

THE CINCINNATI ELECTRICAL TOOL CO.

GRINDERS • SPEED LATHES

The Cincinnati

BUFFERS • DUST COLLECTORS

CINCINNATI 4, OHIO, U.S.A.

The Cincinnati

TRADE MARK

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THE CINCINNATI ELECTRICAL TOOL CO.
CINCINNATI 4, OHIO



Attachments and Accessories



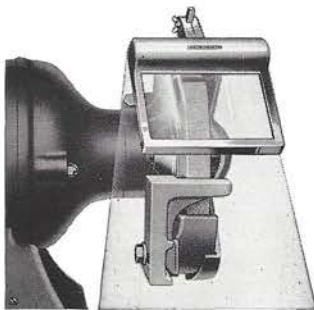
SEWED RAG BUFFING WHEELS
All sizes, price on application.



WIRE WHEEL BRUSHES
All sizes, price on application.



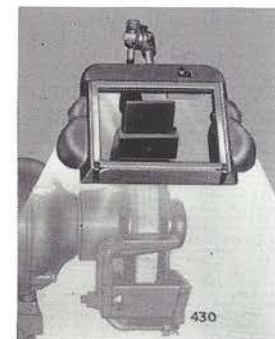
GRINDING WHEELS
All sizes, price on application.



**ILLUMINATED
SHATTERPROOF EYE-SHIELD**
No. 22-I — 3 $\frac{3}{4}$ " x 5 $\frac{3}{4}$ " Window

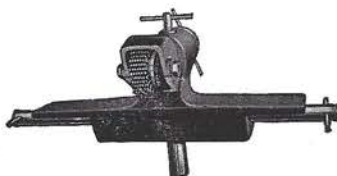


**SHATTERPROOF
GLASS EYE-SHIELD**
No. 1-S — 2 $\frac{3}{4}$ " x 4 $\frac{3}{4}$ " Window
No. 2-S — 4 $\frac{1}{2}$ " x 5 $\frac{1}{4}$ " Window
No. 3-S — 5 $\frac{1}{2}$ " x 7 $\frac{1}{2}$ " Window



**SUPER VISION
ILLUMINATED EYE-SHIELD**

Size	Window	Overall
No. 23-I	5" x 7"	11"
No. 25-I	7" x 9"	15"



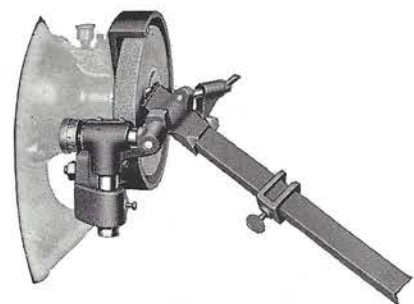
WHEEL DRESSER
For Snagging Grinders



Dresser for Plain Table furnished with collars for locating table on rocker arm and includes screw feed for feeding dresser into wheel. Dresser is bolted to table and swung back and forth across the face of abrasive disc. Dresser for Universal Table furnished without collars or screw feed as these parts are built in the universal table. Cutters of both dressers are supported on ball bearings.



FLEXIBLE LIGHT ARM
Furnished singly, for small grinders or in pairs for larger units.



**TWIST DRILL GRINDING
ATTACHMENT**

For grinding accurately and quickly straight and taper shank twist drills up to 1 $\frac{1}{4}$ " diameter. When ordering, give Type and serial number of grinder with which attachment is to be used, so that proper adaptor may be furnished. We cannot furnish adaptors for grinders, of other than our own manufacture.



6" $\frac{1}{4}$ H.P. Grinder



6" $\frac{1}{3}$ H.P. Grinder



7" $\frac{1}{2}$ H.P. Grinder



Pedestal for
 $\frac{1}{3}$ and $\frac{1}{2}$ H.P. Grinder

6 and 7-Inch Bench and Pedestal Grinders

A sturdy group of Ball Bearing Grinders engineered and designed to increase production efficiency. Equipped with fully enclosed motors

and Ball Bearings mounted in dust proof housings, these Grinders have proven indispensable in shops of every description.

EQUIPMENT — Two grinding wheels, wheel guards and grinding rests. Rubber-covered cable with attachment plug, furnished on single phase and direct current Grinders only. $\frac{1}{4}$ H.P. Grinders equipped with structural steel guards. $\frac{1}{3}$ and $\frac{1}{2}$ H.P. with cast iron guards.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Load Speed R. P. M.	Wheel Size	Diameter of Shaft Between Flanges	Distance Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
KEA—Bench	115-60-1	$\frac{1}{4}$	3450	6"x $\frac{1}{2}$ "	$\frac{1}{2}$ "	9 $\frac{5}{8}$ "x4 $\frac{7}{8}$ "	6 $\frac{1}{4}$ "x6 $\frac{3}{4}$ "	32	35	FROST
*BBA—Bench	115-60-1	$\frac{1}{3}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	13"x7 $\frac{3}{4}$ "	8"x7"	55	63	FAITH
*PBA—Pedestal	115-60-1	$\frac{1}{3}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	13"x38"	12"x15"	107	170	SERVE
*KSA—Bench	115-60-1	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	15 $\frac{1}{4}$ "x7 $\frac{3}{4}$ "	9"x10 $\frac{1}{4}$ "	83	90	GULF
*KPA—Pedestal	115-60-1	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	15 $\frac{1}{4}$ "x39 $\frac{1}{4}$ "	12"x15"	133	203	GUTTER

*Can also be supplied for 220-60 cycle single phase, 220-440-550 volts, 60 cycle, 3 phase, regular list price. For 2 phase or 25 cycles, add 10% to list price. Specify voltage cycles and phase. $\frac{1}{2}$ H.P. Grinder can also be furnished for 1750 RPM — Add \$10.00 to list price. Type KEA can also be furnished for 220 volts, 50 or 60 cycles, single phase (Add 10% to list price).

DIRECT CURRENT SPECIFICATIONS

BB—Bench	115-230	$\frac{1}{3}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	13"x6"	7"x8"	55	70	FATAL
PB—Pedestal	115-230	$\frac{1}{3}$	3450	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	13"x38"	12"x15"	103	165	SPACE
KS—Bench	115-230	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	15 $\frac{1}{4}$ "x7 $\frac{3}{4}$ "	9"x10 $\frac{1}{4}$ "	78	90	GUSH
KP—Pedestal	115-230	$\frac{1}{2}$	3450	7"x1"	$\frac{5}{8}$ "	15 $\frac{1}{4}$ "x39 $\frac{1}{4}$ "	12"x15"	126	195	GUZZLE



8" $\frac{3}{4}$ H.P. Grinder



10" 1 H.P. Grinder



**Pedestal for
 $\frac{3}{4}$ and 1 H.P. Grinder**

8 and 10-Inch Bench and Pedestal Grinders

FURNISHED FOR ALTERNATING CURRENT ONLY

Order by Type and Volts, Giving Cycles and Phase.

Ball-Bearing Grinders especially designed to meet the demand for practical and serviceable tools for use in garages, repair shops, tool-rooms, etc., for grinding small tools and light castings; also for polishing and buffing. Ball bearings are mounted in dust-proof housings in close proximity to the grinding wheels. The bearings are correctly locked to the shaft to pro-

vide end thrust and eliminate wear. A toggle switch is entirely enclosed in the base of the motor. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras. See page No. 2. Add \$3.00 to list price for exhaust outlets on guards for 8" grinder. Exhaust outlets on guards for 10" grinder standard equipment.

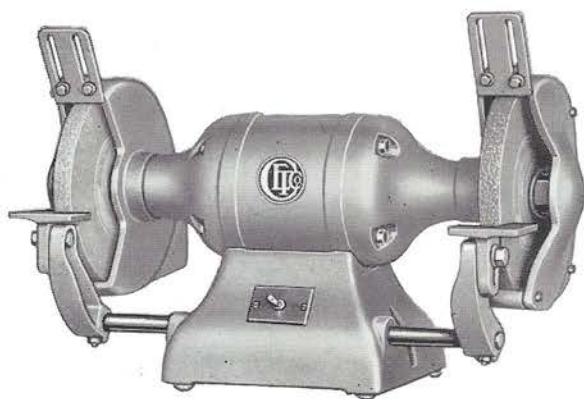
Rubber covered cable with attachment plug furnished on single phase grinders only. 8 and 10" grinders furnished complete as illustrated except wheels for 10" grinders are not furnished as standard equipment but can be supplied on order. $\frac{3}{4}$ H.P. also furnished for 1750 RPM regular list price.

SPECIFICATIONS

Type	Current	H. P.	Load Speed, R. P. M.	Wheel Size	Diameter of Shaft Between Flanges	Distance Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
*VHA—Bench	115-60-1	$\frac{3}{4}$	3450	8"x1"	$\frac{5}{8}$ "	16"x7 $\frac{1}{2}$ "	9"x10"	85	120	GUY
*VPA—Pedestal	115-60-1	$\frac{3}{4}$	3450	8"x1"	$\frac{5}{8}$ "	16"x38"	12"x15"	136	211	GYPSY
*BPOA—Bench	115-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{7}{8}$ "	17 $\frac{1}{2}$ "x8"	9"x10"	125	165	PANEL
*GPOA—Pedestal	115-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{7}{8}$ "	17 $\frac{1}{2}$ "x39 $\frac{1}{2}$ "	12"x15"	175	250	PENCIL

*Can also be supplied for 220-60 cycle single phase, 220-440-550 volts, 60 cycle, 2 or 3 phase, regular list price. Specify voltage cycles and phase. For 25 cycles, add 25% to list price.

You should have an AIR MASTER with this Tool, see page 46.



10 Inch Economy

Bench and Pedestal Grinders

A specially designed Grinder rigid in construction and well balanced, featuring economy and durability. An exceptional value, this Grinder is furnished COMPLETE with grinding wheels, fully enclosed safety wheel guards with exhaust

outlets and all angle adjustable Tool rests. Ball Bearings are mounted in dust proof housings in close proximity to grinding wheels. Switch is enclosed in base of motor.

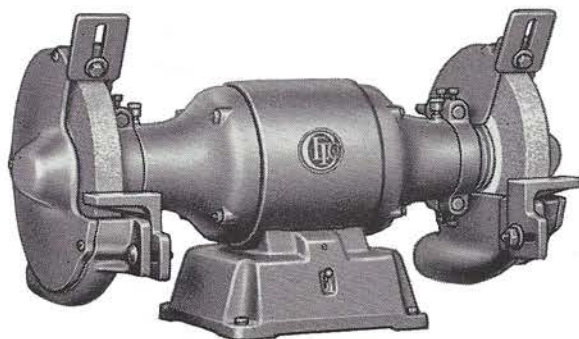
EQUIPMENT — Two grinding wheels, wheel guards and grinding rests. Rubber-covered cable with attachment plug, furnished on single phase grinders only. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras. See page 2.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Lead Speed, R.P.M.	Wheel Size	Diameter of Shaft Between Flanges	Distance Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
KOA—Bench	115-60-1	1	1750	10"x1"	3/4"	20"x11 1/2"	10"x11"	150	185	LAMP
*KOA—Bench	220-60-1	1	1750	10"x1"	3/4"	20"x11 1/2"	10"x11"	150	185	LATCH
KOAP—Pedestal	115-60-1	1	1750	10"x1"	3/4"	20"x43 1/2"	15"x20"	240	320	LEMON
*KOAP—Pedestal	220-60-1	1	1750	10"x1"	3/4"	20"x43 1/2"	15"x20"	240	320	LOTUS

*Can also be furnished for 220, 440 or 550 volts, 3 phase, regular list price. For 25 cycles or 2 phase add 10% to list price. Speed for 25 cycles, 1500 R.P.M. Furnished for alternating current only. Specify voltage cycles and phase.

You should have an AIR MASTER with this Tool, see page 46.



8 and 10 Inch



Heavy-Duty Bench and Pedestal Grinders

ALTERNATING CURRENT — DIRECT CURRENT

Heavy-Duty Grinders, designed to take care of heavy grinding of all kinds and for general purpose buffing and polishing. Ball bearings are mounted in dust-proof housings in closest proximity to grinding wheels. Spindle is of nickel steel and extra heavy. Wheel guards are safety type, equipped with spark breakers,

end covers, exhaust connections. Grinding rests are adjustable. Two-pole starting switch is entirely enclosed in the base of the motor. Shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment furnished as extras, see page 2.

EQUIPMENT — Two grinding wheels, wheel guards and grinding rests. Rubber-covered cable with attachment plug, furnished on single phase and direct current grinders only.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Load Speed R. P. M.	Wheel Size	Diameter Shaft Bet. Flanges	Dist. Bet. Wheels and Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
BHA—Bench	115-60-1	$\frac{3}{4}$	3400	8"x1"	$\frac{5}{8}$ "	18"x7 $\frac{1}{4}$ "	10"x9"	120	160	FLORAL
*BHA—Bench	220-60-1	$\frac{3}{4}$	3400	8"x1"	$\frac{5}{8}$ "	18"x7 $\frac{1}{4}$ "	10"x9"	120	160	FLORET
FHA—Pedestal	115-60-1	$\frac{3}{4}$	3400	8"x1"	$\frac{5}{8}$ "	18"x39"	16"x12"	210	315	HANSON
*FHA—Pedestal	220-60-1	$\frac{3}{4}$	3400	8"x1"	$\frac{5}{8}$ "	18"x39"	16"x12"	210	315	HANDY
BOA—Bench	115-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{3}{8}$ "x8"	10"x10"	170	220	FLUID
*BOA—Bench	220-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{3}{8}$ "x8"	10"x10"	170	220	FLUKE
FOA—Pedestal	115-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{3}{8}$ "x39"	20"x15"	255	340	HAMMER
*FOA—Pedestal	220-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{3}{8}$ "x39"	20"x15"	255	340	HAWSER

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price. For $\frac{3}{4}$ and 1 H.P., 25 cycles, three phase, or 1 H.P., 25 cycle, single phase add 20% to list price. $\frac{3}{4}$ H.P., 25 cycle, single phase cannot be furnished. Always specify voltage, cycles and phase. Speed for 25 cycles 1500 R.P.M.

DIRECT CURRENT SPECIFICATIONS

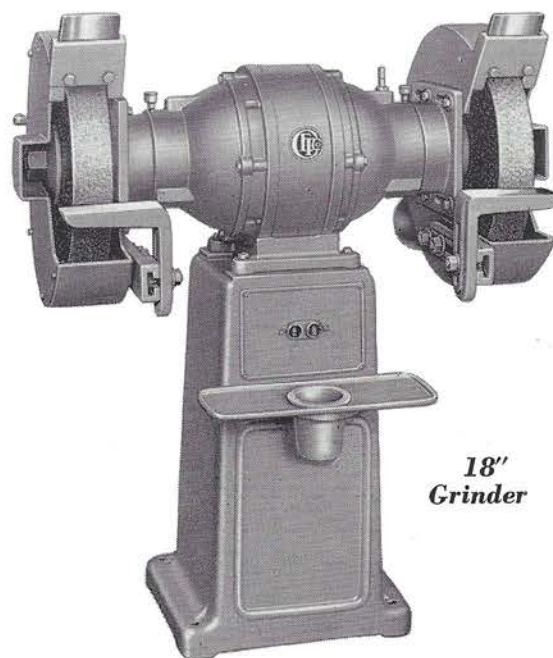
BO—Bench	115	1	1700	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{1}{16}$ "x8"	10"x10"	170	200	FLATTER
†BO—Bench	230	1	1700	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{1}{16}$ "x8"	10"x10"	170	200	FLEXIBLE
FO—Pedestal	115	1	1700	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{1}{16}$ "x39"	20"x15"	276	370	GLAZE
†FO—Pedestal	230	1	1700	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	20 $\frac{1}{16}$ "x39"	20"x15"	276	370	GRAND

†Can also be supplied for 250 volts, regular list price.

You should have an AIR MASTER with this Tool, see page 46.



12" and 14"
Grinders



18"
Grinder

12, 14 and 18 Inch 2, 3, and 5 H.P. General Purpose Grinders

ALTERNATING CURRENT ONLY
Order by Type and Volts, Giving Cycles and Phase

General Utility Ball-Bearing Bench and Pedestal Grinders, recommended for general-purpose grinding of all kinds. Wheel guards are fabricated steel fully enclosed safety type, equipped with hinged end covers, spark breakers, exhaust connections, and are adjustable to

the wear of the grinding wheels. Ball bearings are mounted in dust-proof housings and are correctly locked to shaft to prevent wear. Push button starters, with overload protection, tool tray and water pot also furnished as standard equipment.

Grinding wheels, magnetic starter, shatter-proof glass eye shields, flexible light arms and twist drill grinding attachment can be supplied on order. For bench base illustration, see page 8. 18" grinder furnished in pedestal type only.

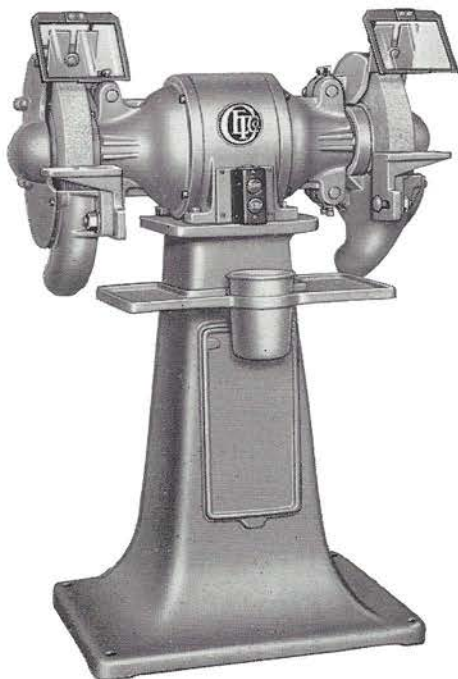
SPECIFICATIONS

Type	Current	H. P.	Load Speed R. P. M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
*GPTB—Bench	220-60-3	2	1750	12"x2"	1 1/4"	20 1/2"	14"	17 1/2"x16"	300	355	PACO
*GPTA—Pedestal	220-60-3	2	1750	12"x2"	1 1/4"	20 1/2"	39"	20"x15"	330	400	PATCH
*GPCB—Bench	220-60-3	3	1750	14"x2 1/2"	1 1/4"	24"	14"	17 1/2"x16"	335	395	PELLET
*GPCA—Pedestal	220-60-3	3	1750	14"x2 1/2"	1 1/4"	24"	39"	20"x15"	358	440	PECAN
*GPEB—Bench	220-60-3	5	1750	14"x3"	1 1/4"	24 1/4"	15"	17 1/2"x16"	355	415	PENNY
*GPEA—Pedestal	220-60-3	5	1750	14"x3"	1 1/4"	24 1/4"	39"	20"x15"	390	470	PEPPER
*GPXA—Pedestal	220-60-3	5	1160	18"x3"	1 1/2"	31"	38"	17"x20"	850	960	PHOTO

*Also furnished for 440 volts or 550 volts, as well as 2 phase, regular list price. Mention after Code Word.

For 2 or 3 H.P. 25 cycle, 2 or 3 phase add 20% to list price. Speed for 25 cycle 1450 RPM.
For 2 or 3 H.P. 50 or 60 cycle, single phase add 20% to list price. For 5 H.P. 14", 30%.
For 25 cycle single phase, prices on application.

You should have an AIR MASTER with this Tool, see page 46.



12 and 14-Inch 2, 3, and 5 H.P. Heavy Duty Grinders

ALTERNATING CURRENT — DIRECT CURRENT

Heavy-Duty Grinders, especially designed and built for continuous production work. Spindle is of nickel steel, extra heavy, and provided with shaft locking device for changing wheels. Ball bearings are mounted in dust-proof housings in closest proximity to grinding wheels, and are correctly locked to the shaft to provide end thrust and eliminate wear. Wheel guards are adjustable, safety type and equipped with hinged

doors, exhaust connections and spark breakers. Grinding rests are also adjustable. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the pedestal of grinder, push-button station on the motor frame. Twist drill grinding attachment and flexible light arms furnished as extras.

Grinding Wheels are not regularly furnished, but can be supplied on order. Shatter-proof glass eye shields not furnished as standard equipment. See page 2. For boiler plate wheel guards, see price sheet. Also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Load Speed R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels	Shipping Weight, Pounds	Code Word
HTA	220-60-3	2	1750	12"x2"	1 1/4"	22 1/2"	37 1/2"	25"x20"	420	500	BULLOCK
HTA	440-60-3	2	1750	12"x2"	1 1/4"	22 1/2"	37 1/2"	25"x20"	420	500	BULLY
HCA	220-60-3	3	1750	14"x2 1/2"	1 1/4"	22 1/2"	38"	25"x20"	470	580	BUNDLE
HCA	440-60-3	3	1750	14"x2 1/2"	1 1/4"	22 1/2"	38"	25"x20"	470	580	BUNG
HEA	220-60-3	5	1750	14"x3"	1 1/4"	24 1/2"	38"	25"x20"	520	640	BABER
HEA	440-60-3	5	1750	14"x3"	1 1/4"	24 1/2"	38"	25"x20"	520	640	BABOO

Made in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word. Speed for 25 cycles, 1500 R.P.M. For other than 50 or 60 cycles, prices on application.

DIRECT CURRENT SPECIFICATIONS

HT	115	2	1750	12"x2"	1 1/4"	22 1/2"	38"	25"x20"	500	600	BULLET
HT	230	2	1750	12"x2"	1 1/4"	22 1/2"	38"	25"x20"	560	600	BULLION
HC	115	3	1750	14"x2 1/2"	1 1/4"	23 1/2"	39"	25"x20"	550	660	BULWARK
HC	230	3	1750	14"x2 1/2"	1 1/4"	23 1/2"	39"	25"x20"	550	660	BUMPER
HE	115	5	1750	14"x3"	1 1/4"	24 1/2"	39"	25"x20"	560	675	BADEN
HE	230	5	1750	14"x3"	1 1/4"	24 1/2"	39"	25"x20"	560	675	BAIRN

You should have an AIR MASTER with this Tool, see page 46.



18" Type FFA



20" Type JPGA

18 and 20-Inch Pedestal Snagging Grinders

Engineered and designed for continuous heavy duty service. Motor is mounted on sub-base to extra heavy cast iron pedestal to assure rigidity and freedom from vibration. Tool rests are mounted on sub-base and easily adjusted to wear of wheels. Wheel guards for 18" grinder

are cast iron, adjustable, safety type with hinged doors and exhaust connections. Wheel guards for 20" grinder are of the American Foundryman's type made of plate steel with hinged covers and are also adjustable.

EQUIPMENT — Magnetic starter with overload and no-voltage protection, mounted in base of pedestal with push button station mounted at base of motor. Spark breakers and shaft locking device. Shatter-proof glass eye shields or grinding wheels are not furnished but can be supplied on order.

ALTERNATING CURRENT SPECIFICATIONS

Order by Type, Volts, Cycles and Phase.

Type	Current	H. P.	Load Speed R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
FFA	220-60-3	5	1160	18"x3"	1½"	31"	35"	28"x23"	1085	1240	HARBOR
FFA	440-60-3	5	1160	18"x3"	1½"	31"	35"	28"x23"	1085	1240	HAVOC
JPGA	220-60-3	7½	1160	20"x3"	1¾"	32"	35"	28"x23"	1070	1225	RANCID
JPGA	440-60-3	7½	1160	20"x3"	1¾"	32"	35"	28"x23"	1070	1225	REBATE

Made in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word. For direct current, price on application.

You should have an AIR MASTER with this Tool, see page 46.



8 and 10-Inch



12 and 14-Inch

Wide Type Heavy-Duty Pedestal Grinders

ALTERNATING CURRENT — DIRECT CURRENT

Heavy-Duty Grinders, especially adapted for continuous production work. The wide spread between wheels allows maximum accessibility in grinding long and odd-shaped pieces. Spindle is of nickel steel and provided with shaft locking device for changing wheels. Four deep-groove ball bearings are mounted

in dustproof housings and correctly locked to the shaft to provide end thrust and eliminate wear. Wheel guards are of fully enclosed safety type, adjustable to wear of wheels. (Guard not adjustable on $\frac{3}{4}$ H.P. unit.) Grinding rests are also adjustable.

Shatterproof glass eye shields are not furnished as standard equipment but can be supplied on order. See page 2. $\frac{3}{4}$ and 1 H.P. Grinders furnished with two-pole toggle switch. 2, 3 and 5 H.P. Grinders have magnetic starters with overload and no-voltage protection and push-button control. Grinding Wheels are not regularly furnished with 2, 3 or 5 H.P. Grinders, but can be supplied on order. For boiler plate wheel guards, see price sheet. Also furnished in bench type, see price sheet.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Load Speed R. P. M.	Wheel Size	Diam. Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
WAA	115-60-1	$\frac{3}{4}$	3400	8"x1"	$\frac{5}{8}$ "	29 $\frac{1}{2}$ "	39 $\frac{1}{2}$ "	16"x12"	220	340	WAD
†WAA	220-60-1	$\frac{3}{4}$	3400	8"x1"	$\frac{5}{8}$ "	29 $\frac{1}{2}$ "	39 $\frac{1}{2}$ "	16"x12"	220	340	WAG
WBA	115-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	31"	40"	20"x15"	278	380	WALK
†WBA	220-60-1	1	1750	10"x1 $\frac{1}{4}$ "	$\frac{3}{4}$ "	31"	40"	20"x15"	278	380	WANE
*WSA	220-60-3	2	1750	12"x2"	1 $\frac{1}{4}$ "	38"	37 $\frac{1}{2}$ "	25"x20"	525	630	WADE
*WSA	440-60-3	2	1750	12"x2"	1 $\frac{1}{4}$ "	38"	37 $\frac{1}{2}$ "	25"x20"	525	630	WAFER
*WCA	220-60-3	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	38"	38"	25"x20"	550	660	WAIL
*WCA	440-60-3	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	38"	38"	25"x20"	550	660	WAFI
*WFA	220-60-3	5	1750	14"x3"	1 $\frac{1}{4}$ "	42"	38 $\frac{1}{4}$ "	28"x23"	560	680	WAIN
*WFA	440-60-3	5	1750	14"x3"	1 $\frac{1}{4}$ "	42"	38 $\frac{1}{4}$ "	28"x23"	560	680	WAKE

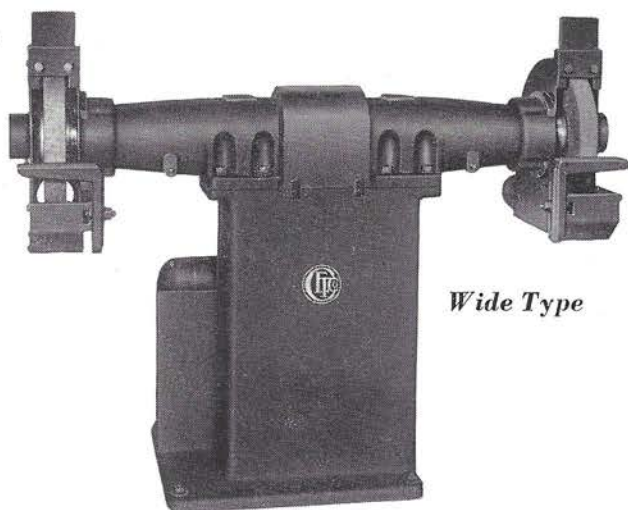
†Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price.

*Made in 2 or 3 phase only. — For 2 phase, odd cycles, or 550 volts, mention after code word. Speed for 25 cycles, 1500 R.P.M. For other than 50 or 60 cycles, price on application. Specify voltage cycles and phase.

DIRECT CURRENT SPECIFICATIONS

WS	115	2	1750	12"x2"	1 $\frac{1}{4}$ "	40"	37 $\frac{1}{2}$ "	25"x20"	610	760	WALL
WS	230	2	1750	12"x2"	1 $\frac{1}{4}$ "	40"	37 $\frac{1}{2}$ "	25"x20"	610	760	WASP
WC	115	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	40"	38"	25"x20"	650	800	WHELK
WC	230	3	1750	14"x2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	40"	38"	25"x20"	650	800	WHIG
WF	115	5	1750	14"x3"	1 $\frac{1}{4}$ "	42"	35"	28"x23"	850	1025	WHIST
WF	230	5	1750	14"x3"	1 $\frac{1}{4}$ "	42"	35"	28"x23"	850	1025	WOLF

You should have an AIR MASTER with this Tool, see page 46.



Wide Type



Standard Type

Standard and Wide Type Belt Driven Grinders

Standard type grinders are ideal for tool grinding and general foundry work. Wide type grinders are particularly advantageous for grinding awkward and irregular shaped pieces such as many stove and furnace castings. The one piece Tool or Work rests are unusually heavy and are

easily adjusted and removed. Wheel Guards pivot to any angle, have hinged covers and standard exhaust pipe connections. Motor mounting is same as shown on page 28. Manual push button starter is standard equipment. Magnetic starter can be furnished to order.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	Size Wheels †	H. P. of Motor *	Spindle Speed R.P.M. No Load		Wheel Arbor Diam.	Spindle Diam. Between Bearings	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Ship. Weight Pounds	Code Word
				For High Speed Wheels	For Vitrified Wheels								
STANDARD TYPE GRINDERS													
DVSG	220, 440 or 550 Volts	12"x1½"	2	3000	1950	1"	1¾"	21¼"	39"	18½"x16"	620	800	BACKER
EVSG	60 Cycles 2 or 3 Phase	14"x2"	3	2525	1650	1¼"	2⅛"	22½"	39"	18½"x16"	640	820	BAFFLE
WIDE TYPE GRINDERS													
DVWG	220, 440 or 550 Volts	12"x1½"	2	‡	1950	1"	2⅛"	39½"	39"	18½"x16"	670	870	BAGGAGE
EVWG	60 Cycles	14"x2½"	3	2525	1650	1¾"	3½"	52"	36"	26½"x24"	975	1200	BAKER
HVWG	2 or 3 Phase	18"x2½"	5	2000	1300	1¾"	3½"	52"	36"	26½"x24"	1075	1300	BALANCE

*Machines can be furnished with or without motors. Enclosed fan-cooled motors are recommended.

For odd voltage and cycles or phase, as well as direct current, price on application.

†Grinding wheels are not standard equipment but can be supplied to special order.

‡Not recommended for High Speed Wheels.

You should have an AIR MASTER with this Tool, see page 46.



General Purpose
3/4, 1, 2, 3 and 5 H.P.

2 H.P. Illustrated



Heavy Duty
3/4, 1, 2 and 3 H.P.

Combination Grinders and Buffers

These Combination Grinders and Buffers offer an unusually wide range of work, as they can be used for grinding and buffing at the same time. Extended spindle can be used with wire, cloth or felt wheels.

Wheel guard is fully enclosed safety type, adjustable to the wear of wheel. Guard is not adjustable on 3/4 H.P. heavy duty unit. Eye shields can be supplied on order, see page 2. For bench type, see price sheet.

EQUIPMENT

GENERAL PURPOSE MACHINES. 3/4 and 1 H.P. equipped with toggle switch. 2, 3 and 5 H.P. equipped with push button starter with overload protection mounted on pedestal. Grinding wheel furnished with 3/4 H.P. unit only.

HEAVY DUTY MACHINES. 3/4 and 1 H.P. equipped with toggle switch. 2 and 3 H.P. machines equipped with magnetic starter with overload and no-voltage protection mounted in pedestal. Push button mounted on motor frame. Also equipped with shaft lock for changing of wheels. For direct current, price on application. Grinding wheel furnished with 3/4 H.P. unit only.

GENERAL PURPOSE SPECIFICATIONS

Type	Current	H. P.	Load Speed, R.P.M.	Wheel Size, Inches	Diam. Shaft Bet. Flanges, Inches	Distance Between Wheels, Inches	Length, Extended Spindle, Inches	Height to Center of Spindle, Inches	Size of Base at Bottom, Inches	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
†GPQA	115-60-1	3/4	3450	8"x1"	5/8"	24 3/4"	16"	39"	12"x15"	200	280	PROBATE
†GPRA	115-60-1	1	1750	10"x1 1/4"	7/8"	27"	18"	39"	12"x15"	290	365	PICKET
†GPSA	220-60-3	2	1750	12"x2"	1 1/4"	36"	24"	39"	15"x20"	330	420	PLANE
†GPVA	220-60-3	3	1750	14"x2 1/2"	1 1/4"	36"	24"	39"	15"x20"	338	425	POCKET
†GPWA	220-60-3	5	1750	14"x3"	1 1/4"	36"	24"	39"	15"x20"	362	460	POISON

HEAVY DUTY SPECIFICATIONS

†KHA	115-60-1	3/4	3525	8"x1"	5/8"	22 1/4"	12"	39 1/2"	16"x12"	218	300	KITTEN
†KRA	115-60-1	1	1750	10"x1 1/4"	3/4"	25"	14 1/2"	40"	20"x15"	300	425	KNIGHT
*KTA	220-60-3	2	1750	12"x2"	1 1/4"	29"	16"	38"	25"x20"	470	625	KAFTAN
*KVA	220-60-3	3	1750	14"x2 1/2"	1 1/4"	29"	16"	38"	25"x20"	500	650	KID

†Can also be furnished for 220 volts, single phase or 220-440 or 550 volts, 2 or 3 phase, regular list price, except single phase machines 2 H.P. and over, see price sheet. Mention after code word.

*Also furnished for 440 or 550 volts, 2 or 3 phase, regular list price. Mention after code word. For other than 50 or 60 cycles, see price sheet. Speed for 25 cycles 1500 R.P.M.

You should have an AIR MASTER with this Tool, see page 46.



18, 20 and 24-inch

Roller-Bearing Pedestal Grinders

ALTERNATING CURRENT — DIRECT CURRENT

Heavy-Duty Roller-Bearing Grinders, built for continuous service. Nickel steel one-piece shaft is equipped with four Timken adjustable roller bearings, running in oil. Wheel guards are of the American Foundryman's Association type, made of plate steel with hinged covers. The guard itself is stationary, the only adjustment required to compensate for the wear of the

wheel being the movement of the tongue or spark shield. Grinding rests are also adjustable. A spindle locking device is provided to facilitate changing of wheels. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the base of grinder, push button station on the motor frame. For wheel dresser, see page 2.

Grinding wheels not regularly furnished, supplied on order. Eye shields not furnished as standard equipment. See page 2 for size desired.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Load Speed, R.P.M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
CFA	220-60-3	5	1150*	18"x3"	2"	42"	35"	34"x25 1/2"	1575	1740	CABAL
CFA	440-60-3	5	1150*	18"x3"	2"	42"	35"	34"x25 1/2"	1575	1740	CAJOLE
HGA	220-60-3	7 1/2	1150*	20"x3"	2"	42"	35"	34"x25 1/2"	1650	1835	CASERN
HGA	440-60-3	7 1/2	1150*	20"x3"	2"	42"	35"	34"x25 1/2"	1650	1835	CACTUS
JSA	220-60-3	7 1/2	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2140	2425	CALYX
JSA	440-60-3	7 1/2	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2140	2425	CAMLET
JTA	220-60-3	10	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2425	2610	CANARD
JTA	440-60-3	10	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2425	2610	CANCAN

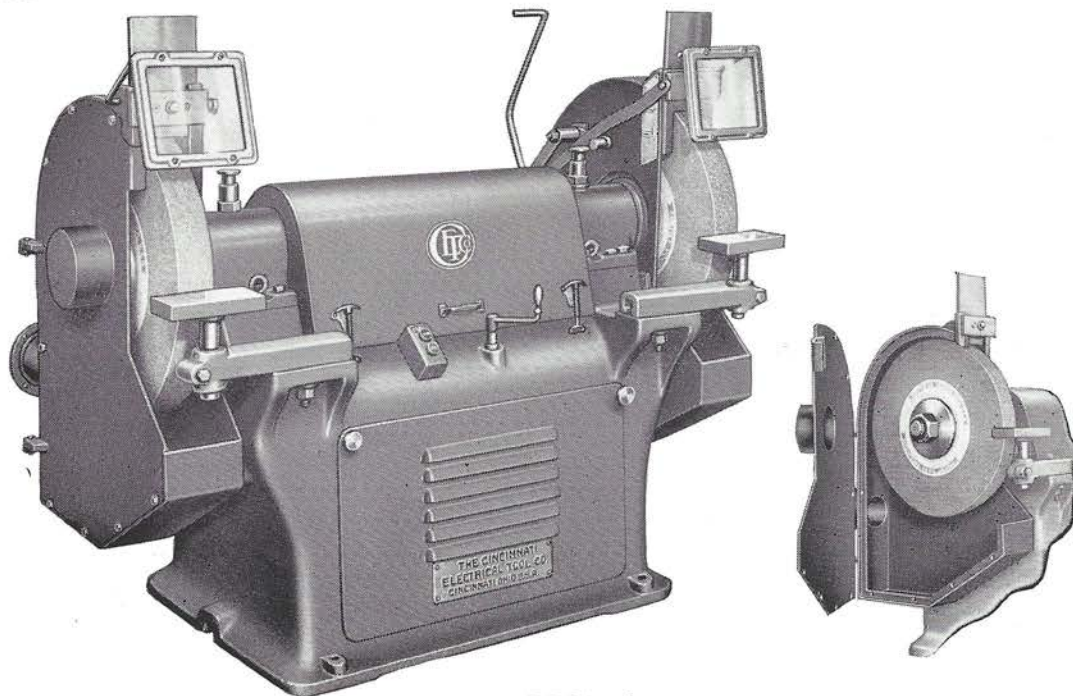
Furnished in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word. For other than 50 or 60 cycles, see price sheet. Specify voltage cycles and phase.

DIRECT CURRENT SPECIFICATIONS

CF	115	5	1160	18"x3"	2"	42"	35"	34"x25 1/2"	1700	1865	CANELLA
CF	230	5	1160	18"x3"	2"	42"	35"	34"x25 1/2"	1700	1865	CANTO
HG	115	7 1/2	1160*	20"x3"	2"	42"	35"	34"x25 1/2"	1800	1975	CAIRN
HG	230	7 1/2	1160*	20"x3"	2"	42"	35"	34"x25 1/2"	1800	1975	CARDER
JS	115	7 1/2	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2500	2700	CAPIAS
JS	230	7 1/2	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2500	2700	CAPLIN
JT	115	10	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2625	2825	CAPON
JT	230	10	850	24"x4"	2 1/4"	52 5/8"	34"	42 5/8"x30"	2625	2825	CAPRIC

*Also furnished at speed of 1750 R.P.M. for resinoid bonded wheels, at regular list price, but in which case 10" flanges are recommended, see price sheet.

You should have an AIR MASTER with this Tool, see page 46.



18, 20 and 24-inch

Three Speed Snagging Grinders

ALTERNATING CURRENT — DIRECT CURRENT

A smooth, quiet-running heavy duty Variable Speed Vee Belt Snagging Grinder, designed for high-speed production grinding. No noise — no vibration — no back lash — no chatter, as in gear-driven, snagging grinders. Three-speed changes are provided to maintain efficient peripheral speeds on either vitrified or high-speed grinding wheels for the entire life of the wheels. (See table below.) In changing the spindle speed, it is but necessary to raise the motor, releasing the tension on the Vee belts, and move the three-speed sheave on the spindle into the next position by means of a rack and pinion. A positive speed control operating in conjunction with the spark shields prevents over-speeding of the wheels. A visible indicating plate is located on the side of the guard, clearly indicating when the wheel has worn to a point that allows the speed to be changed, thus preventing underspeeding of the wheels. Nickel Steel Shaft — supported by four heavy duty sealed type ball bearings, running in oil in dust-proof housings. A gauge is provided to show the proper oil level as well as a conveniently located drain plug for oil renewal. A spindle locking device is provided to facilitate changing of wheels. A

split cast coupling on the spindle provides an easy means of applying new belts. Removal of the coupling exposes a space between the shaft ends, allowing the belts to pass through the opening. Wheel guards are of the American Foundrymen's Association type and are made of plate steel with hinged covers. The guard itself is stationary, the only adjustment required to compensate for the wear of the wheel being the movement of the tongue or spark shield. The design of the lower front section of the guard eliminates the possibility of dropped pieces becoming wedged between the wheel and guard. This design is also the means of a more positive trap for sparks and chips. The location of the exhaust port is such that it cannot become obstructed by any residue which may form in the bottom of the guard through the fusing of hot sparks and metal chips. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the base of the grinder and the push-button station on the front of the cabinet within easy reach of the operator. For wheel dresser, see page 2.

Grinding wheels not regularly furnished, but supplied on order.

*Wheel flanges for 2 1/4" bore vitrified wheels furnished as Standard Equipment. For 10" or 12" bore wheel flanges for use with high speed wheels, see price sheet. Eye shields not furnished as standard equipment. See page 2 for size desired. Equipped with open type motor.

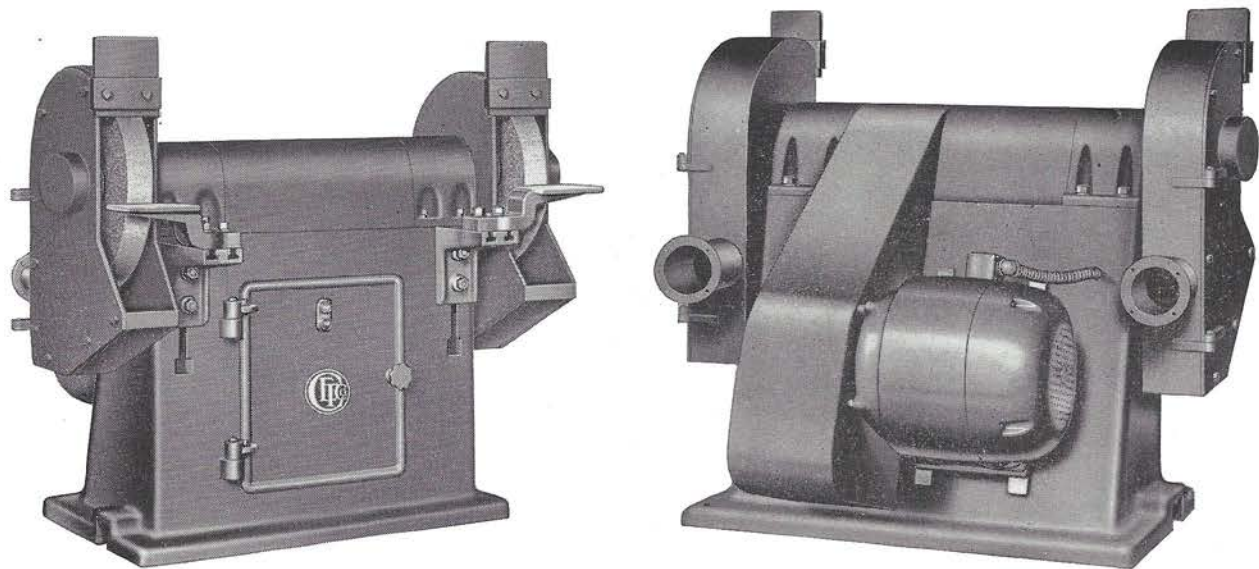
SPECIFICATIONS

Type	Current	H.P.	Wheel Size	Spindle Speeds for Vitrified Wheels	Spindle Speeds for High Speed Wheels	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code
BAA	220-60-3	5	*18"x3"	{ 1200-1400- 1650 }	{ 2000-2300- 2700 }	2 1/4"	52 5/8"	34"	42 5/8"x30"	1975	2150	CACAO
BAA	440-60-3	5	*18"x3"	{ 1200-1400- 1650 }	{ 2000-2300- 2700 }	2 1/4"	52 5/8"	34"	42 5/8"x30"	1975	2150	CADE
BCA	220-60-3	7 1/2	*20"x3"	{ 1100-1400- 1700 }	{ 1800-2150- 2550 }	2 1/4"	52 5/8"	34"	42 5/8"x30"	2075	2225	CADGE
BCA	440-60-3	7 1/2	*20"x3"	{ 1100-1400- 1700 }	{ 1800-2150- 2550 }	2 1/4"	52 5/8"	34"	42 5/8"x30"	2075	2225	CALM
BGA	220-60-3	10	*24"x3"	{ 900-1200- 1400 }	{ 1500-1800- 2100 }	2 1/4"	52 5/8"	34"	42 5/8"x30"	2284	2544	CANOE
BGA	440-60-3	10	*24"x3"	{ 900-1200- 1400 }	{ 1500-1800- 2100 }	2 1/4"	52 5/8"	34"	42 5/8"x30"	2284	2544	CANTER

Furnished in 2 or 3 phase only. For 2 phase or 550 volts, mention after code word. Can also be furnished for Direct Current and odd cycles Alternating Current; prices on application.

*When ordering, specify whether vitrified or high speed wheels are to be used. Specify voltage, cycles and phase.

You should have an AIR MASTER with this Tool, see page 46.



Heavy Duty Belt-Drive Snagging Grinders

These multiple belt driven Snagging Grinders with motor mounted on rear of pedestal afford maximum efficiency in performance and maintenance. One piece spindle is supported by two extra large ball bearings. Bearing boxes are keyed to pedestal and entire spindle assembly

can be removed as shown on page 31. Belts are readily accessible and properly protected. A.F.A. type wheel guards are described on page 14. Machines for high speed wheels furnished with large bore wheel flanges.

STANDARD EQUIPMENT — Machine can be supplied with or without motors. Totally enclosed, fan-cooled motors are recommended. Large hole flanges for high speed wheels furnished for following wheel bores: 8" for types IGV and JGV, 12" for type KGV, 20" for type LGV. Magnetic Motor Starter. A.F.A. plate steel wheel guards. Slotted type motor slide base with adjusting screw.

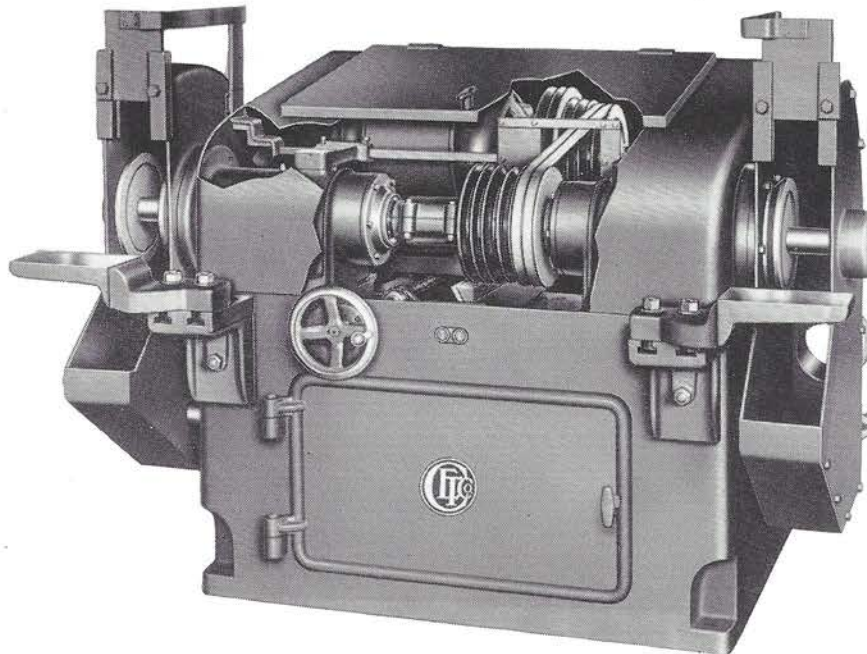
*Grinding Wheels are not regularly furnished but can be supplied at extra cost.

*Also furnished for 440 or 550 volts, 60 cycles, 3 phase. Mention after code word. For direct current, price on application.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current *	Size Wheels in Inches $\frac{1}{2}$	H. P. of Motor	Spindle Speed R.P.M. No Load		Diam. Spindle Between Flanges	Diam. Spindle Between Bearings	Distance Between Wheels	Height to Center of Spindle	Size Base at Floor	Weight in Pounds Including Motor		Code Word
				For High Speed Wheels	For Vitrified Wheels						Net	Shipping	
IGV	220-60-3	18"x3"	5	2000	1300	1 $\frac{3}{4}$ "	2 $\frac{7}{8}$ "	42"	36"	41"x24"	1650	1925	BEAUTY
JGV	220-60-3	20"x3"	7 $\frac{1}{2}$	1775	1160	1 $\frac{3}{4}$ "	2 $\frac{7}{8}$ "	42"	36"	41"x24"	1750	2025	BESIEGE
KGV	220-60-3	24"x3"	10	1500	960	2 $\frac{1}{4}$ "	3 $\frac{5}{8}$ "	42"	36"	41"x24"	1900	2175	BETROTH
LGV	220-60-3	30"x3"	15	1210	775	2 $\frac{1}{4}$ "	3 $\frac{5}{8}$ "	42"	36"	41"x24"	2100	2400	BEVEL

You should have an AIR MASTER with this Tool, see page 46.



Heavy Duty Belt-Drive Snagging Grinders

These machines are designed and proportioned throughout for the most severe duty, with weight scientifically distributed to minimize vibration. They afford maximum efficiency and economy in snagging grinding, as the correct speed can be maintained. A grinding wheel which operates too slow is wearing too fast.

A. F. A. WHEEL GUARDS

(Adopted by American Foundrymen's Association)

are made of plate steel with hinged covers. The guard proper is stationary and only the tongue or spark shield need be adjusted to the wear of the wheel. Lower front extends in advance of wheel so that all sparks and chips are arrested, yet ample clearance is available for handling large pieces. There is also no danger

of dropped pieces wedging between wheel and guard. The hot sparks and chips from snagging grinding form a hard mass at point of contact with guard. Note that exhaust port is in such position that this mass cannot close it up. For side view of wheel guard, see page 14.

FLANGES FOR LARGE HOLE GRINDING WHEELS

can be supplied for all machines listed for high speed grinding wheels. These flanges are made for wheels with 8, 12 and 20 inch holes. Grinding wheels with large holes are economical as an allowance is made according to the size hole.

Large bore flanges are interchangeable with standard flanges for solid wheels. The entire assembly of wheel and flanges can be removed for transfer as an integral unit if desired. For additional specifications, see page 17.

You should have an AIR MASTER with this Tool, see page 46.



Additional Description and Specifications Continued from Page 16

SINGLE MOTOR MACHINES have individual spindle for each wheel joined by a cast, split coupling, keyed and bolted to shaft extensions. When coupling is removed there is sufficient gap between the shafts to replace the V belts. The large hood completely encloses motor and drive. Standard open rated motors are recommended.

TWO MOTOR MACHINES have individual motor, V belt drive, safety devices and starter for each wheel. This type machine affords the utmost in efficiency and economy as each wheel can be operated at the most efficient speed according to its size, regardless of the size the other wheel has been worn to. In single motor machines the large wheel determines the speed

at which both must be operated. The hood of 2 motor machines does not fully cover the motors and totally enclosed, fancooled motors are recommended.

MULTI-SPEED MACHINES have dovetailed motor sliding bases, with screw and hand wheel adjustment. This affords minimum time required to change speeds which is accomplished by transferring belts from one set of sheaves to another. Spark shield has indicating plate with arrow showing when speed should be changed. The safety device operating in connection with spark shields prevents overspeeding.

SINGLE SPEED MACHINES have slotted type motor slide base with adjusting screw.

ALTERNATING CURRENT SPECIFICATIONS

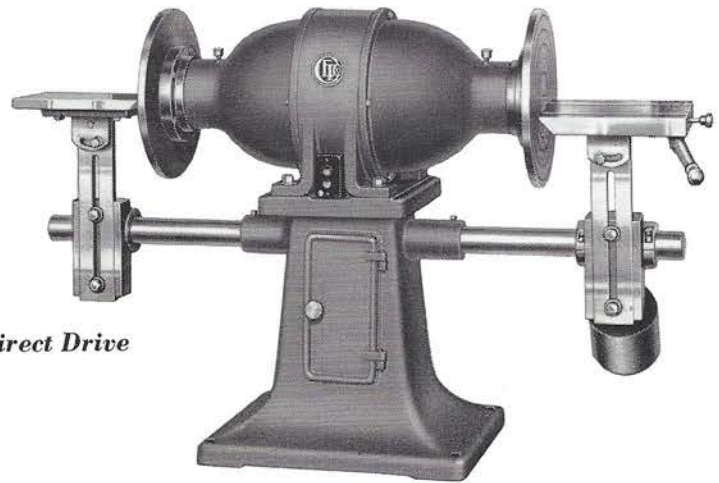
Type	Current *	Size Wheels In Inches ‡	H.P. of Each Motor	Spindle Speed R.P.M. No Load		Large Hole Flanges Furnished with High Speed Machines as Standard Equip- ment	Dimensions in Inches				Weight in Pounds with Motors		Code Word	
				For High Speed Wheels	For Vitrified Wheels		Spindle Diam. Between Flanges	Spindle Diam. Between Bearings	Distance Between Wheels	Height to Spindle	Size Base at Floor	Net		Shipping
SINGLE MOTOR MACHINES (Single Speed)														
IVGS	220-60-3	18"x3"	5	2000	1300	8"	1¾"	2⅝"	44"	34"	38"x34"	1650	1900	BARBER
JVGS	220-60-3	20"x3"	7½	1825	1160	8"	1¾"	2⅝"	44"	34"	38"x34"	1750	2000	BARGAIN
KVGS	220-60-3	24"x3"	10	1525	975	12"	2¼"	3⅜"	55½"	34"	48"x38"	2800	3100	BARGE
LVGS	220-60-3	30"x3"	15	1210	775	20"	2¼"	3⅜"	55½"	34"	48"x38"	2900	3200	BARLEY
SINGLE MOTOR MACHINES (Multi Speed)														
JVGM	220-60-3	20"x3"	7½	1825 2300	1160 1425	8"	1¾"	2⅝"	50"	34"	44"x36"	1850	2100	BARREL
KVGM	220-60-3	24"x3"	10	1525 1725 2025	975 1160 1360	12"	2¼"	3⅜"	59½"	34"	52"x38"	3000	3300	BASIN
LVGM	220-60-3	30"x3"	15	1210 1525 1825	775 975 1210	12"	2¼"	3⅜"	59½"	34"	52"x38"	3150	3450	BASKET
TWO MOTOR MACHINES (Single Speed Each Spindle)														
EVGDS	220-60-3	18"x3"	3	2000	1300	8"	1¾"	2⅝"	50"	34"	44"x36"	1750	1900	BASTILE
HVGDS	220-60-3	20"x3"	5	1825	1160	8"	1¾"	2⅝"	50"	34"	44"x36"	1875	2125	BATTER
IVGDS	220-60-3	24"x3"	5	1525	975	12"	2¼"	3⅜"	55½"	34"	48"x38"	3050	3350	BAUBLE
JVGDS	220-60-3	30"x3"	7½	1210	775	20"	2¼"	3⅜"	55½"	34"	48"x38"	3200	3500	BAYRUM
TWO MOTOR MACHINES (Two Speeds Each Spindle)														
HVGDM	220-60-3	20"x3"	5	1825 2300	1160 1425	8"	1¾"	2⅝"	55½"	34"	48"x38"	1900	2200	BATHER
IVGDM	220-60-3	24"x3"	5	1525 1900	975 1300	12"	2¼"	3⅜"	55½"	34"	48"x38"	3250	3550	BAYOU
JVGDM	220-60-3	30"x3"	7½	1210 1350	775 975	20"	2¼"	3⅜"	59½"	34"	52"x38"	3350	3650	BAZAAR

STANDARD EQUIPMENT — Magnetic Motor Starter. High Speed Machines includes flanges for large hole wheels as listed. Vitrified snagging wheels are not safe with large holes. A.F.A. boiler plate wheel guards. Adjustable tool rests as shown. Safety device and motor slide bases as described above. Machines can be supplied with or without motors.

‡Grinding wheels are not regularly furnished but can be supplied at extra cost.

*Also furnished for 440 or 550 volts, 60 cycles, 3 phase, mention after code word. For direct current, price on application.

You should have an **AIR MASTER** with this Tool, see page 46.



Direct Drive

Combination Disc Grinders

Double End Disc Grinders

ALTERNATING CURRENT

These Disc Grinders are for continuous heavy duty service. Spindle is of nickel steel mounted on large ball bearings with provision for thrust loads. Steel discs are accurately finished and balanced and quickly removable. Motor is

totally enclosed and bearings sealed to exclude grit and dirt.

Tables have 45° angular adjustment. Universal Tables have T Slots.

STANDARD EQUIPMENT

COMBINATION GRINDERS: — Universal Table, one steel disc, spark shield, exhaust connection and magnetic starter. Grinding wheel not furnished as standard equipment. For eye shields, see page 2.

DOUBLE END GRINDERS: — Right hand Universal Table, left hand Plain Table. Other combinations to special order. Magnetic Motor Starter; 2 steel discs.

EXTRA EQUIPMENT: — Disc Guards as shown on page 19; Dressers as shown on page 2.

COMBINATION DISC GRINDERS

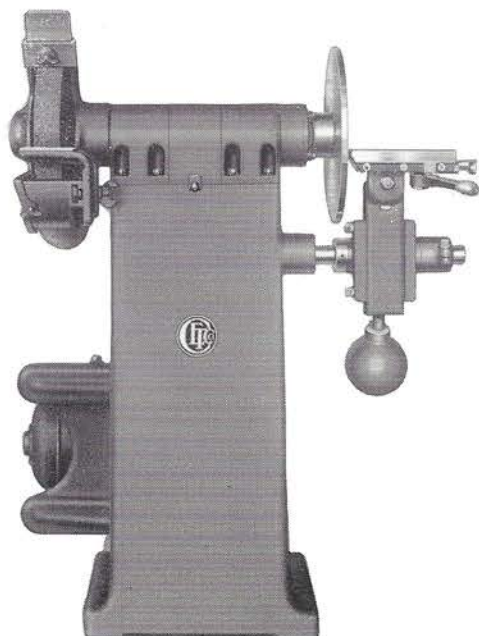
Type	Current	H.P.	Load Speed R.P.M.	Wheel Size	Disc Size	Size of Table	Diam. Shaft Bet. Flanges	Rocker Shaft Diam.	Horiz. Adj. of Table on Rocker Shaft	Vert. Adj. of Table	Hand Lever Feed	Lgth. Over-all	Height Floor to Center of Spindle	Size Base at Bottom	Net Wght. Lbs.	Ship. Wght. Lbs.	Code Word
HTAC	220-60-3	2	1750	12x2"	10"	6x10"	1 1/4"	2"	5 1/2"	4 1/2"	2 1/4"	44"	39"	25x20"	575	700	DIME
HTAC	440-60-3	2	1750	12x2"	10"	6x10"	1 1/4"	2"	5 1/2"	4 1/2"	2 1/4"	44"	39"	25x20"	575	700	DINT
HCAC	220-60-3	3	1750	14x2 1/2"	12"	6x10"	1 1/4"	2"	5 1/2"	4 1/2"	2 1/4"	45 1/4"	38"	25x20"	615	740	DING
HCAC	440-60-3	3	1750	14x2 1/2"	12"	6x10"	1 1/4"	2"	5 1/2"	4 1/2"	2 1/4"	45 1/4"	38"	25x20"	615	740	DONG
HEAC	220-60-3	5	1750	14x3"	14"	10x16"	1 1/4"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	51 1/2"	38"	25x20"	700	825	DOCK
HEAC	440-60-3	5	1750	14x3"	14"	10x16"	1 1/4"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	51 1/2"	38"	25x20"	700	825	DOLF
FSAC	220-60-3	7 1/2	1160	18x3"	18"	10x16"	1 1/2"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	56"	38"	28x23"	1300	1460	DOLT
FSAC	440-60-3	7 1/2	1160	18x3"	18"	10x16"	1 1/2"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	56"	38"	28x23"	1300	1460	DOOM

DOUBLE END DISC GRINDERS

Type	Current	H.P.	Load Speed R.P.M.	Disc Size	Size of Table	Rocker Shaft Diam.	Horiz. Adj. of Table on Rocker Shaft	Vert. Adj. of Table	Hand Lever Feed	Lgth. Over-all	Height Floor to Center of Spindle	Size Base at Bottom	Net Wght. Lbs.	Ship. Wght. Lbs.	Code Word
HTAD	220-60-3	2	1750	10"	6x10"	2"	5 1/2"	4 1/2"	2 1/4"	55"	39"	25x20"	650	775	JACK
HTAD	440-60-3	2	1750	10"	6x10"	2"	5 1/2"	4 1/2"	2 1/4"	55"	39"	25x20"	650	775	JADE
HCAD	220-60-3	3	1750	12"	6x10"	2"	5 1/2"	4 1/2"	2 1/4"	55 1/2"	38"	25x20"	690	815	JAMB
HCAD	440-60-3	3	1750	12"	6x10"	2"	5 1/2"	4 1/2"	2 1/4"	55 1/2"	38"	25x20"	690	815	JEER
HEAD	220-60-3	5	1750	14"	10x16"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	65"	38"	25x20"	775	900	JEHU
HEAD	440-60-3	5	1750	14"	10x16"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	65"	38"	25x20"	775	900	JOIN
FSAD	220-60-3	7 1/2	1160	18"	10x16"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	72"	38"	28x23"	1175	1375	JUKE
FSAD	440-60-3	7 1/2	1160	18"	10x16"	2 3/4"	5 1/2"	5 1/2"	3 3/4"	72"	38"	28x23"	1175	1375	JOSS

Made in 2 or 3 phase only; also for 550 volts. If 2 phase is desired, mention after code word. Speed for 25 cycles, 1500 R.P.M. For other than 50 or 60 cycles, see price sheet. Direct current on application.

You should have an AIR MASTER with this Tool, see page 46.



Disc Guard
Furnished to Order Only



Belt-Drive Disc and Combination Grinders

These new Belt-Drive machines are adapted for a large variety of work. They are ideally suited for the many flat grinding jobs encountered in most every shop. The combination grinder is very desirable where there is a limited amount of flat grinding as it also permits general snagging and tool grinding.

Large ball bearings take all thrust load and are securely locked on shaft made of special spindle steel. Motor mounting is same as shown on page 29. Wheel Dressers and other attachments on page 2.

STANDARD EQUIPMENT — 2 and 3 H. P. Grinders have Manual Starter (Magnetic Starter at extra cost). 5 H. P. and larger have Magnetic Starter. Steel Discs as listed in specifications below. Rocker Shaft and V belt drive. 5 H. P. and larger Combination Grinders have A.F.A. Wheel Guard. See page 14.

COMBINATION DISC GRINDERS

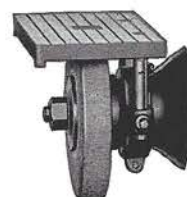
Type	Volts	H. P.	Load Speed R.P.M.	Wheel Size Inches	Disc Size	Size of Table	Diam. Shaft Bet. Flanges	Rocker Shaft Diam.	Horiz. Adj. of Table on Rocker Shaft	Vert. Adj. of Table	Hand Lever Feed	Height Floor to Center of Spindle	Net Wght. Lbs.	Ship. Wght. Lbs.	Code Word
DVDG	220, 440 or	2	1950	12"x1½"	12"	6"x10"	1"	2"	5½"	4½"	2¼"	39"	770	920	BANDIT
EVDG	550 Volts,	3	1650	14"x2"	14"	6"x10"	1¼"	2"	5½"	4½"	2¼"	38"	820	970	BANISH
HVDG	60 Cycles,	5	1300	18"x3"	18"	10"x16"	1¾"	2¾"	5½"	5½"	3¾"	36"	1700	2000	BANJO
JVDG	2 or 3	7½	1160	20"x3"	20"	10"x16"	1¾"	2¾"	5½"	5½"	3¾"	36"	1750	2050	BANKER
KVDG	Phase	10	1160	20"x3"	20"	10"x16"	1¾"	2¾"	5½"	5½"	3¾"	36"	1850	2150	BAPTIZE

DOUBLE END DISC GRINDERS

Type	Volts	H. P.	Load Speed R.P.M.	Wheel Size	Disc Size	Size of Table	Diam. Shaft	Rocker Shaft Diam.	Horiz. Adj. of Table on Rocker Shaft	Vert. Adj. of Table	Hand Lever Feed	Height Floor to Center of Spindle	Net Wght. Lbs.	Ship. Wght. Lbs.	Code Word
DVDD	220, 440 or	2	1950	None	12"	6"x10"	1"	2"	5½"	4½"	2¼"	39"	770	920	BAIT
EVDD	550 Volts,	3	1650	None	14"	6"x10"	1¼"	2"	5½"	4½"	2¼"	38"	820	970	BALL
HVDD	60 Cycles,	5	1300	None	18"	10"x16"	1¾"	2¾"	5½"	5½"	3¾"	36"	1700	2000	BALLAD
JVDD	2 or 3	7½	1160	None	20"	10"x16"	1¾"	2¾"	5½"	5½"	3¾"	36"	1750	2050	BALLOON
KVDD	Phase	10	1160	None	20"	10"x16"	1¾"	2¾"	5½"	5½"	3¾"	36"	1850	2150	BALMY

*Machines can be furnished with or without motor. Enclosed motors are recommended. For odd voltage, cycles or phase as well as direct current, price on application.
†Abrasive discs, wheels and disc guards are not furnished as standard equipment.

You should have an AIR MASTER with this Tool, see page 46.



Surface Grinding Attachment

12-inch

Combination Wet and Dry Grinders

ALTERNATING CURRENT — DIRECT CURRENT

Heavy Duty Combination Wet and Dry Grinder especially designed and built for continuous production work. Wet grinding side has a special hood, splash bowl, water reservoir with settling chamber, adjustable nozzle, valve and centrifugal pump. The pump is driven by a belt from the pulley on the wheel shaft and is so arranged that the bearings are not under water. The splash bowl and reservoir are of one piece and have a capacity of 2½ gallons or more. Spindle is of nickel steel and extra heavy. Ball bearings are

mounted in dust-proof housings and correctly locked to the shaft to provide end thrust and eliminate wear. Wheel guard on dry grinding side is safety type, with hinged door, exhaust connection and spark breaker. Tool rests are adjustable. Magnetic starter with overload and no-voltage protection is standard equipment. Starter is mounted in the base of grinder, push-button station on the motor frame. Twist drill grinding attachment furnished as an extra, see page 2.

Grinding wheels are not regularly furnished, but can be supplied on order. Surface Grinding Attachment, for dry side, can be furnished, see price sheet. Note: eye shield not furnished as standard equipment. See page 2 for size desired.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H. P.	Load Speed R. P. M.	Wheel Size	Diameter Shaft Bet. Flanges	Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom	Weight, Less Wheels Pounds	Shipping Weight, Pounds	Code Word
WTA	220-60-3	2	1750	12"x2"	1¼"	22¾"	37½"	25"x20"	600	700	TRITE
WTA	440-60-3	2	1750	12"x2"	1¼"	22¾"	37½"	25"x20"	600	700	TUNNY
WGA	220-60-3	3	1750	12"x2"	1¼"	22¾"	37½"	25"x20"	610	710	TABBY
WGA	440-60-3	3	1750	12"x2"	1¼"	22¾"	37½"	25"x20"	610	710	TABOO

Made in 2 or 3 phase only. For 2 phase, odd cycles, or 550 volts, mention after code word. Speed for 25 cycles, 1500 R.P.M. Specify voltage cycles and phase.

DIRECT CURRENT SPECIFICATIONS

WT	115	2	1750	12"x2"	1¼"	22¾"	38"	25"x20"	665	785	TUMID
WT	230	2	1750	12"x2"	1¼"	22¾"	38"	25"x20"	665	785	TURBOT
WG	115	3	1750	12"x2"	1¼"	22¾"	38"	25"x20"	680	800	TALE
WG	230	3	1750	12"x2"	1¼"	22¾"	38"	25"x20"	680	800	TALUS

You should have an AIR MASTER with this Tool, see page 46.



Belt-Drive Combination Wet and Dry Grinder

These Belt-drive Wet Grinders having gone through the experimental stage are of tested and proven design. The splash bowls catch all water yet permit unusual freedom of operation in grinding long and odd shaped work. These machines are entirely self-contained with built-in pump and large concealed reservoir. The same water is used over and over again, a separator removing the grit before returning the water to the reservoir. The separator is easily removed for cleaning and a large clean-out hole permits flushing of reservoir.

The self-priming pump is driven by V Belt from spindle. The flow of water is controlled by con-

venient valve on top of guard and adjustment of nozzle is fully universal, assuring a constant uniform stream of coolant directly on the work.

A Wet Grinder does not require dust collecting system as is required in some states for dry grinders as the water carries with it all dust and grit.

Overheating and burning of cutting tools is eliminated through the method of wet grinding, thereby preventing the loss of expensive tool steel. The water flows over the wheel automatically when the motor is started. A grinding compound or lubricant added to the water is recommended.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.

Type	Current Always Specify	Size Wheels in Inches ‡	H.P. of Motor *	Spindle Speed R.P.M. No Load	Dimensions in Inches					Weight in Pounds with Motor		Code Word
					Wheel Arbor Diam.	Spindle Diam. Between Bearings	Distance Between Wheels	Height to Cen- ter of Spindle	Size Base at Bottom	Net	Shipping	
DGWC	220, 440 or 550 Volts, 60 cycles	12"x1½"	2	1950	1"	1¾"	21¼"	42"	24"x20"	825	1075	BETWIXT
EGWC	2 or 3 Phase *	14"x2"	3	1650	1¼"	2½"	22½"	42"	24"x20"	850	1100	BEWAIL

*Machines can be furnished with or without Motor. Enclosed Motors are recommended. Can also be furnished for Direct Current and other Alternating Current specifications.

‡Grinding Wheels are not regularly supplied but can be furnished to order. Manual Push Button Starter is Standard equipment. Magnetic Starter can be furnished to order.



Belt-Drive Wet Grinders

Description of construction features will be found on page 21.

Type	Current Always Specify	Size Wheels in Inches ‡	H.P. of Motor *	Spindle Speed R.P.M. No Load	Dimensions in Inches					Weight in Pounds with Motor		Code Word
					Wheel Arbor Diam.	Spindle Diam. Between Bearings	Distance Between Wheels	Height to Cen- ter of Spindle	Size Base at Bottom	Net	Shipping	
TWO WHEEL MACHINES												
DGWD	220, 440 or	12"x1½"	2	1950	1"	1¾"	21¼"	42"	28"x20"	875	1100	BEGUILE
EGWD	550 Volts	14"x2"	3	1650	1¼"	2⅛"	22½"	42"	28"x20"	915	1060	BEDTICK
EGWDA	60 cycles	18"x3"	3	1300	1¾"	3½"	33"	42"	36"x29"	1550	1850	BEDLAM
HGWD	2 or 3	18"x3"	3	1300	1¾"	3½"	33"	42"	36"x29"	1550	1850	BEDLAM
HGWD	phase	20"x3"	5	1160	1¾"	3½"	33"	42"	36"x29"	1650	1950	BEEBLE
JGWD	*	24"x3"	7½	960	2¼"	3½"	33"	42"	36"x29"	1700	2000	BEGGAR
SINGLE WHEEL MACHINES												
EGWS	220, 440 or	18"x3"	3	1300	1¾"	2⅝"	.....	42"	30"x25"	950	1280	BELFRY
EGWSA	550 Volts	20"x3"	3	1160	1¾"	2⅝"	.....	42"	30"x25"	1050	1310	BELLOW
EGWSA	60 cycles	20"x3"	3	1160	1¾"	2⅝"	.....	42"	30"x25"	1050	1310	BELLOW
HGWS	2 or 3	24"x3"	5	960	2¼"	3⅝"	.....	40"	32"x32"	1080	1340	BENDER
HGWS	Phase	24"x3"	5	960	2¼"	3⅝"	.....	40"	32"x32"	1080	1340	BENDER
JGWS	*	30"x3"	7½	775	2¼"	3⅝"	.....	40"	32"x32"	1350	1650	BENGAL

*Machines can be furnished with or without Motor. Enclosed Motors are recommended. Can also be furnished for Direct Current and other Alternating Current specifications.

‡Grinding Wheels are not regularly supplied but can be furnished to order.

Manual Push Button Starter is standard equipment on 2, 3 and 5 H.P. grinders. Magnetic Starter can be furnished to order.

Magnetic Starter is standard equipment on 7½ H.P. grinders.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.

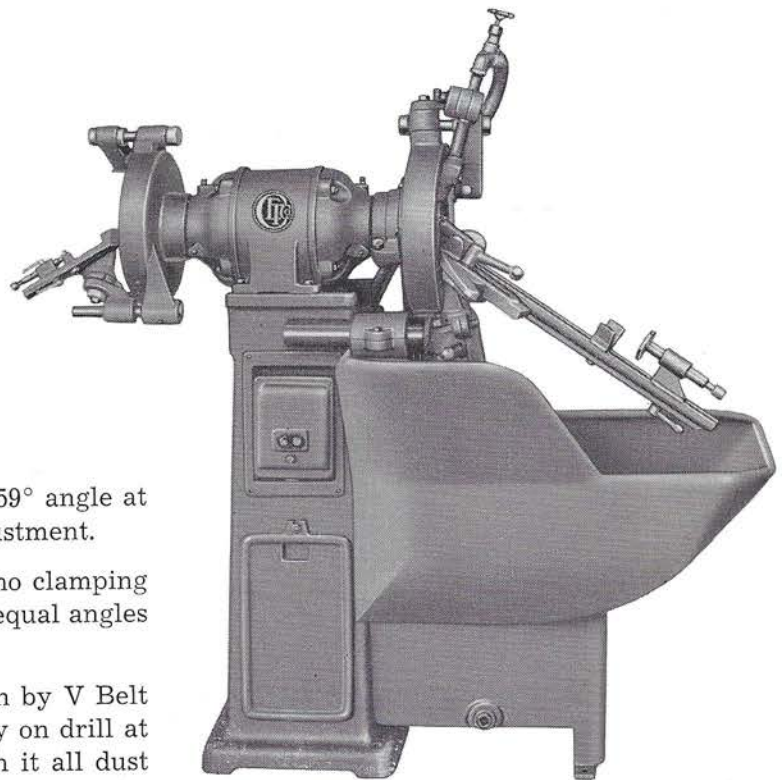


Large Drill Holder on right provides adjustment for grinding cutting clearance (angle at circumference). The point angle can be varied from 37° to 70°. Will grind straight or taper shank drills with 2, 3 or 4 flutes. Attachment can be provided for grinding flat drills at no extra charge but must be specified.

Small Drill Holder for straight or taper shank twist drills from No. 60 to 3/8 inch will grind drills to the standard 59° angle at point and 12° clearance angle without adjustment.

Both holders support drills in V guides — no clamping or chucking necessary. Screw feed insures equal angles and lip length.

The pump which is self-priming and driven by V Belt affords a constant stream of coolant directly on drill at point of grinding. This stream carries with it all dust and grit. The same water is used over and over again. A separator removes all grit before returning the water to reservoir. The flow of water is controlled by convenient valve on top of guard. The reservoir is provided with a large drain for flushing when necessary.



Type CLSDW illustrated. Type CLDW equipped with the large drill holder only; with left side equipped with straight face wheel and wheel guards same as type CLDA on page 25.

Heavy Duty Wet Drill Grinder

STANDARD EQUIPMENT: — Wheels and drill holders as listed below; Diamond wheel Dresser; Manual Motor Starter (Magnetic Starter can be furnished to order.) Single Phase Machines have repulsion-induction Motor.

60 CYCLE ALTERNATING CURRENT

Type	Current Always Specify	Size Drills Will Grind		Dimensions in Inches				H.P. Cont. Duty	Approx. Speed R.P.M.	In Inches		Weight In Pounds		Code Word
		Small Holder	Large Holder	Grinding Wheels		Wheel Arbor Diam.	Distance between Wheels			Height to Center of Spindle	Net	Shipping		
				Cup	Straight									
CLSDW	220, 440 or 550 Volts 2 or 3 Phase	No. 60 to 3/8 inch	1/8 to 2 1/2 inch	Two 10"x1 1/2"	None	3/4"	1	1750	18 1/2"	38"	516	700	BIJOU	
CLDW	*	Not furnished	1/8 to 2 1/2 inch	10"x1 1/2"	10"x1"	3/4"	1	1750	18 1/2"	38"	495	680	BIGWIG	

*Grinders can be furnished for single phase; 110 or 220 volts; 50 or 60 cycles. See price sheet. For 50 cycles at speed of 1450 R.P.M. at standard price. For 25 cycles at speed of 1450 R.P.M. at extra cost. Special intermediate A.C. voltages from 80 to 550 volts at extra cost.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.



Bench Type Drill Grinder

$\frac{3}{8}$ Inch Capacity

These machines will grind straight and taper shank twist drills to the standard 59° angle at the point and with 12° clearance angle at circumference without adjustment. Drill is fed to the wheel by screw feed adjustment assuring identical lip lengths.

These machines are sturdily built throughout having large ball bearings with seals excluding dust and grit. Motors are totally enclosed. Single phase grinders have improved split phase motors with low starting current consumption.

STANDARD EQUIPMENT — Machines are furnished with two grinding wheels as listed, toggle switch (attaching cord on single phase only), end cover for left wheel guard. Pedestal for floor mounting at extra cost.

60 CYCLE ALTERNATING CURRENT ONLY

Type	Size Drills Will Grind	Grinding Wheels Size in Inches		Wheel Arbor Diam. in Inches	H.P.	Approx. Speed R.P.M.	Dimensions in Inches			Weight in Pounds		Code Word
		Cup	Straight				Longest Drill Will Grind	Distance Between Wheels	Height to Center of Spindle	Net	Shipping	
ADGA	No. 60 to $\frac{3}{8}$ -Inch	6"x1 $\frac{1}{4}$ "	6"x $\frac{3}{4}$ "	$\frac{1}{2}$ "	$\frac{1}{3}$	3500	7"	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	76	110	BLANKET

Machines are regularly supplied for operation on 110 or 220 volts single phase 220 or 440 volts 2 or 3 phase. For 50 cycles A.C. at speed of 2850 R.P.M. at standard price. Other current specifications at special price.



CLDA WITH ONE DRILL HOLDER



CLSDA WITH 3/8 and 2 1/2 INCH DRILL HOLDERS

Heavy Duty Drill Grinders

These Heavy Duty Drill Grinders provide adjustment for grinding cutting clearance (angle at circumference). Also point angle can be varied from 37° to 70°. They will grind straight or taper shank drills with 2, 3 or 4 flutes, also chucking drills or flat twisted drills and drills with oversize shanks. Drills are supported in V guides — no clamping or chucking necessary.

Screw feed insures equal angles and lip length. Attachment can be provided for grinding flat drills (2 1/2 inch capacity machines only) at extra charge and must be specified.

Type CLSDA is equipped with 3/8 inch holder on left end same as described on page 24 affording greater convenience in grinding small drills.

STANDARD EQUIPMENT — Grinding Wheels as listed below; Manual Motor Starter (Magnetic Starter can be furnished to order); Diamond Dresser; Instruction Chart. 1/2 H.P. Machines have toggle switch.

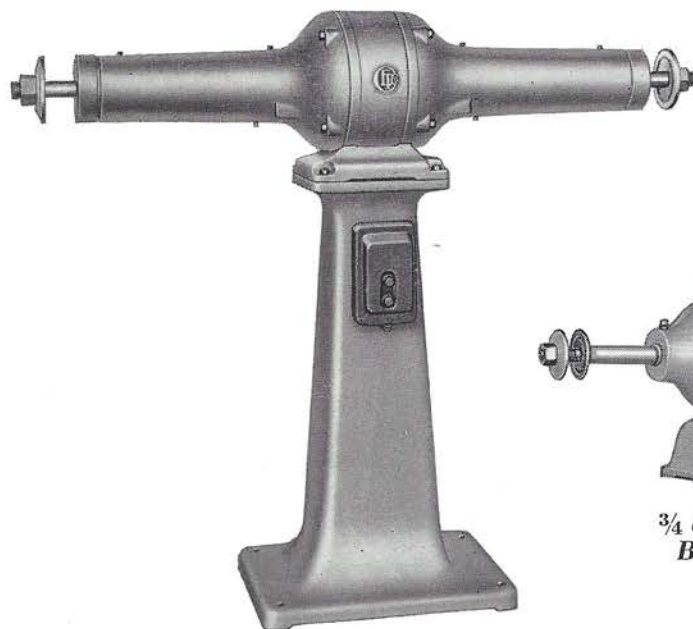
60 CYCLE ALTERNATING CURRENT

Type	Current * Always Specify	Maximum Size Drills Will Grind	Grinding Wheels Size in Inches		Wheel Arbor Diam. in Inches	H.P.	Approx. Speed R.P.M.	Dimensions in Inches			Weight in Pounds		Code Word
			Cup	Straight				Longest Drill Will Grind	Distance Between Wheels	Height to Center of Spindle	Net	Shipping	
BSDA	115 or 220 Volts	1 1/4"	7"x1 1/2"	7"x1"	5/8"	1/2	3500	13"	16"	41"	195	275	BOBBIN
BLDA	Single Phase	2 1/2"	7"x1 1/2"	7"x1"	5/8"	1/2	3500	20"	16"	41"	230	340	BODICE
CLDA	220, 440 or 550 Volts	2 1/2"	10"x1 1/2"	10"x1"	3/4"	1	1750	20"	18 1/2"	38"	385	480	BOGGLE
CLSDA	2 or 3 Phase	3/8" & 2 1/2"	10"x1 1/2"	None	3/4"	1	1750	7" & 20"	18 1/2"	38"	425	545	BOILER

*For 50 cycles at standard price. 1 H.P. for 25 cycles at 10% extra at speed of 1450 R.P.M. Special voltages at extra cost.



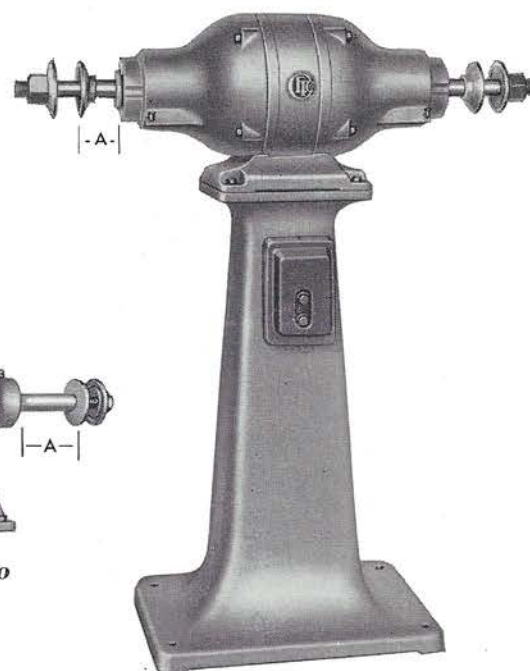
THE CINCINNATI ELECTRICAL TOOL CO.



**3/4, 1, 2, 3 and 5 H.P.
Wide Spread
Four Bearing Buffer**



**3/4 and 1 H.P. Two
Bearing Buffer**



**2, 3 and 5 H.P.
Extended Spindle
Two Bearing Buffer**

General Purpose Buffing and Polishing Machines

FURNISHED FOR ALTERNATING CURRENT ONLY
SPECIFY SPEED, VOLTAGE, CYCLES AND PHASE

A quality line of Buffers especially designed to bring these units in the lower price range yet maintaining the high standard and efficiency of

THE CINCINNATI products. For bench type, see price sheet.

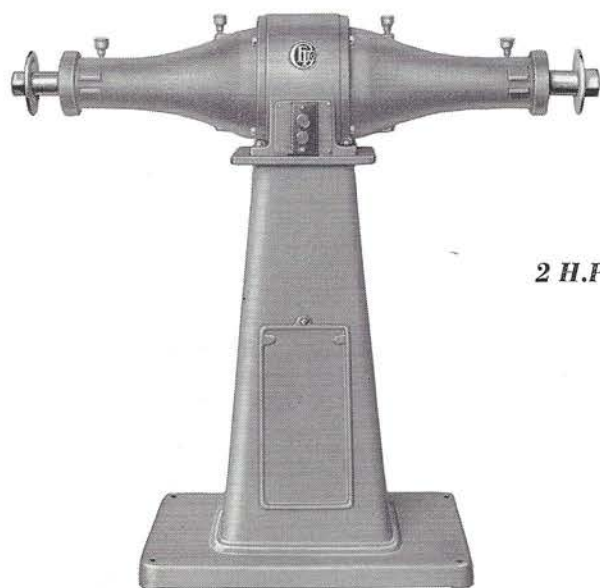
SPECIFICATIONS

Type	No. Ball Bearings	Dim. "A" Inches	H. P.	Load Speed, R.P.M.	Diameter Shaft Bet. Flanges Inches	Space Between Flanges Inches	Distance Between Wheels Inches	Height to Center of Spindle Inches	Size of Base at Bottom Inches	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
GPHA	4		3/4	1750	5/8"	1"	32 3/4"	39 1/2"	12"x15"	200	260	PROMOTE
GPAA	4		1		7/8"	1 1/2"	37"	29 1/2"	12"x15"	220	280	PUPPET
GPBA	4		2		1 1/4"	2 1/2"	46"	39"	15"x20"	317	420	POLISH
GPFA	4		3		or 1 1/4"	3"	46 1/2"	39"	15"x20"	305	400	POPLAR
GPGA	4		5	3450	1 1/4"	3"	47"	39"	15"x20"	330	440	PRODUCT
GPJA	2	4 1/4"	3/4	Please Specify Speed Desired	5/8"	1"	23"	39 1/2"	12"x15"	170	220	PROFESS
GPDA	2	5 1/8"	1		7/8"	1 1/2"	25"	39 1/2"	12"x15"	188	240	POSTER
GPKA	2	2 5/8"	2		1 1/4"	2 1/2"	29"	39"	15"x20"	266	340	PRINCE
GPLA	2	2 5/8"	3		1 1/4"	3"	29 1/2"	39"	15"x20"	270	345	PUDDLE
GPMA	2	2 5/8"	5		1 1/4"	3"	30"	39"	15"x20"	275	360	PULSE

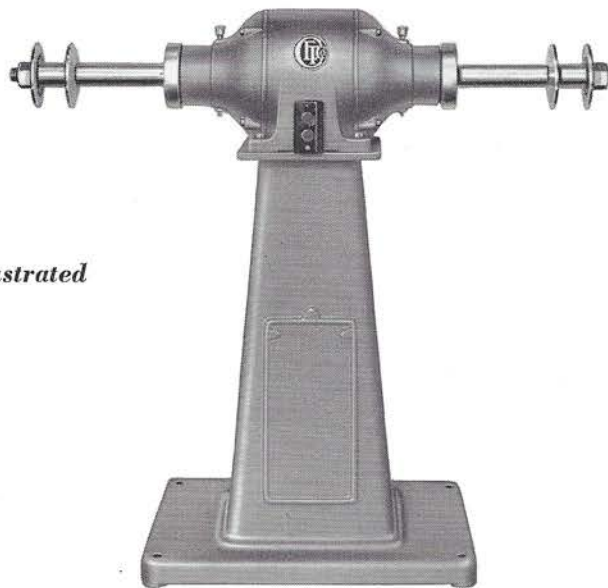
1 H.P. Buffers are regularly furnished for operation on 115/220 volts, 60 cycles single phase (repulsion induction motors) or 220, 440 or 550 volts, 60 cycles, 2 or 3 phase; 2, 3 and 5 H.P. units for operation on 220, 440 or 550 volts, 60 cycles, 2 or 3 phase. 3/4 H.P. units for 115 or 220 volts, 60 cycles, single phase (capacitor start motor) or 220, 440 or 550 volts, 60 cycles, 2 or 3 phase. For odd voltages, cycles and phase, see price sheet. 3/4 and 1 H.P. machines equipped with heavy duty toggle switch. All machines over 1 H.P. equipped with pushbutton starter with overload protection.

You should have an AIR MASTER with this Tool, see page 46.

CINCINNATI



WITH ENCASED SPINDLE EXTENSIONS
FOUR BEARING



WITH OPEN SPINDLE EXTENSIONS
TWO BEARING

2 H.P. Illustrated

Heavy-Duty Buffing and Polishing Machines

ALTERNATING CURRENT — DIRECT CURRENT

Heavy-duty Buffing and Polishing Lathes, especially designed and ruggedly built for continuous service under the most severe conditions. Ball bearings are mounted in dust-proof housings and are firmly locked to the shaft to provide end thrust and eliminate wear. $\frac{3}{4}$ and 1 H.P. Buffers equipped with two pole toggle

switch. Larger sizes with magnetic starter with overload and no-voltage protection mounted in the pedestal. Push-button station is mounted on the motor frame. Shaft locking device also provided for changing of wheels. Adjustable buffing hoods furnished, as extras, see page 46. Also furnished in bench type, see price sheet.

ENCASED SPINDLE SPECIFICATIONS

Type	Volts	H. P.	Load Speed, R. P. M.	Diam. Shaft Bet. Flanges	Space Bet. Flanges	Distance Bet. Wheels	Ht. to Center of Spindle	Size of Base at Bottom	Net Wght. Lbs.	Shipping Wght. Lbs.	Code Word
DHA	115-60-1	$\frac{3}{4}$	3525	$\frac{5}{8}$ "	1"	29 $\frac{1}{4}$ "	39 $\frac{1}{2}$ "	16"x12"	200	260	JOURNAL
*DHA	220-60-1	$\frac{3}{4}$	3525	$\frac{5}{8}$ "	1"	29 $\frac{1}{4}$ "	39 $\frac{1}{2}$ "	16"x12"	200	260	JUSTICE
DRA	110-60-1	1	†1750	$\frac{3}{4}$ "	1 $\frac{1}{4}$ "	32"	40"	20"x15"	210	260	JUTE
*DRA	220-60-1	1	†1750	$\frac{3}{4}$ "	1 $\frac{1}{4}$ "	32"	40"	20"x15"	210	260	JASPER
**DTA	220-60-3	2	†1750	1 $\frac{1}{4}$ "	2"	38 $\frac{1}{2}$ "	37 $\frac{1}{2}$ "	25"x20"	320	440	MUMMY
**DTA	440-60-3	2	†1750	1 $\frac{1}{4}$ "	2"	38 $\frac{1}{2}$ "	37 $\frac{1}{2}$ "	25"x20"	320	440	MACAW
**DVA	220-60-3	3	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	38 $\frac{1}{2}$ "	38"	25"x20"	360	500	MILLER
**DVA	440-60-3	3	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	38 $\frac{1}{2}$ "	38"	25"x20"	360	500	MACRO
**DFA	220-60-3	5	†1750	1 $\frac{1}{4}$ "	3"	†42" or 52"	38"	25"x20"	390	520	MAJOR
**DFA	440-60-3	5	†1750	1 $\frac{1}{4}$ "	3"	†42" or 52"	38"	25"x20"	390	520	MALT
**DSA	220-60-3	7 $\frac{1}{2}$	†1750	1 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	†42" or 52"	37"	28"x23"	550	670	MANLY
**DSA	440-60-3	7 $\frac{1}{2}$	†1750	1 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	†42" or 52"	37"	28"x23"	550	670	MAPLE

OPEN SPINDLE SPECIFICATIONS

**DKA	220-60-3	2	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	34"	37 $\frac{1}{2}$ "	25"x20"	375	500	KINK
**DKA	440-60-3	2	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	34"	37 $\frac{1}{2}$ "	25"x20"	375	500	KAYAK
**DLA	220-60-3	3	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	34"	38"	25"x20"	400	525	KIT
**DLA	440-60-3	3	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	34"	38"	25"x20"	400	525	KAZOO
**DMA	220-60-3	5	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	40"	38"	25"x20"	425	550	KIMONO
**DMA	440-60-3	5	†1750	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	40"	38"	25"x20"	425	550	KODAK

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price. Speed for 25 cycles, 1500 R.P.M.

**Made in 2 or 3 phase, also for 550 volts. If 2 phase or odd cycles is desired, mention after code word. For other than 50 or 60 cycles, see price sheet. Not made in single phase. For direct current, price on application.

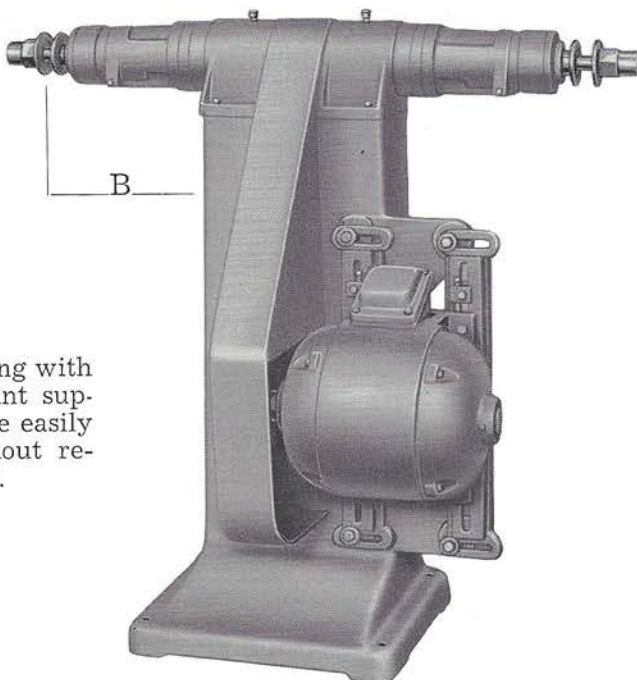
†42" between wheels Standard Equipment. 52", price on application.

†Also furnished 3400 R.P.M., if desired.

You should have an AIR MASTER with this Tool, see page 46.



With open type spindle extensions.
Two ball bearings. (Front view.)



With encased type spindle extensions.
Four ball bearings. (Rear view.)

Motor mounting with rigid four point support. Belts are easily adjusted without removing guard.

2, 3 and 5 H.P. Capacity

Belt-Drive Buffing and Polishing Machines

Spindle is mounted well forward on pedestal so that wheels are far in front of machine proper affording maximum freedom of operation for the handling of large and awkward shaped work.

The motor mounting permits the use or substitution of any available motor. The use of Vee belt drive affords any desired spindle speed regardless of speed of motor.

Spindle assembly with bearing boxes can be removed as an integral unit without disturbing the bearings. See illustration on page 31. Wheel arbors have flat top threads and bronze safety wheel clamping nuts.

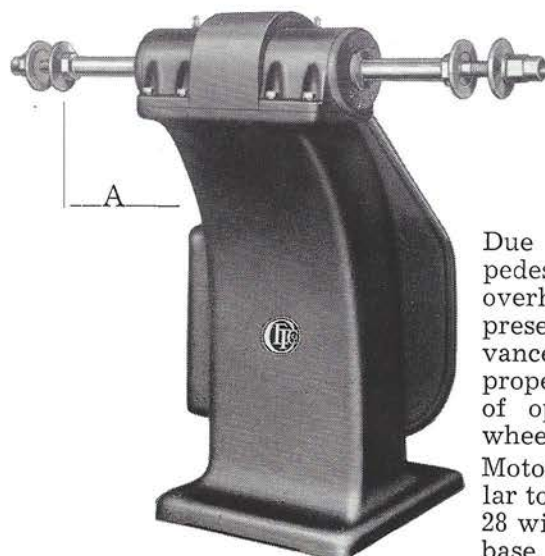
Manual push button starter is standard equipment. Magnetic starter can be furnished to order. Other attachments and accessories on page 2.

SPECIFICATIONS

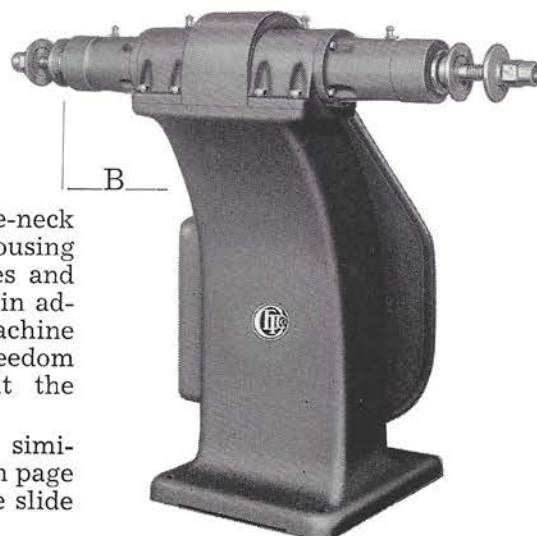
SPECIALTIONS																
Dimensions in Inches																
Type	Current Always Specify	Spindle Speed R.P.M. No Load	H.P. of Motor	Length		Spindle Diam. Bet. Bear- ings	Wheel Arbors		Distance Bet. Wheels	Hgt. to Center of Spindle	Size Base at Bot- tom	Weight in Pounds with Motor		Code Word		
				A	B		Diam- eter	Length Bet. Flanges				Net	Shipping			
OPEN TYPE SPINDLE EXTENSIONS																
GBPO	220, 440 or 550 Volts	To Suit Always Specify	2	11	.....	2½	1¼ †	1½	35	39	18½ x16	540	690		BREVET
HBPO	50 or 60 Cycles		3	11	.....	2½	1¼ †	2	35	39	18½ x16	560	730		BRIDLE
IBPO	2 or 3 Phase*		5	11	.....	2½	1¼	2	35	39	18½ x16	590	770		BRISTLE
ENCASED TYPE SPINDLE EXTENSIONS																
GBPE	220, 440 or 550 Volts	To Suit Always Specify	2	....	13¼	2½	1¼ †	1½	39½	39	18½ x16	590	770		BROODY
HBPE	50 or 60 Cycles		3	....	13¼	2½	1¼ †	2	39½	39	18½ x16	620	800		BUBBLE
IBPE	2 or 3 Phase		5	....	13¼	2½	1¼	2	39½	39	18½ x16	650	840		BUCKET

*Machines can be furnished with or without motors. Totally enclosed fan cooled motors are recommended. Can also be furnished for direct current or other alternating current specifications.
†One inch wheel arbors can be supplied on order. Price on application.

You should have an **AIR MASTER** with this Tool, see page 46.



**Two Bearing Buffer with
Open Spindle Extensions**



**Four Bearing Buffer with
Encased Spindle Extensions**

Due to the goose-neck pedestal, bearing housing overhang $8\frac{1}{2}$ inches and present wheels far in advance of the machine proper affording freedom of operation about the wheels.

Motor mounting is similar to illustration on page 28 with slotted type slide base.

Belt-Drive Buffing and Polishing Machines

The method used in mounting the motor permits the use or substitution of any available motor. The Vee Belt Drive affords any desired spindle speed regardless of speed of motor. These machines are ruggedly constructed for heavy duty work, yet require minimum floor space.

Belt guard completely encases belts and sheaves, yet need not be removed for belt adjustment. The spindle and bearing housings can be re-

moved as an integral unit without disturbing the bearings. See illustration on page 31. Wheel arbors have flat top threads and bronze safety wheel clamping nuts.

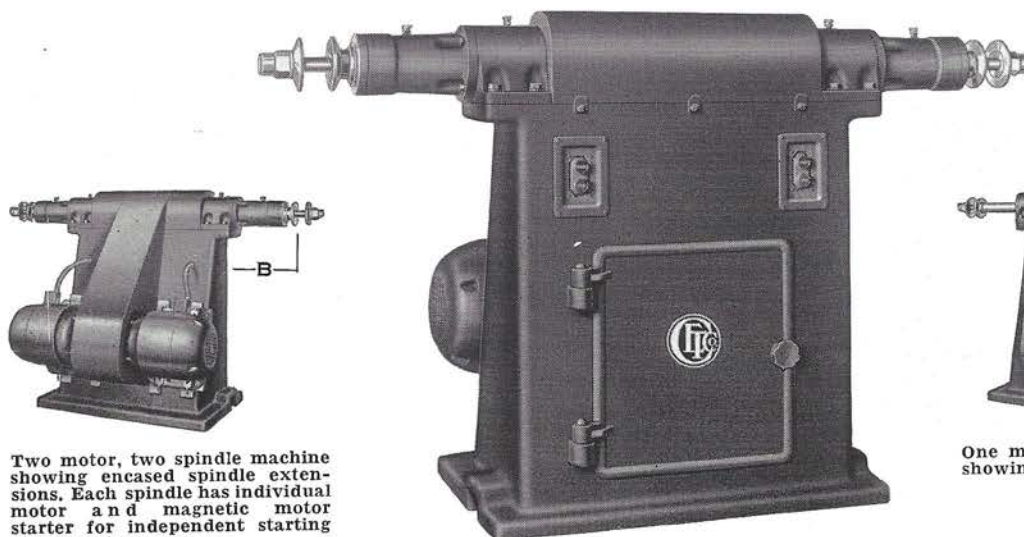
Manual starter furnished on 3 and 5 H.P. as standard equipment. Magnetic starter can be supplied on order.

$7\frac{1}{2}$ and 10 H.P. furnished with magnetic starter as standard equipment.

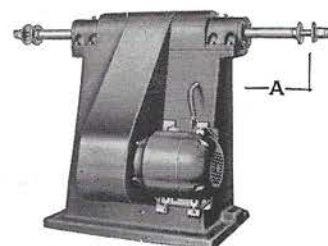
Type	Volts Always Specify	Spindle Speed R.P.M. No Load ‡	H.P. of Motor *	Dimensions in Inches										Weight in Pounds with Motor		Code Word
				Length of Extensions		Wheel Arbor Ends		Spindle Diam. Between Bearings	Distance Be- tween Wheels	Height to Cen- ter of Spindle	Size of Base at Bottom					
				A	B	Diam- eter §	Length Between Flanges									
												Net	Shipping			
WITH OPEN SPINDLE EXTENSION																
HBGO	220, 440 or 550	To Suit	3	12	.....	1¼"	3"	2¾"	38"	39"	26"x22½"	920	1100	CARBIDE	
IBGO	Volts, 60 Cycles	Always	5	12	.....	1¼"	3"	2¾"	38"	39"	26"x22½"	990	1200	CARDOL	
JBGO	2 or 3 Phase	Specify	7½	12	.....	1¼"	3"	2¾"	38"	39"	26"x22½"	1080	1300	CASING	
KBGO	*		10	12	.....	1¼"	3"	2¾"	38"	39"	26"x22½"	1175	1400	CATCHUP	
WITH ENCASED SPINDLE EXTENSIONS																
HBGE	220, 440 or 550	To Suit	3	....	15½"x¼"	1¼"	3"	2¾"	45"x¼"	39"	26"x22½"	950	1175	CAUCUS	
IBGE	Volts, 60 Cycles	Always	5	....	15½"x¼"	1¼"	3"	2¾"	45"x¼"	39"	26"x22½"	1020	1250	CEDAR	
JBGE	2 or 3 Phase	Specify	7½	....	15½"x¼"	1¼"	3"	2¾"	45"x¼"	39"	26"x22½"	1120	1350	CELLAR	
KBGE	*		10	....	15½"x¼"	1¼"	3"	2¾"	45"x¼"	39"	26"x22½"	1225	1475	CEMENT	

*Machines can be furnished with or without motors. Totally enclosed, fan-cooled motors are recommended. Can also furnish for direct current and other alternating current specifications.
†Three and five H.P. machines can be furnished with two step cone pulleys for two-speed operation at extra cost. Includes Dovetail Type Motor Slide base for quick speed change.
‡Can furnish with length B 23 inches, making distance between wheels 60 inches at extra cost.
§ $1\frac{1}{2}$ inch wheel arbors can be supplied on order. Price on application.

You should have an AIR MASTER with this Tool, see page 46.



Two motor, two spindle machine showing encased spindle extensions. Each spindle has individual motor and magnetic motor starter for independent starting and stopping.



One motor, one spindle machine showing open spindle extensions.

Belt-Drive Buffing and Polishing Machines

These machines are constructed similar to those described on page 28 except that they have

wider spread between wheels. Magnetic Starters furnished on all sizes as standard equipment.

Type and Spindle Extensions Encased or Open	Current Always Specify	Spindle Speed R.P.M. No Load	H.P. of Motor *	Dimensions in Inches								Weight In Pounds Including Motor		Code Word
				Length		Wheel	Arbor	Ends	Spindle Distance Between Wheels	Height to Center of Spindle	Size of Base at Bottom			
				A	B	Diam-eter S	Length Between Flanges	Spindle Diam. Between Bearings						
Net	Shipping													

ONE MOTOR — ONE SPINDLE MACHINES															
IBSO	Open			5	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	1380	1680	BUDGE
JBSO	Open	220, 440		7 1/2	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	1475	1775	BUGLE
KBSO	Open	or 550	To	10	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	1650	1950	BUNCO
LBSO	Open	Volts	Suit	15	12"	.....	1 1/4"	3"	2 3/4"	55"	29"	36"x24"	1950	2300	BUNION
IBSE	Enc.	60 Cycles	Always	5	.....	16 1/2"x 1/2"	1 1/4"	3"	2 3/4"	63"x 1/2"	39"	36"x24"	1430	1750	BURDEN
JBSE	Enc.	2 or 3	Specify	7 1/2	.....	16 1/2"x 1/2"	1 1/4"	3"	2 3/4"	63"x 1/2"	39"	36"x24"	1525	1850	BURLAP
KBSE	Enc.	Phase		10	.....	16 1/2"x 1/2"	1 1/4"	3"	2 3/4"	63"x 1/2"	39"	36"x24"	1700	2100	BUSTLE
LBSE	Enc.	*		15	.....	16 1/2"x 1/2"	1 1/4"	3"	2 3/4"	63"x 1/2"	39"	36"x24"	2000	2400	BUTTON

TWO MOTOR — TWO SPINDLE MACHINES

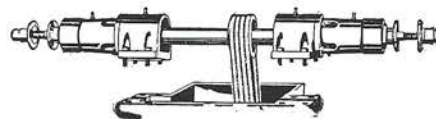
HBDO	Open	220, 440	To	2- 3	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	1670	1950	CABOOSE
IBDO	Open	or 550	Suit	2- 5	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	1800	2100	CAFE
JBDO	Open	Volts	Always	2- 7 1/2	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	2500	2800	CALLUS
KBDO	Open	60 Cycles	Specify	2-10	12"	.....	1 1/4"	3"	2 3/4"	56"	39"	36"x24"	2650	2950	CAMEL
HBDE	Enc.	2 or 3	for	2- 3	.....	16 1/2"x 1 1/4"	1 1/4"	3"	2 1/4"	63"x 39"	39"	36"x24"	1725	2050	CANCER
IBDE	Enc.	Phase	Each	2- 5	.....	16 1/2"x 1 1/4"	1 1/4"	3"	2 1/4"	63"x 39"	39"	36"x24"	1850	2150	CANUCK
JBDE	Enc.	*	Spindle	2- 7 1/2	.....	16 1/2"x 1 1/4"	1 1/4"	3"	2 1/4"	63"x 39"	39"	36"x24"	2550	2900	CANVAS
KBDE	Enc.			2-10	.....	16 1/2"x 1 1/4"	1 1/4"	3"	2 1/4"	63"x 39"	39"	36"x24"	2700	3000	CAPSULE

*With dimension B 24 inches, making 78 inches between wheels at extra cost.

*Machines can be supplied with or without motors. Totally enclosed, fan-cooled motors are recommended. Can also furnish for direct current and other alternating current specifications.

§1 1/2 inch wheel arbor can be supplied on order. Price on application.

You should have an AIR MASTER with this Tool, see page 46.



Entire spindle assembly can be removed as a unit without disturbing bearings facilitating renewal of belts.

Two-motor two-spindle machine illustrated with open spindle extensions.

Heavy Duty Belt-Drive Buffers and Polishers

These Buffers and Polishers incorporate all the features and improvements of 50 years experience. Motors are mounted inside of pedestal with louvres providing ample ventilation and protection for standard open rated motors. New hinged type motor base with hand wheel operated screw feed facilitates belt adjustment and

renewal insuring constant perfect alignment. The two-motor — two-spindle machines are particularly advantageous where wheels are changed frequently. Each spindle has independent start and stop button. Wheel arbors have flat top (Acme) threads and bronze safety wheel nuts. Shaft lock furnished as extra.

STANDARD EQUIPMENT: Magnetic Starters; Bronze Safety Wheel Clamping Nuts; V belt drive.

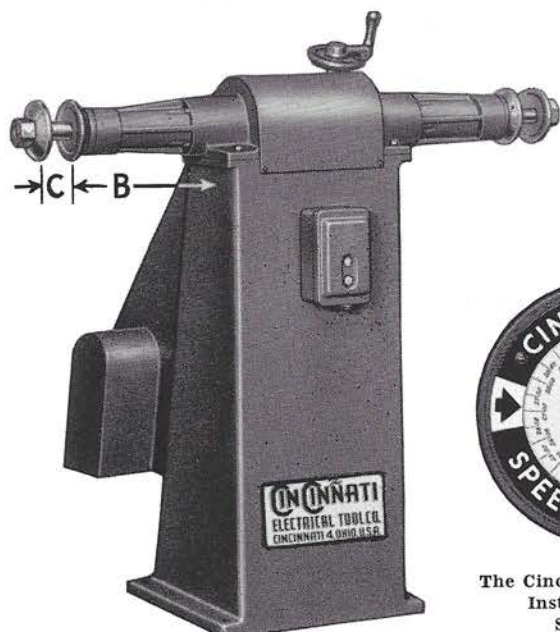
Type	Spindle Speed	H.P. of Motor	Length Extension from Pedestal to Wheel	Spindle Diam. Between Bearings	Dimensions in Inches				Size of Base at Floor	Weight in Pounds including Motor		Code Word
					Wheel Arbor Ends		Distance Between Wheels	Height to Center of Spindle		Net	Gross	
					Diameter S	Length Between Flanges						
WITH OPEN SPINDLE EXTENSIONS (ONE MOTOR—ONE SPINDLE)												
IBCO	To Suit	5	12"	2¾"	1¼"	3"	47"	39"	38"x29"	1550	1850	CHAMBER
JBCO	Always	7½	12"	2¾"	1¼"	3"	47"	39"	38"x29"	1625	1925	CHARIOT
KBCO	Specify	10	12"	2¾"	1¼"	3"	47"	39"	38"x29"	1725	2025	CHATEL
WITH ENCASED SPINDLE EXTENSIONS (ONE MOTOR—ONE SPINDLE)												
IBCE	To Suit	5	16½**	2¾"	1¼"	3"	56**	39"	38"x29"	1600	1900	CHEMIST
JBCE	Always	7½	16½**	2¾"	1¼"	3"	56**	39"	38"x29"	1675	1975	CHERUB
KBCE	Specify	10	16½**	2¾"	1¼"	3"	56**	39"	38"x29"	1775	2075	CHIPPER
WITH OPEN SPINDLE EXTENSIONS (TWO-MOTOR—TWO-SPINDLE)												
HPDO	Specify for each Spindle	Two 3 H.P.	12"	2¾"	1¼"	3"	47"	39"	38"x29"	1700	2000	CHOOSE
IPDO		Two 5 H.P.	12"	2¾"	1¼"	3"	47"	39"	38"x29"	1775	2075	CHURCH
WITH ENCASED SPINDLE EXTENSIONS (TWO-MOTOR—TWO-SPINDLE)												
HPDE	Specify for each Spindle	Two 3 H.P.	16½**	2¾"	1¼"	3"	56**	39"	38"x29"	1750	2050	CIRCLE
IPDE		Two 5 H.P.	16½**	2¾"	1¼"	3"	56**	39"	38"x29"	1640	1940	CLANK

Machines can be furnished with or without motors. Standard open ball bearing motors are recommended. Standard current specifications are for 220, 440 or 550 volts — 50 or 60 cycles — 2 or 3 phase. Can also furnish for Direct Current or other Alternating Current specifications. *With 24 inch long encased extensions and 71 inches distance between wheels at extra cost. †1 1/2 inch wheel arbors can be supplied on order. Price on application.

You should have an **AIR MASTER** with this Tool, see page 46.



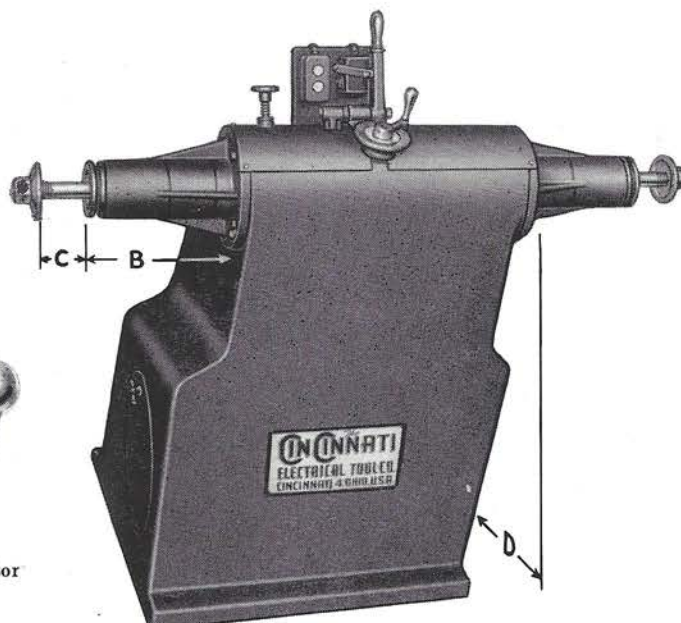
THE CINCINNATI ELECTRICAL TOOL CO.



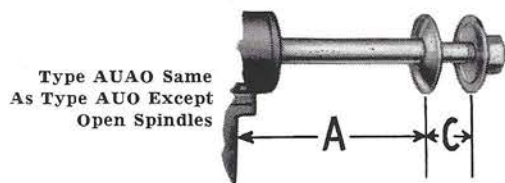
Type AUO



The Cincinnati Speed-Elector
Instantly Indicates
Spindle Speed



Type QU



Type AUAO Same
As Type AUO Except
Open Spindles

SPINDLE ASSEMBLY ON ALL TYPES
REMOVABLE INTACT TO FACILITATE BELT RENEWAL

Variable Speed Buffers and Polishers

MOTORS — Types AUO and AUAO furnished with totally enclosed, non-ventilated, ball bearing, 1800-rpm motors mounted on rear of pedestal. Type QU furnished with drip-proof, ball bearing motors mounted inside the base.

SPINDLE BALL BEARINGS — Permanently lubricated type.

STARTERS — Types AUO and AUAO furnished with Manual Starter with Overload Protection (except 1-H.P. machines furnished with heavy duty Toggle Switch). Type QU furnished with Magnetic Starter with Overload and Undervoltage Protection and separate Push Button Station.

HAND BRAKE — Furnished on type QU — coordinated with starter, simultaneously stopping both motor and spindle.

SHAFT LOCK — Positive in action — standard equipment on all types.

SPEEDS — Infinitely variable, 1500 to 3000-RPM. Other speed ranges to order — price on application.

SPINDLES — Precision machined, ground to size and balanced. Acme threads and bronze nuts are standard equipment on all sizes except 1-H.P. All sizes, except 1-H.P., have spindle ends drilled and tapped for taper points.

OPTIONAL EQUIPMENT (EXTRA COST) — Manual Starter on 1-H.P. machine. Magnetic Starter on types AUO and AUAO. Taper Points. Electrical Equipment for single-phase, direct current, 25-cycles or to meet J. I. C. Standards. Prices on application.

ENCASED SPINDLE SPECIFICATIONS

Type	Current	H.P.	Dimensions				Diam. of Shaft betw'n. Flanges	Distance bet. Wheels	Ht. to Center of Spindle	Size of Base at Bottom	Net Wght. Lbs.	Shipping Wght. Lbs.	Code Word
			A	B	C	D							
1AUO		1		6"	1 1/4"		1"	27"	39"	18"x16"	410	500	SPEED
2AUO		2		12"	2 1/2"		1 1/4"	37"	39"	18"x16"	475	575	PEEDS
3AUO	220-440 or 550-Volts, 60 Cycles,	3		12"	2 1/2"		1 1/4"	37"	39"	18"x16"	500	580	EEDSP
5QU	2 or 3 Phase	5		12"	4"	11"	1 1/4"	46"	39"	37"x25"	1100	1225	EDSPE
7QU		7 1/2		12"	4"	11"	1 1/4"	46"	39"	37"x25"	1175	1325	DSPEE
10QU		10		12"	4"	11"	1 1/4"	46"	39"	37"x25"	1250	1375	ELECT
15QU		15		12"	4"	11"	1 1/4"	46"	39"	43"x27"	1400	1550	TELEC

OPEN SPINDLE SPECIFICATIONS

1AUAO	220-440 or 550-Volts, 60 Cycles,	1	6"		1 1/4"		1"	27 1/2"	39"	18"x16"	350	450	LECTE
2AUAO		2	8"		2 1/2"		1 1/4"	33"	39"	18"x16"	450	550	ECTEL
3AUAO	2 or 3 Phase	3	8"		2 1/2"		1 1/4"	33"	39"	18"x16"	480	575	CTELE

You should have an **AIR MASTER** with this Tool, see page 46.

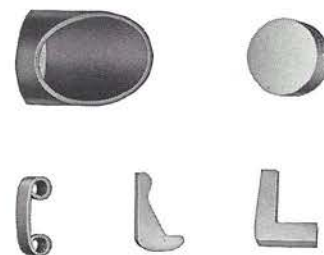
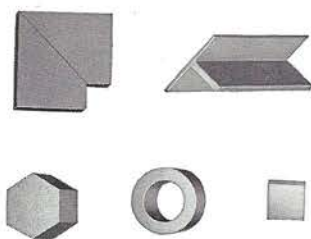
CINCINNATI



Shown on each side are just a few of the many shapes and various materials which are cut with the Cincinnati Abrasive Cut-Off Machine.



Coolant is directed not only on the point of contact with the cut but also on both sides of the wheel. This increases life of the wheel and produces a cut with minimum burr and eliminates burning.



Wet Abrasive Cut-Off Machine

The Cincinnati Wet Abrasive Cut-Off Machine is suitable for making straight or angle cuts in solids up to $2\frac{1}{4}$ " or tubing up to $3\frac{1}{2}$ " diameter, the same vise being suitable for the various cuts. In cutting angles up to 45° the maximum capacity is $2\frac{1}{4}$ ". Graduations on the table make angle-cutting fast and accurate. The material is held in the vise by spring tension on the jaws and the work is released after the cut is completed by the foot lever, leaving the operator's hands free at all times. The work is held securely on both sides of the cut, eliminating the possible cramping of work and preventing wheel breakage. The abrasive wheel is moved into the work by means of a hand lever and the arm which carries the abrasive wheel pivots on the pedestal with a counterbalance for easy operation. The abrasive cut-off wheel is completely guarded, with exception of that portion necessary for the actual cutting operation, affording perfect protection to the operator. Abrasive cut-off wheels are not standard equipment but can be furnished as extra.

A stop is provided which can be set for any depth of cut within the machine's capacity, and a longitudinal stop is provided for regulating the length of the material to be cut.

Three sets of wheel flanges, in different sizes, are furnished to ensure the maximum use of the abrasive wheels. A shaft locking device facilitates changing of wheels. The coolant system consists of a $\frac{1}{4}$ H.P. direct motor driven centrifugal pump with ten-gallon tank, piping and conveniently located control valve.

The spindle is of nickel steel, mounted on sealed-type deep-groove ball bearings running in oil. Labyrinth seals are provided to prevent the ingress of grit or dirt into the bearing housings. A conveniently located drain plug facilitates oil renewal. The spindle is driven by multiple vee belts from a $7\frac{1}{2}$ H. P. Ball Bearing Drip-Proof Motor, 1800 R.P.M., with magnetic starter with overload and no-voltage protection and push-button control. Can also be furnished with 10 H. P. motor.

ALTERNATING CURRENT SPECIFICATIONS

Type	Current	H.P.	Wheel Size	Diameter of Shaft between Flanges	Spindle Speed R.P.M.	Peripheral Speed	Height Overall	Size of Base at Bottom	Net Weight Pounds	Ship. Weight Pounds	Code Word
JCAW	220-60-3	$7\frac{1}{2}$	$16" \times 3\frac{3}{4}"$	1"	2300	9500 S.F.M.	59"	$33\frac{1}{2}" \times 23\frac{1}{2}"$	1500	1840	GALIOT
JCAW	440-60-3	$7\frac{1}{2}$	$16" \times 3\frac{3}{4}"$	1"	2300	9500 S.F.M.	59"	$33\frac{1}{2}" \times 23\frac{1}{2}"$	1500	1840	GALENA

Also available in 2 phase or 550 volts as standard. Mention after code word. Direct current prices on application. An additional charge is made for motors of other current characteristics. Prices on application.

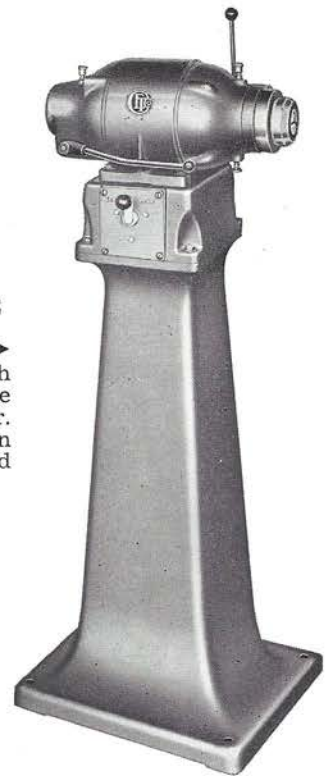


← **WITH No. 2
TAPER SOCKET**
Furnished in speeds
for direct drive,
1750 or 3400 R.P.M.
For gear drive, 90 to
3400 R.P.M. Switch
enclosed in base of
motor. 4" Universal
3 jaw chuck on ap-
plication.



**"TWO SPEED"
HOLLOW SPINDLE
← CHUCK TYPE
COLLET TYPE →**
Combination switch
and brake. Brake shoe
is adjustable to wear.
Drum controller in
base for quick speed
change.

For
Three Phase
Alternating
Current
Only



Ball-Bearing Speed Lathes

Ball-bearing Speed Lathe, especially adapted for burring, reaming, countersinking, lapping small parts of all kinds. The hollow spindle units are especially adaptable to tubing and bar

stock in a wide range of sizes. A spindle locking device is provided for mounting or removal of chuck. (For bench type, see price sheet.)

TAPER SOCKET TYPE ALTERNATING CURRENT SPECIFICATIONS

Type	Drive	Speed R.P.M.	Current	H.P.	Taper Socket	Height to Center of Spindle	Size of Base at Bottom	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
FBAO	Without gears	1750 or 3400	115-60-1	3/4	No. 2	38 3/4"	16"x12"	145	240	VANISH
*FBAO	Without gears	1750 or 3400	230-60-1	3/4	No. 2	38 3/4"	16"x12"	145	240	VAPOR
FBA	With gears	90 to 3400	115-60-1	3/4	No. 2	38 3/4"	16"x12"	150	245	VALET
*FBA	With gears	90 to 3400	230-60-1	3/4	No. 2	38 3/4"	16"x12"	150	245	VAMPIRE

*Can also be furnished for 220, 440 or 550 volts, 2 or 3 phase, regular list price. For direct current, price on application.

HOLLOW SPINDLE TYPE

Equipped with Universal 3 Jaw Chuck. A 4" 3 jaw chuck is standard equipment, but 5" or 6" chucks can be furnished, prices on application.

Type	Current	H.P. and Speeds R.P.M.	Diameter Hole in Spindle	Height to Center of Spindle	Size of Base at Bottom	Net Weight Pounds	Shipping Weight Pounds	Code Word
FBAB	220-440	1/8- 560 1/4-1150	1"	41"	16"x12"	206	255	VENT
FCAB	220-440	1/8- 850 1/2-1750	1"	41"	16"x12"	206	255	VENUE
FDAB	220-440	1/4-1750 1/2-3450	1"	41"	16"x12"	206	255	VERGE

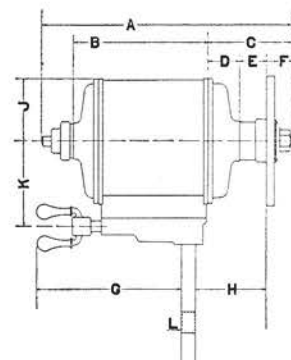
Equipped with Spring Collet Chuck

FBAC	220-440	1/8- 560 1/4-1150	3/4"	41"	16"x12"	214	260	VIEW
FCAC	220-440	1/8- 850 1/2-1750	3/4"	41"	16"x12"	214	260	VIGIL
FDAC	220-440	1/4-1750 1/2-3450	3/4"	41"	16"x12"	214	260	VILLA

Standard equipment consists of one collet, as selected, up to 1 1/8" round, 7/8" hex or 3/4" square. Specify size desired. Additional collets furnished on order. All of above lathes may be had in single speeds and H.P.'s as follows: 1/8 H.P. at 570 R.P.M.; 1/4 H.P. at 1150 R.P.M.; 1/2 H.P. at 1725 R.P.M.; 1/2 H.P. at 3450 R.P.M. at no additional cost.



Tool Post Grinders with Slide Adjustment



For Internal Attachment and Tooth Rest Attachment, See Page 37.

These Tool Post Grinders are ball bearing equipped with provisions for thrust as well as radial loads. Seals are provided to keep lubricant in the bearings and dirt out. Motor can be pivoted to any angle about the tool-post bar and locked by set screw. Switch is mounted on right

end cap. Cord and plug also furnished. Can be used with spindle in vertical position with wheel up or down or at any angle. Grinders with horizontal feed are particularly desirable when used on lathes without compound rest.

60 CYCLE ALTERNATING CURRENT

Dimensions in Inches																				
Type	Current Always Specify	H.P.	Speed RPM Load	Size Wheel	Wheel Arbor Diam.	A	B	C	D	E	F	G	H		J	K	L	Weight Pounds		Code Word
													Min.	Max.				Net	Shipping	
SA	115 Volts	¼	3450	6x½	½	11½	6⅞	4½	2	1½	⅞	6¾	1⅜	6¼	2⅞	4	1x⅝	40	50	FACTOR
SSA	Single Phase	½	3450	8x1	⅝	13¼	7¾	5½	1¾	1¾	1⅞	8⅜	1¼	5	3½	4¾	1¼x¾	55	75	FAGOT

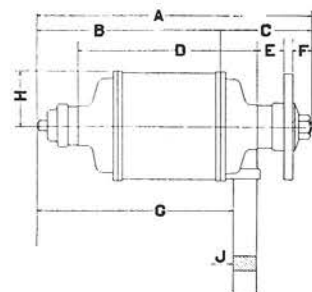
*Also for 220 volts, single phase and 220 or 440 volts, 2 or 3 phase. Mention after code word.

DIRECT CURRENT

S	115, 230 Volts	1/4	3650	6x1/2	1/2	11 5/8	7	4 5/8	1 5/8	1 5/8	7/8	7	1 5/8	5 3/4	2 1/4	3 1/4	1x5/8	27	37	ETHER
---	----------------	-----	------	-------	-----	--------	---	-------	-------	-------	-----	---	-------	-------	-------	-------	-------	----	----	-------



Tool Post Grinders without Slide Adjustment



For Internal Attachment and Tooth Rest Attachment, See Page 37.

60 CYCLE ALTERNATING CURRENT

Type	Current Always Specify	H.P.	Speed R.P.M. Load	Size Wheel	Wheel Arbor Diam.	Dimensions in Inches								Weight Pounds		Code Word
						A	B	C	E	F	G	H	J	Net	Shipping	
PA	115 Volts	1/4	3450	6x1/2	1/2	11 1/2	6 7/8	4 1/2	1 1/2	7/8	7 3/4	2 7/8	1x5/8	35	45	FABLE
PHA	Single Phase	1/2	3450	8 x1	5/8	13 1/4	7 3/4	5 1/2	1 3/4	1 1/8	8 5/8	3 1/2	1 1/4x3/4	58	80	FABRIC
POA	*	1	1750	10x1	3/4	16	9 5/8	6 3/8	1 7/8	1 1/2	5 3/8	4	1 3/4x1 1/2	115	145	BELT

*Also for 220 volts single phase and 220 or 440 volts, 2 or 3 phase. Mention after code word.

DIRECT CURRENT

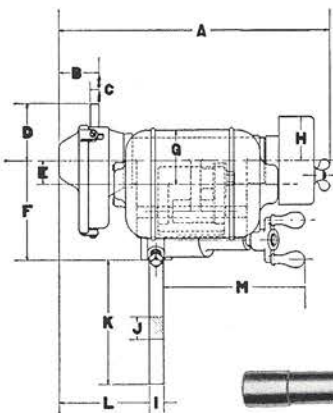
P	115, 230 Volts	1/4	3650	6x1/2	1/2	11 5/8	7	4 5/8	1 5/8	7/8	7 3/4	2 5/8	1x5/8	22	32	ESSAY
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THE CINCINNATI ELECTRICAL TOOL CO.



Type FU

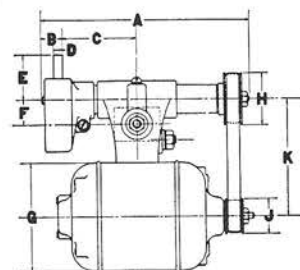


All dimensions in inches.

Type	A	B	C	D	E	F	G	H	I	J	K	L	M
												Min.	Max.
FU	12	1 3/4	3/8	2 1/2	1 3/8	4 3/8	2 1/8	1 1/8	5/8	1	5 1/8	2 7/8	6 1/8
LU	12	1 3/4	3/8	2 1/2	1 3/8	3	2 1/8	1 1/8	5/8	1	5 1/8		5 3/8



Type LBU



Type	A	B	C	D	E	F	G	H	J	K
LBU	9 1/4	1 1/8	3 3/8	3/8	2	1 1/8	4 1/8	2 1/8	1 1/2	5 7/8

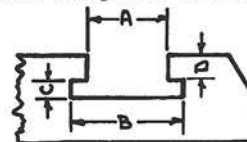
Belt-Driven Tool Post Grinders

Universal Motor for Direct and Alternating Current, 25 to 60 Cycles, Single Phase.

Types FU and LU Belt Driven Tool Post Grinders, with and without feed respectively, especially adapted for grinding lathe centers, cutters, reamers, rolls, dies, etc.; can also be used in a shaper or planer for surface grinding. Offset spindle construction affords maximum clearance across the face of the grinding wheel. Pivotal mounting of motor on bracket provides for maintenance of proper belt tension. Type FU has a 3" horizontal travel through the V slide by means of a worm and is fitted with a gib to take up the wear. Internal grinding mandrel is 3 3/4" long.

Type LBU Belt-driven Grinder, for mounting on compound rest of 9" lathes and larger, will grind work within 2 1/2" of the maximum lathe swing. Grinder may be swivelled around the clamping bolt and provision is made for changing spindle height. Motor is adjustable, for maintaining proper belt tension. Distance from center of spindle to center of tool rest 1 1/8". Minimum distance from the center of spindle to base is 1". Internal grinding mandrel is 3 3/4" long.

In ordering, give dimensions of slot in compound rest, so that proper adaptor may be furnished.

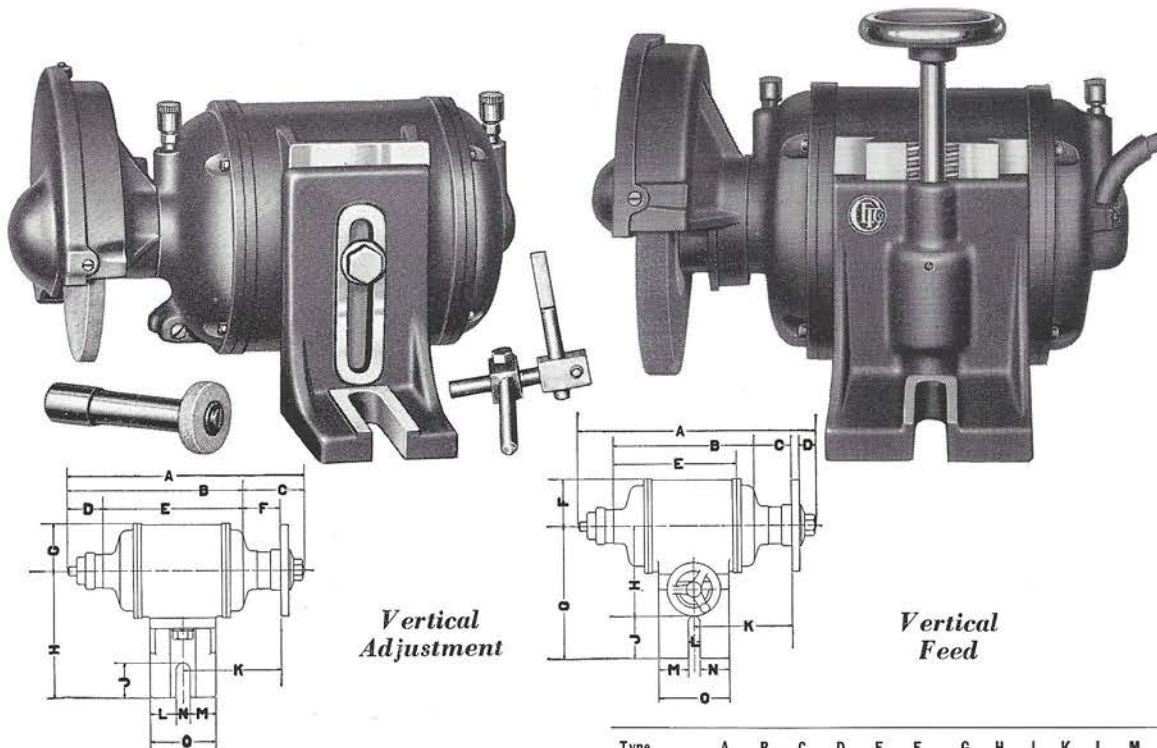


Furnished complete as illustrated with rubber-covered cable, attachment plug and internal mandrel.

SPECIFICATIONS

Type	Volts (Specify)	H.P.	Load Speed R.P.M.	Size External Wheel	Size Internal Wheel	Diameter Shaft Between Flanges	Net Weight, Pounds	Shipping Weight, Pounds	Code Word
FU with feed	115	1/3	3450	5"x3 3/8"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	33	50	BACON
FU with feed	220	1/3	3450	5"x3 3/8"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	33	50	BEAR
LU without feed	115	1/3	3450	5"x3 3/8"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	28	48	BEAK
LU without feed	220	1/3	3450	5"x3 3/8"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	28	48	BEAL
LBU	115	1/3	6000	4"x3 3/8"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	22	34	BAHIA
LBU	220	1/3	6000	4"x3 3/8"	1 1/2"x3 3/8"x3 3/8"	1 1/2"	22	34	BEAU

CINCINNATI



Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O
TPA	11 1/2	8 1/2	3	1 1/2	7 1/2	1 1/2	2 1/2	6 1/2	1 3/4	5 1/4	1 3/8	1 3/8	1 1/2	3 1/4

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O
TA	13 1/2	7 1/2	2	1 1/2	6 1/2	3 1/2	9 1/2	6 1/2	2 3/4	5 1/2	1 1/2	1 1/2	1 1/2	4 1/2
TTA	16 1/4	9 1/2	2 1/2	1 5/8	8 1/2	3 3/4	10 1/2	7	3 1/2	6 3/4	1 3/8	2 3/8	2 3/8	5 1/2
TVA	23 3/4	12 1/2	3 1/2	1 1/2	11 1/2	5 1/2	12 3/4			8 1/2				8 1/2
TFA	23 3/4	12 1/2	3 1/2	1 1/2	11 1/2	5 1/2	12 3/4			8 1/2				8 1/2

Angle Plate Grinders

Alternating Current Only

Angle-plate Grinders, especially adapted for grinding spindles, rolls, journals, bushings, connecting rods and surfaces. For use on lathes, planers, shapers and boring mills. A double row precision ball bearing is provided on the grinding wheel end of shaft to take care of both radial as well as thrust loads, with a deep groove single-row plate seal ball bearing on the opposite end. The 1/4 H.P. Grinder has no vertical feed, but can be swiveled to any angle by means of the set-

screw and slot in the angle plate. Grinders of 1/2 H.P. to 3 H.P. have vertical feed of 4 3/4" to 9 1/2", according to size. Standard lengths of internal mandrels are 3 3/4" for 1/4 H.P. and 6 1/2" for 1/2 H.P.

Furnished as illustrated with grinding wheel, cord and plug as standard equipment. Tooth Rest and Extension Mandrel for 1/4 and 1/2 H.P. Grinders can be supplied as extras. See price sheet under Tool Post Grinders.

SPECIFICATIONS

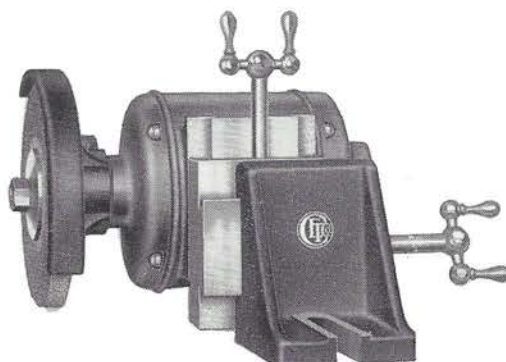
Type	Current	H.P.	Load Speed R.P.M.	Size Wheel	Diameter Shaft Bet. Flanges	Feed	Net Weight, Pounds	Shipping Weight Pounds	Code Word
TPA	115-60-1	1/4	3450	6"x1 1/2"	1/2"		32	50	CANAL
†TPA	220-60-1	1/4	3450	6"x1 1/2"	1/2"		32	50	CABIN
TA	115-60-1	1/2	3450	8"x1"	5/8"	5 3/4"	70	93	FORTIFY
†TA	220-60-1	1/2	3450	8"x1"	5/8"	5 3/4"	70	93	FRAY
TTA	115-60-1	1	1750	10"x1"	3/4"	6 1/8"	100	140	FOSIL
†TTA	220-60-1	1	1750	10"x1"	3/4"	6 1/8"	100	140	FRESCO
*TVA	220-60-3	2	1750	12"x1 1/2"	1 1/4"	9"	280	350	FRIGATE
*TVA	440-60-3	2	1750	12"x1 1/2"	1 1/4"	9"	280	350	FARINA
*TFA	220-60-3	3	1750	14"x2"	1 1/4"	9"	300	370	FROCK
*TFA	440-60-3	3	1750	14"x2"	1 1/4"	9"	300	370	FELLOE

*Can also be furnished for 220 volts, 3 phase, regular list price.

†Can also be furnished for 220, or 440 volts, 3 phase, regular list price. For other voltage and cycles, price on application.

*Made in 2 or 3 phase only. If 2 phase or 550 volts is desired, mention after code word. Speed for 25 cycles, 1500 R.P.M.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.



Double Slide Angle Plate Grinders

These ball bearing angle plate grinders with slide travel in both directions are similar to those described on page 37. When slides are

used for adjustment only, the slides can be locked in position. Motors are fully enclosed.

60 CYCLE ALTERNATING CURRENT

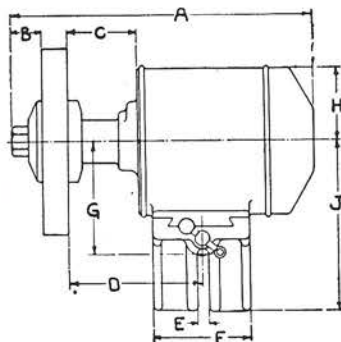
50 CYCLE ALTERNATING CURRENT										
Type	Current Always Specify	H. P.	Speed R.P.M. Load	Dimensions in Inches				Weight Pounds		Code Word
				Size Wheel	Wheel Arbor Diam.	Slide Travel		Net	Shipping	
						Vertical	Horiz.			
*BPDA	{ 220, 440 or 550 Volts 2 or 3 Phase	½	3450	8"×3¼"	¾"	4"	4"	68	88	COQUET
CPDA		1	1750	10"×1"	1"	5"	5"	141	170	CORDON
DPDA		2	1750	12"×1½"	1¼"	5"	5"	150	215	COSMIC

*Type BPDA also for 115 or 230 Volts, 60 Cycles single phase at standard price. For other voltage, cycles and phase, price on application.

STANDARD EQUIPMENT: — Rubber Cord, Grinding Wheel, Guard, and Toggle Switch.

DIMENSIONS

FOR ANGLE PLATE GRINDERS AND VERTICAL SPINDLE GRINDERS
Dimensions are given in inches and subject to change. Certified prints available for accurate checking.



Type	H.P.	Page	A	B	C	D	E	F	G	H	J
BPDA	½	38	12⅞	1	2⅝	6⅜	¾	4¾	7	3⅞	10
CPDA	1	38	16⅜	1¼	2⅞	7⅝	¾	6	8⅞	4	12
DPDA	2	38	18⅜	1¼	2⅞	7⅝	¾	6	8⅞	4	12
‡BVSA	½	39	13½	.....	2⅝	6⅜	¾	4¾	5⅝	3⅞	8⅝
‡CVSA	1	39	17⅝	.....	2⅞	7⅝	¾	6	6¼	4	10⅞
‡DVSA	2	39	18½	.....	2⅞	7⅝	¾	6	6¼	4	10⅞
‡EVSA	3	39	20¼	.....	5⅝	10½	7⅞	7	8	5⅞	13⅝

‡With Horizontal Slide Base.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.



Horizontal Slide Base



Vertical Slide Base



Double Slide Base



Flat Mounting Base

Vertical Spindle Grinders

Originally designed for vertical operation the name is somewhat misleading as these machines can be used in any position with wheels at any angle.

Constructed primarily for heavy thrust grinding they are equally satisfactory for cylindrical or surface grinding. Matched precision ball bear-

ings of the duplex type with definite preload on extra heavy spindles precludes the possibility of any radial or end play in the spindle. The preload automatically compensates for wear. When used with boring mill or planer with two heads many machining and grinding operations can be performed in the same set-up.

STANDARD EQUIPMENT — One cup wheel as listed, rubber covered cable and motor starter as follows: ½, 1 and 2 H.P. grinders have large toggle switch, 3 H.P. has Manual Starter. Horizontal slide base will be furnished unless otherwise specified.

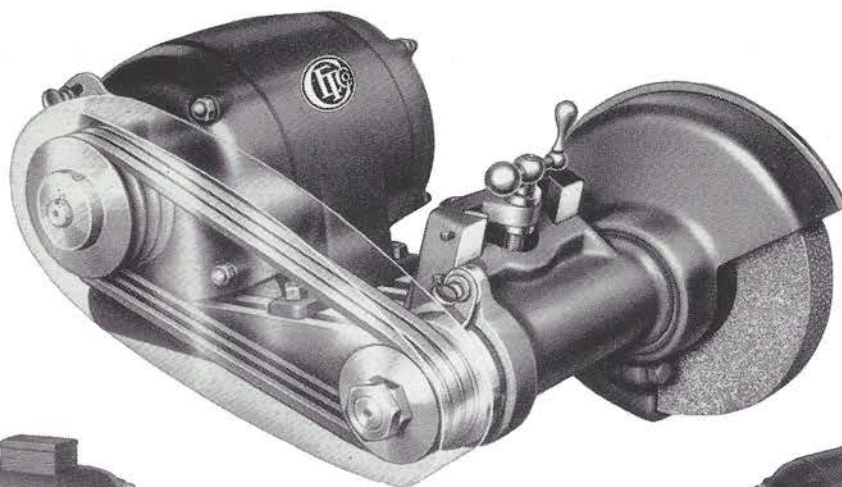
60 CYCLE ALTERNATING CURRENT

Dimensions in inches. Additional Dimensions on page 38.													
Type	Current		H.P.	Approx. Speed R.P.M.	Size of Cup Grinding Wheel	Wheel Arbor Diam.	Slide Travel				Weight in Pounds		Code Word
	Always Specify						Single		Double		Net	Shipping	
							Vert.	Horiz.	Vert.	Horiz.			
*BVSA	220 or 440 Volts 2 or 3 Phase	½	3500	4"x2½"	¾"	4"	4"	4"	4"	50	85	COASTER	
CVSA		1	3500†	6"x3½"	1"	5"	5"	5"	5"	100	140	COMBINE	
DVSA		2	3500†	6"x3½"	1¼"	5"	5"	5"	5"	120	160	COMPEL	
EVSA		3	3500†	6"x3½"	1½"	6"	9"	6"	6"	230	310	CONCEPT	

See page 38 for additional dimensions.

*BVSA for 115 or 230 volts, 60 cycles, single phase at no extra charge. For 50 cycles at no extra charge at speed of 3000 R.P.M. Any special voltage from 80 to 550 volts A.C. at 10% extra. †1750 R.P.M. at no extra charge. Direct current, price on application. For other voltage, cycle and phase, price on application.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.



Illustrating Complete External Grinding Unit



Illustrating Encased Internal Grinding Head Mounted in Place of External Grinding Head



Illustrating Open Type Internal Grinding Head Mounted in Place of External Grinding Head

External and Internal Precision Grinders

These patented internal and external grinding machines are designed for use with lathe, boring mill, planer, milling machine, etc., for a wide range of accurate work. Although indispensable for the thousand and one odd grinding jobs which crop up in every shop such as grinding rolls, bearings, journals, tapers, mandrels, cutters, dies, surface plates, bushings, etc., they are equally adapted for continuous production work.

While the standard machines meet most demands, many specials have been built for single purpose applications or for use as a unit of a special machine. A few of these are shown on page 41. Some typical uses of standard machines are also shown on this page.

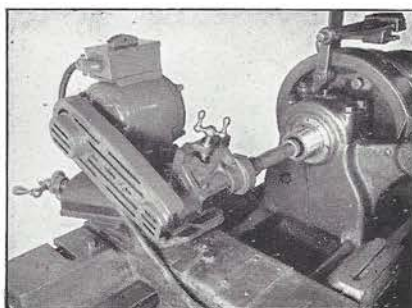
Their versatility is proven by the fact that they can be used with any kind, size or shape grind-

ing wheel and are being successfully used for grinding steel, cast iron, rubber, brass, paper and many unusual materials.

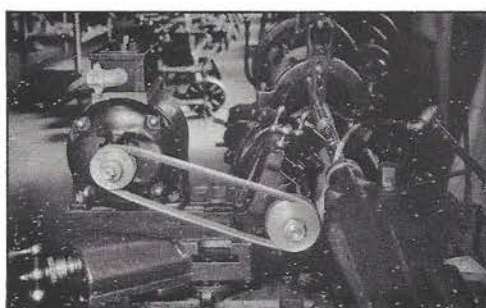
Machines can be furnished as strictly internal or external grinders or as a combination of both because the internal and external grinding heads are interchangeable. They can be used in a vertical or angular position. The bearing design and construction is capable of laboratory accuracy requirements yet rugged enough for production service.

Unlike portable grinders with universal motors wherein the speed drops in direct proportion with the applied load, these new grinders with powerful constant speed motors operate at practically the same speed under any load within their rated capacity. This insures a steady uniform grind producing the best results.

Specifications and description of external machines, see page 42. Specifications and description of internal spindles which are interchangeable with external heads, see page 43.



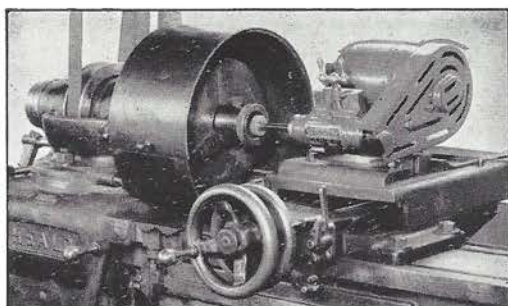
1/2 H.P. Grinder grinding taper hole in spindle of rebuilt lathe.



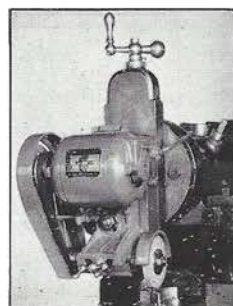
Note how spindle housing clears tail stock in grinding small diameter shaft.

Precision Grinder Applications

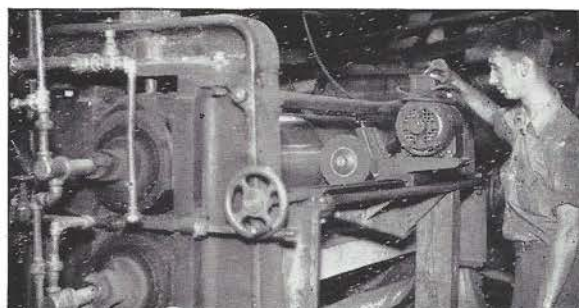
For full description and specifications see page 42 and 43.



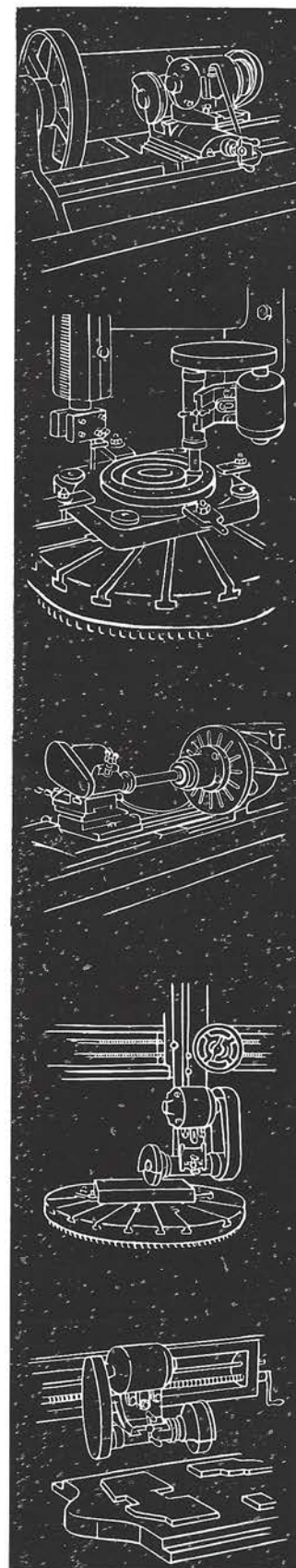
1/4 H.P. Internal Grinder replaces old grinder spindle with cumbersome pulleys and overhead belting on commercial grinder.



1/4 H.P. Grinder mounted on shaper for grinding lamination die.



1 H.P. External Grinder with special slide saves the time and labor of removing roll from textile machine for regrinding.





THE CINCINNATI ELECTRICAL TOOL CO.



Illustration shows a 3 H.P. type EVPA Wide Range Precision External Grinder. Grinders can be used with wheel on right or left side.

Precision Grinders with External Grinding Head



Type AVPA, 1/4 H.P. grinder with belt guard removed, showing flat endless canvas belt. All larger sizes have V belts.

Interchangeable Internal Grinding Heads listed on page 43. General description on page 40. Operating Views on page 41.

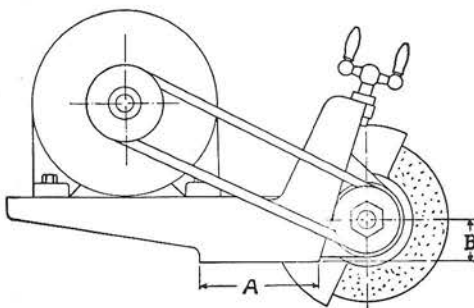
Type	Current * Always Specify	H. P. 40° C. Contin- uous Duty	Size Wheel in Inches †	Wheel Arbor Diam. in Inches	Spindle Speed R. P. M. No Load ‡	Weight in Pounds Including Motor		Code Word	Standard Equipment
						Net	Gross		
AVPA	110 or 220 Volts Single Phase A.C.	1/4	4"x1 1/2"	1/2"	5500	40	65	CRANKY	Motor.
BVPA	220, 440 or 550 Volts	1/2	6"x3 1/4"	3/4"	3700	75	125	CREATE	Belt Guard.
CVPA	2 or 3 Phase A.C.	1	8"x1"	1 1/4"	3000	140	220	CRITIC	Grinding Wheel.
DVPA	115 or 230 Volts Direct Current	2	10"x1"	1 1/4"	2325	200	280	CROCUS	Wheel Guard.
EVPA	220, 440 or 550 Volts	3	12"x2"	1 1/2"	2025	275	375	CRUSTY	Pulleys and Belts.
HVPA	2 or 3 Phase A.C.	5	14"x2"	1 1/2"	1700	320	420	CUCKOO	Motor Starter as follows:
JVPA	230 Volts	7 1/2	18"x2"	2 1/2"	1300	675	850	CURFEW	1/4 to 2 H.P.—Toggle Switch.
KVPA	Direct Current	10	20"x2"	2 1/2"	1150	800	975	CUSTOM	3 to 5 H. P.—Manual Starter.
									7 1/2 and 10 H.P.— A. C.—Magnetic Starter. D. C.—Manual Starter.

*1/2 H.P. Machines and larger can also be furnished for operation on 25 cycles. Other current specifications to special order.

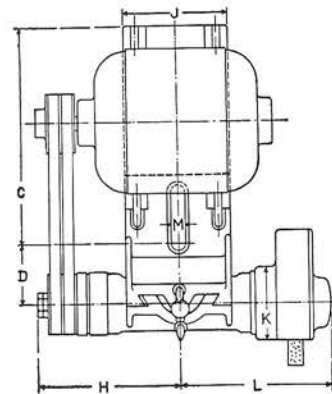
†Also furnished for high speed grinding wheels and other size wheels and speeds to special order. Above machines can also be furnished as Combination Internal and External Grinders. Internal Grinding Heads can be furnished with or without External Heads and are interchangeable when ordered to correspond with types listed on page 43. See Price Sheet for allowance of external heads when not required.

DIMENSIONS

OF EXTERNAL and INTERNAL GRINDERS



Adjustment B does not affect Belt Tension



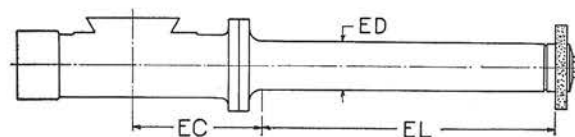
Internal Spindle Dimensions on Page 43

Type	A	B		C	D		H	J	K	L	M
		Max.	Min.		Max.	Min.					
AVPA	3 1/4"	3"	1"	8 3/4"	3 1/4"	2 1/2"	4 1/2"	3"	2"	4 3/4"	3 1/4"
BVPA	4 1/2"	3 3/8"	1 1/4"	10 1/4"	3 3/4"	3"	6 1/4"	5 1/8"	3 1/2"	7 1/4"	3 1/4"
CVPA	6"	3 5/8"	1 3/8"	12 3/8"	4 3/4"	3 7/8"	8"	6 1/8"	4 1/2"	9"	1"
DVPA	6"	3 5/8"	1 3/8"	13 1/2"	4 3/4"	3 7/8"	8"	6 1/8"	4 1/2"	9"	1"
EVPA	7"	4 1/8"	1 3/4"	15"	5 5/8"	4 5/8"	9 3/4"	10 1/4"	5 1/2"	11 1/2"	1 3/8"
HVPA	7"	4 1/8"	1 3/4"	15"	5 5/8"	4 5/8"	10 1/2"	10 1/4"	5 1/2"	11 1/2"	1 3/8"
JVPA	12"	7"	3 3/4"	22"	9 1/4"	7 3/4"	13 3/4"	13"	8"	15"	2 1/8"
KVPA	12"	7"	3 3/4"	22"	9 1/4"	7 3/4"	14 1/2"	13"	8"	15"	2 1/8"

Dimensions are given in inches and are subject to change. Certified prints are available for accurate checking.

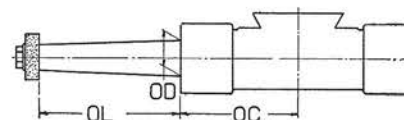
Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.

THE CINCINNATI



Grinding Head with Encased Type Spindle

Spindles are reversible enabling wheels to be used either left or right of precision grinders shown on page 42. Direction of rotation can be readily changed to suit.



Grinding Head with Open Type Spindle

Internal Grinding Heads

FOR USE WITH PRECISION GRINDERS SHOWN ON PAGE 42

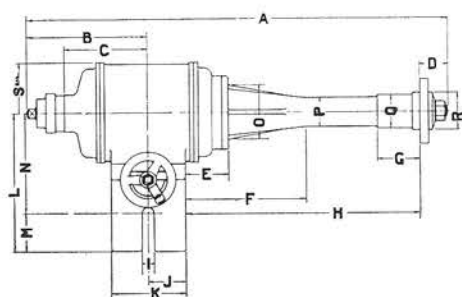
Grinding Head Dimensions in Inches (Other Dimensions on Page 42)											
Internal Grinding Head Type	For Use on Precision Grinder Type *	With Encased Type Spindle			With Open Type Spindle			Size Wheel †	Wheel Arbor Diam.	Spindle Speed R.P.M. No Load ‡	Code Word
		Length EL	Diam. ED	Dimen. EC	Length OL	Diam. OD	Dimen. OC				
A-2-O	AVPA	2	1½	25⅞	1 x ¼	¼	12000	DABBLE DEBATE DISPLAY
A-3-O		.....	.....	.....	3	1⅞	2⅞	1½ x ⅝	⅝	12000
A-4-O		.....	.....	.....	4	1⅞	2⅞	1½ x ⅝	⅝	12000
B-4-O	BVPA	4	¾	5⅞	1½ x ⅝	⅝	12000	DOMAIN DRAGON EBONY EDITOR EGOTIST
B-6-O		.....	.....	.....	6	1⅞	5⅞	2 x ½	½	9000
B-8-C		8	2	5¼	.....	.....	.....	3½ x ½	½	6250
B-12-C		12	2	5¼	.....	.....	.....	3½ x ½	½	6250
B-16-C		16	2	5¼	.....	.....	.....	3½ x ½	½	6250
C-6-O	CVPA or DVPA	6	1⅞	6¼	2 x ½	½	9000	EMBLEM ENDURE ESCAPE EXCESS FALCON FELINE FILTER FODDER FRACAS
C-8-O		.....	.....	.....	8	1⅞	6¼	2 x ½	½	9000
C-8-C		8	2	5¾	.....	.....	.....	3½ x ½	½	6250
C-12-C		12	2	5¾	.....	.....	.....	3½ x ½	½	6250
C-16-C		16	2	5¾	.....	.....	.....	3½ x ½	½	6250
C-5-E		5	2½	5¾	.....	.....	.....	4 x ½	⅝	6000
C-12-E		12	2½	5¾	.....	.....	.....	4 x ½	⅝	6000
C-16-E		16	2½	5¾	.....	.....	.....	4 x ½	⅝	6000
C-20-E		20	2½	5¾	.....	.....	.....	4 x ½	⅝	6000
E-6-O	EVPA	6	1⅞	7⅞	2 x ½	½	9000	HALLOW HEATER HILLOCK HOKUM HUMANE JEWEL JOSTLE JUNGLE LAVISH
E-8-O		.....	.....	.....	8	1⅞	7⅞	3½ x ½	½	6250
E-10-O		.....	.....	.....	10	1⅞	7⅞	3½ x ½	½	6250
E-12-C		12	2	6¾	.....	.....	.....	3½ x ½	½	6250
E-16-C		16	2	6¾	.....	.....	.....	3½ x ½	½	6250
E-12-F		12	2⅞	7⅞	.....	.....	.....	5 x ¾	¾	4300
E-16-F		16	2⅞	7⅞	.....	.....	.....	5 x ¾	¾	4300
E-20-F		20	2⅞	7⅞	.....	.....	.....	5 x ¾	¾	4300
E-24-F		24	2⅞	7⅞	.....	.....	.....	5 x ¾	¾	4300

†Other size wheels with spindle speeds to suit can be supplied on special orders, price on application.

*Complete Precision Grinder with External Head as described on page 42. When a Precision Grinder is ordered with an Internal Head in place of an External Head, deduct price of External Head and add price of Internal Head. See price sheet.

Machines can be used with spindle in vertical position for limited period only. For unlimited vertical service, special lubrication system can be supplied, price on application.

Due to design improvements now in process, please request a certified print if the tool must meet any dimensional requirements.



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
VA	24 1/8	5 7/8	3 7/8	1 3/4	2 3/4	7 1/8	2 5/8	14 7/8	1 1/8	2 1/8	4 5/8	9 1/8	2 3/8	6 3/4	3 3/8	1 1/8	2 1/8	2 1/4	3 1/8
VVA	27 1/8	6 3/8	5 3/8	2 1/8	2 3/4	8 1/8	2 1/8	14 7/8	1 3/8	2 3/8	5 1/8	10 1/8	2 1/2	7 1/8	4 1/4	2 1/8	2 3/8	2 3/4	3 1/8

*Can be furnished with extensions giving 6" and 12" added lengths to these dimensions.

1/2 and 1 H.P.

Internal Grinders with Vertical Feed

ALTERNATING CURRENT ONLY

Order by Type, Volts, Cycles and Phase.

Internal Grinders which are recommended for finishing Air, Steam or Gas Engine Cylinders; also for dies and cylindrical work of all kinds. These tools are of the same general design as the Parallel Grinders, shown on page 45, having a vertical adjustment of about 4 3/4", and are used in the same manner.

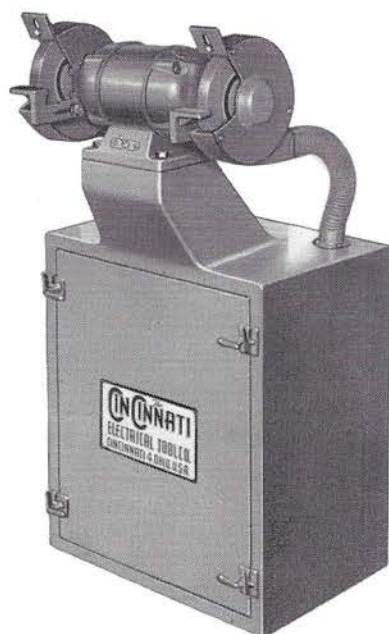
The standard size of extension spindle is 12", but shorter or longer furnished as required; prices on application. The extension is detachable at the body of the motor and the Grinder can be used for external work.

SPECIFICATIONS

Type	Current	H.P.	Load Speed R.P.M.	Size Wheel	Diam. Shaft Between Flanges	Length Std. Ext.	Net Weight, Pounds	Shipping Weight Pounds	Code Word
VA	115-60-1	1/2	3450	†5"x1"	5/8"	12"	60	95	FRUGAL
*VA	230-60-1	1/2	3450	†5"x1"	5/8"	12"	60	95	FULLNESS
VVA	115-60-1	1	3450	†6"x1"	3/4"	12"	90	125	FUDGE
*VVA	230-60-1	1	3450	†6"x1"	3/4"	12"	90	125	FUNNEL

*Can also be furnished for 220, or 440 volts, 3 phase, regular list price. For other voltage and cycles, price on application. Specify voltage cycles and phase.

†Smaller or larger diameter wheels can be furnished; min. diameter wheels, 1/2 H.P., 2"; 1 H.P., 3 1/2".



7", 8", 10"
wheels

FIVE SIZES
HEAVY DUTY
CONTINUOUS
PRODUCTION
INSTANT
DUST REMOVAL

UNIT
INSTALLATION
NO DUCT WORK
REQUIRED
NO HEAT LOSSES
SAVES FLOOR SPACE
ENCOURAGES
GOOD HOUSEKEEPING



12", 14"
wheels

SIMULTANEOUS OPERATION
OF GRINDER AND DUST COLLECTOR MOTORS

KLEX-DUST GRINDER with BUILT-IN DUST COLLECTOR

GRINDER

Motor: Totally Enclosed, Ball Bearing, NEMA Standards.

Starter: 7", 8", 10" Toggle Switch. 12" and 14" Push Button Safety Starter.

Ball Bearings: Fully Protected. Grease Lubricated.

Guards: Enclosed. Adjustable to wheel wear. Spark Breakers. Work Rests. Exhaust Outlets. 12" and 14" with hinged doors.

Wheels: Furnished on 7" and 8". Not furnished on 10", 12" or 14" as standard equipment but can be supplied on order.

DUST COLLECTOR

Substantial Grinder Pedestal with Self-Contained Dust Collector. Removable doors for convenient access to dust collector motor and filters.

Motor: Ball Bearing.

Fan: Ample capacity. High Speed for powerful suction.

Filters: 7", 8" and 10" with closely woven cloth bags. 12" and 14" with steel wool filter pads.

Dust Drawer: Removable for easy clean-out.

Ducts: Approved flexible steel conduit. Permits guard adjustment without disturbing connections.

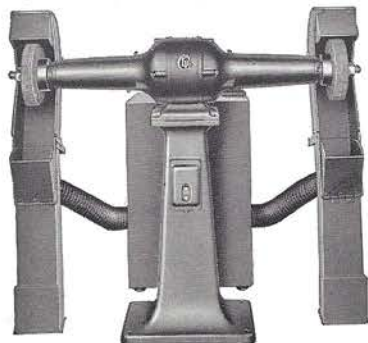
SPECIFICATIONS (All Dimensions in Inches)

Type	WHEEL SIZE			MOTOR				Distance Between Wheels	Height to Spindle	Size of Base	Weight Lbs.		Code Word
	Dia.	Width	Bore	Grinder H.P.	Grinder R.P.M.	Dust Collector H.P.	Dust Collector R.P.M.				Net	Shipping	
7FQ	7"	1"	5/8"	1/2	3600	1/2	3600	16"	39"	22"x16"	230	310	KLEXD
8FQ	8"	1"	5/8"	3/4	3600	1/2	3600	16"	39"	22"x16"	235	315	LEXDK
10FQ	10"	1"	7/8"	1	1800	1/2	3600	17 1/2"	39"	22"x16"	275	350	EXDKL
12FQ	12"	2"	1 1/4"	2	1800	3/4	3600	21"	39"	22"x22"	720	800	XDKLE
14FQ	14"	2 1/2"	1 1/4"	3	1800	3/4	3600	24"	39"	22"x22"	750	860	DKLEX

CURRENT: For 110 or 220-volt, 50 or 60 cycles, single phase or for 220/440-volts, 50 or 60 cycles, 3-phase.



THE CINCINNATI ELECTRICAL TOOL CO.



Buffer with AIR-2 Air Master, Adjustable Hoods and Piping. For hoods and piping prices, see price sheet.



DIMENSIONS:

AIR-1 26" High x 22" Wide x 16" Deep.
AIR-2 33" High x 22" Wide x 24" Deep.
AIR-3 49" High x 28" Wide x 28" Deep.



Pedestal Grinder with AIR-1 Air Master and piping. For piping price, see price sheet.

Protect Workers Health and Expensive Equipment with the *Air Master*

ALTERNATING CURRENT — DIRECT CURRENT
Order by Type, Current and Volts. If Alternating Current, Give Cycles and Phase.

The Cincinnati "Air Master" is an efficient self-contained dust collector unit, urgently needed in every plant where grinding, polishing or buffing, of any kind, is done. Suitable for use with bench and pedestal grinders and buffers, tool and cutter grinders, surface grinders, lathe grinders, disc grinders, etc.

The dust and grit laden air is thoroughly filtered, through a series of closely woven fabric and steel wool filter bags and exhausted through an opening, in the top of the cabinet.

The heavier particles are directed downward, by means of a baffle plate, falling immediately into a large tray in the bottom of the cabinet. A foot lever is provided for shaking the lighter particles, from the filter bags, into the tray, which is removable for easy cleaning.

The fan motor is regularly connected into the same switch, which controls the grinder or buffer, starting and stopping simultaneously, with the machine. A metal partition prevents entrance of dust and grit into the motor compartment.

The motor, suction fan and filter bags are all completely enclosed in a compact, lacquer finished, insulated cabinet, mounted on rubber feet, ensuring quiet operation.

Type AIR-1 Air Master, with two 2" inlets, is recommended for use with 6", 8" and 10" Bench and Pedestal Grinders. When equipped with one 3" inlet, is ideal for small Tool and Cutter and Surface Grinders, also small Abrasive Cut-Off Machines.

Type AIR-2 Air Master, with two 3" inlets, will be found ideally suited for 12" and 14" Pedestal and Disc Grinders, as well as light buffing and polishing operations. When one 4" inlet is used, it is adaptable to the larger Tool and Cutter and Surface Grinders, as well as Abrasive Cut-Off Machines, where greater capacity than the Air-1 is desired.

Type AIR-3 Air Master, with two 4" inlets, is suggested for use with Pedestal and Disc Grinders up to 24" wheel size, also for production buffing installations. This unit can also be had with one 6" inlet, for use with single end disc grinders up to 30 inch, or for several smaller units.

SPECIFICATIONS

Type	Motor H.P.	Motor R.P.M.	Adjustable Hood Size Recommended	Capacity C.F.M.*	Velocity Each Inlet F.P.M.	Grinding Wheel Size Recommended	Standard Inlets	Net Weight	Shipping Weight	Code Word
AIR 1	½	3450	None	235*	5400	Up to two 10"x1½"	Two 2"	136	190	AMBLE
AIR 2	¾	3450	Up to two 12"	530*	5400	Up to two 14"x3"	Two 3"	183	280	AGAPE
AIR 3	1½	3450	Up to two 18"	930*	5300	Up to two 24"x4"	Two 4"	300	400	AIGRET

*Total capacity, based on using two inlets, each inlet one half of total. Can also be furnished for Direct Current and odd cycles Alternating Current; prices on application. Specify voltage cycles and phase. Piping, from exhaust outlets, on grinder wheel guards or buffer hoods, to AIR MASTER, furnished as extra, see price sheet. Recommended for all Grinding and Buffing Applications with wheel speeds up to 7500 surface feet per minute.

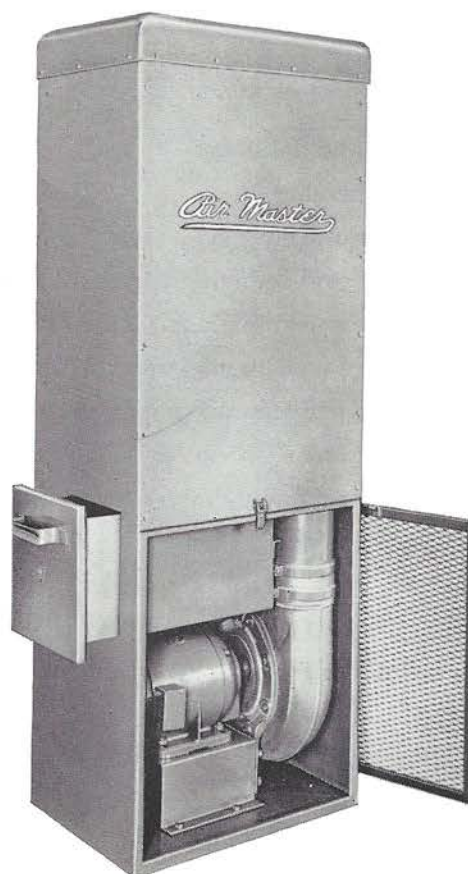
CINCINNATI



Motor and Exhauster
Completely Isolated
From Dust.
After-Cleaner Filters
Easily and Quickly
Accessible.

DIMENSIONS

	Height	Width	Depth
AIR-2C	62½"	16"	20"
AIR-C	72½"	20"	26"
AIR-4C	72½"	26"	40"



CONSTRUCTION

The Extra heavy housings of these units are $\frac{1}{8}$ " sheet steel, welded construction, for greater rigidity and durability. Exhausters are heavy duty industrial type, direct connected to a 3600 rpm, A.C. motor. The motor is amply ventilated and readily accessible through a removable expanded metal panel. Dust receptacles are gasketed, sliding drawers, secured with a hand wheel to insure a leak-proof seal.

Cyclone Type Dust Collector with After-Filter

This unit is a combination of a cyclone dust separator and a steel wool after-filter in one cabinet making two filter media in one cabinet for complete air cleaning which permits return of the cleaned air into the building.

In filter bag type air cleaners where heavy grinding overloads the filter bags or in buffing when using sticky compounds causing buffing lint to clog the filter bags, the combination cyclone dust collector is recommended. The

cyclone separates 90% of the dust leaving only the finer particles to be filtered through the steel wool filter in the final cleaning. As a result, maximum suction is always maintained and the steel wool filter requires very little cleaning attention.

Recommended for all Grinding and Buffing applications with wheel speeds up to 7500 surface feet per minute.

SPECIFICATIONS

Type	Motor H.P.	Current	Capacity CFM	Capacity at Approx. 2½" w.g.	Wheel Size Recommended	Net Weight Lbs.	Shipping Weight Lbs.	Code Word
AIR-2C	¾	50 or 60 cy. 1, 2 or 3 phase	450	1-5" pipe†	Up to two 14"x3"	285	380	AUGER
AIR-C	1½	50 or 60 cy. 2 or 3 phase	900	1-6" pipe†	Up to two 24"x4"	440	580	AMBER
AIR-4C	3*	50 or 60 cy. 2 or 3 phase	1800	2-6" pipes†	Up to two 30"x3"	710	900	ALLEY

*Type AIR-4C is equipped with magnetic starter and separate push button station. Type AIR-2C and AIR-C are designed for electrical connection to the machine being served.

†A combination of smaller diameter outlets can be furnished. Price on application. For other than above current specifications, price on application. Specify voltage cycles and phase.



TELEGRAPH CODE

DIAMOND.....	Wire price and delivery
RUBY.....	Wire best delivery
EMERALD.....	Enter order and ship via freight
PEARL.....	Enter order and ship via express
MOSAIC.....	Enter order and ship via Air Express
SAPPHIRE.....	Enter order and ship via parcel post
AMETHYST.....	Enter order and ship via parcel post special delivery
SARDONYX.....	Enter order and ship via Air Mail
CORAL.....	Enter order and wire delivery
MOONSTONE.....	Wire shipping date order
OPAL.....	When and how did you ship order?
QUARTZ.....	Trace shipment of order
CRYSTAL.....	Please hold order for further instructions
ONYX.....	Have you shipped order?
AQUAMARINE.....	Shipping your order via freight
TURQUOISE.....	Shipping your order via express
CAMEO.....	Shipping your order via parcel post
GARNET.....	Shipping your order via parcel post special delivery
JADE.....	Shipping your order via Air Mail

GUARANTEE

Every electric tool has been carefully inspected before shipment and we guarantee to correct any defect due to faulty material or workmanship. Our obligation assumed under this guarantee is limited to making replacement of any part or parts returned to us at our factory, or to our authorized service stations, transportation charges prepaid, which prove to our satisfaction upon examination to have been defective and have not been misused or carelessly handled. We reserve the right to decline responsibility where repairs have been made or attempted by others. This guarantee is in lieu of any other liability on our electric tools or parts. None other is authorized.

THE CINCINNATI ELECTRICAL TOOL CO.

CINCINNATI 4, OHIO

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THE CINCINNATI ELECTRICAL TOOL CO.

CINCINNATI 4, OHIO, U. S. A.