"
- Hardened and ground to "tenths" accuracy
- Includes case

**P/N 065-100**



**P/N 235-10**

### BASIC V-BLOCK

- 3 3/8" x 1 1/2" x 2" height
- V-block capacity holds parts up to 1" in diameter
- Quick set-ups
- Includes strap clamp
- Hardened and ground to "tenths" accuracy

## EDM MAGNETIC REFERENCE CHUCK

Harig's low profile EDM Magnetic Reference Chuck System is compatible with all EDM tooling systems including: System 3R, Erowa, Hirschmann, Mecatool, etc.

This 6" x 6" magnetic chuck expands the capabilities of your company's existing EDM reference system. This is accomplished by precisely locating and securing electrodes for machining, utilizing the rails on the chuck. The electrode can then be transferred directly to the ram of your conventional EDM machine while maintaining positioning accuracy.

This reference chuck also provides for oil and watertight holding of piece parts submerged in the tank, manual work holding, and automated referencing. Neodymium magnets provide ultimate holding power.

### Specs

Size	6" x 6" x 1.6" with 4 rails (Other sizes available)
Magnetism	Rare earth permanent magnets
Spacing	Fine-Pole
Watertight	Hermetic to fluids
Flat, parallel, & square	within 0.0001"
Weight	16 lbs.



**P/N 255-100**

## President's Letter

Karl Harig founded Harig Manufacturing in 1937. The company began as Brust & Harig in 1929, and survived the Great Depression. My father, Theodore Eckert, with only a 6th grade education, immigrated from Hofheim, Germany at age 19, and began working with Mr. Harig in 1929.

My Father's ingenuity and practicality was evident from the start, and the inventor in him began to shine. In 1951, this visionary man patented the now world-famous Harig Grind-All No.1 fixture, and the rest is history.

His simple quest was to help make tool & die making more precise and efficient. From there emerged one product after another - always with the same goal in mind. My father's "American Dream" of Harig Manufacturing Corporation as we know it today had begun.

Since that era, Harig has participated in the dynamic technological growth in the metalworking industry. Today we are an up to date manufacturing operation, fully computerized with related CNC and CAD technology.

Our skilled craftsmen continue to produce Harig "world class tools" to my father's original high standards. Every machinist improves upon the process, maintains the accuracy and reliability of every unit, and is backed by an experienced and dedicated staff.

Now with third generation leadership, Harig is poised to meet the challenges of the new millennium. Our pursuit of excellence continues as we develop additional innovative products to further my father's ideals, and allow our customers to do their precision work efficiently and economically.

Harig's "American Dream" takes on an international flavor as our products are used by more and more companies around the world. Our website, [www.harigmfg.com](http://www.harigmfg.com), is constantly updated to provide the most current information globally - it's the Internet Age!

We appreciate and thank our thousands of satisfied customers around the world. Harig's commitment to you is to offer "world class tools" and "trademark service" for another 75 years and beyond.

Think about the first time that you used a Harig fixture. Maybe you said, "Wow, this is really something!" I suggest you revisit us from time to time - sort of your journey back to the future. We live in a busy and exciting time, but I try to take a moment from time to time to say "thanks." Won't you join me?

Sincerely,  
Theodore Eckert  
President, Harig Manufacturing Corporation

**WEBSITE** Visit our website at [www.harigmfg.com](http://www.harigmfg.com) for the latest Harig product information. We are constantly updating our website to bring you the latest Harig innovations. View digital color pictures of our "world class tools," download technical data, print current price lists, send us a question via email, take advantage of special internet offers, and place an order directly with a credit card. Our internet storefront answers all your questions instantly.

**REPLACEMENT PARTS** Harig stocks a complete inventory of replacement parts for every one of our fixtures and accessories. Extend the life of your "world class" Harig tool and maintain accuracies by replacing broken or worn components. Our website [www.harigmfg.com](http://www.harigmfg.com) contains a complete price list of replacement parts for every Harig product offering. Please call with any questions.

**REPAIRS** Unlike many of our competitors, Harig offers a complete in-house repair service at our factory in Skokie, IL. Harig's "world class tools" are designed to be easily repaired, extending the value and life of your fixture considerably. Our skilled craftsmen rely on years of experience to get your unit back to original tolerances at a reasonable price. While we recommend handling our fixtures with the utmost care, it is comforting to know that Harig's "trademark service" is available should a problem arise. Each unit is inspected individually. Please send your unit to our plant with the proper paperwork to receive a repair evaluation.

**TRADE SHOWS** Visit Harig's booth at various manufacturing trade shows during the year. Search our website [www.harigmfg.com](http://www.harigmfg.com), or call to see when we will be displaying our products in your area.

**SHOWROOM** Harig has a complete showroom at our Skokie, IL location. We encourage you and your associates to experience our "world class tools" when you are in Chicago. Conveniently located near downtown, and O'Hare Airport, our showroom is worth the trip. For specific demonstrations of any of our fixtures, phone ahead for an appointment.

**WARRANTY** Harig offers a 1-year warranty on new items and a 6-month warranty on repairs. All warranties are "upon inspection." This assumes that the tool has not been mistreated, dropped, submerged, or otherwise abused. All prices, conditions, product design, and materials are subject to change without notice.



# Harig

**Bur-Beaver**

**V-Block Fixtures**

**5C-Collet Fixtures**

**Grinding Between Centers**

**EDM Tooling**

**V-Blocks**

**Full Repair Service**

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