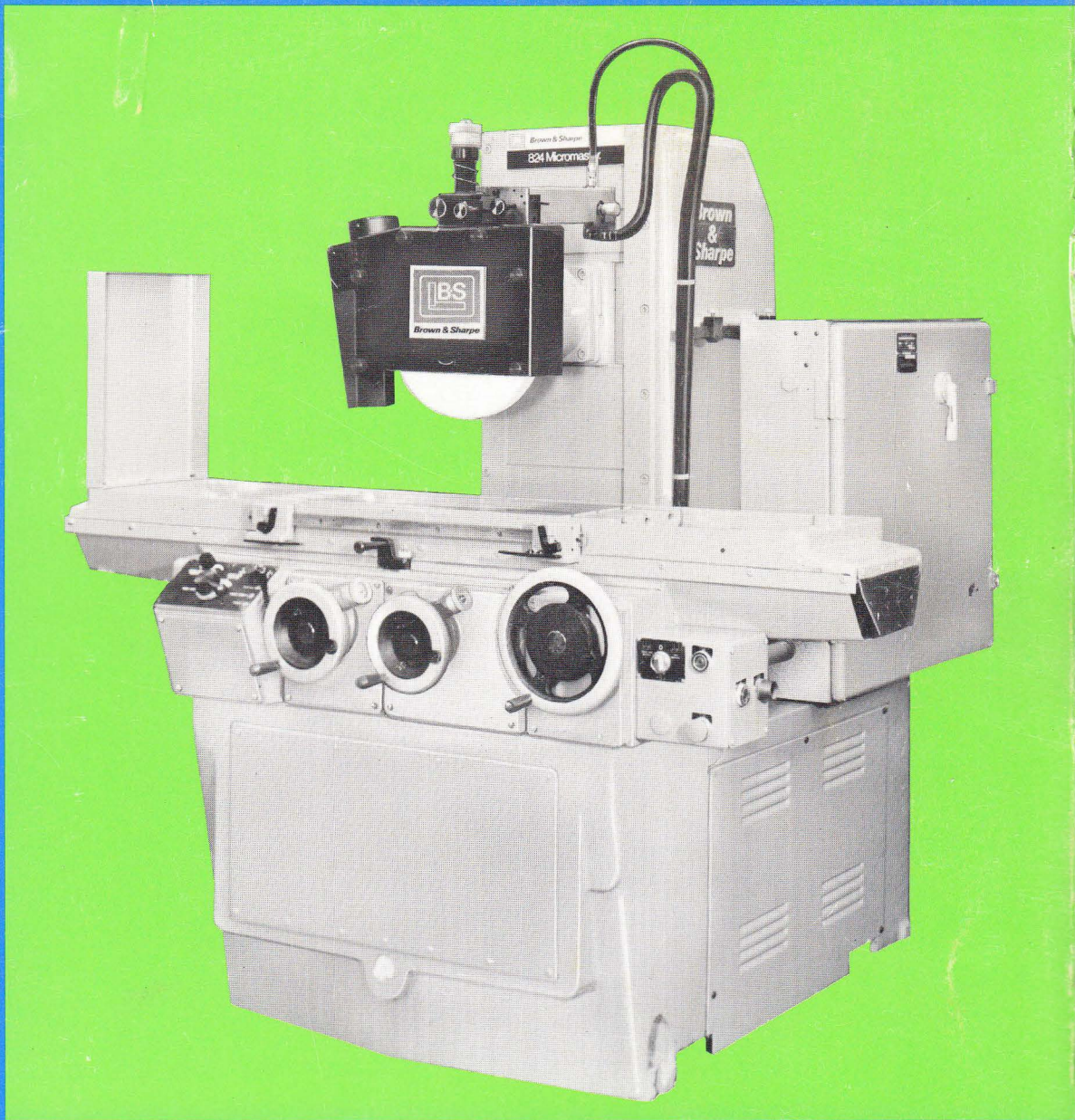


Brown & Sharpe



824/1030/1224/1236
MICROMASTER[®]
Surface Grinding Machines

JOACHIM
MACHINERY CO., INC.
4627 Independence Square
INDIANAPOLIS, INDIANA 46203
(317) 788-1501



Brown & Sharpe

QUALITY AND PRECISION SINCE 1833

Big Capacity Micromasters

Four New MICROMASTER® Surface Grinding Machines Big on Capacity — Accuracy — Longevity

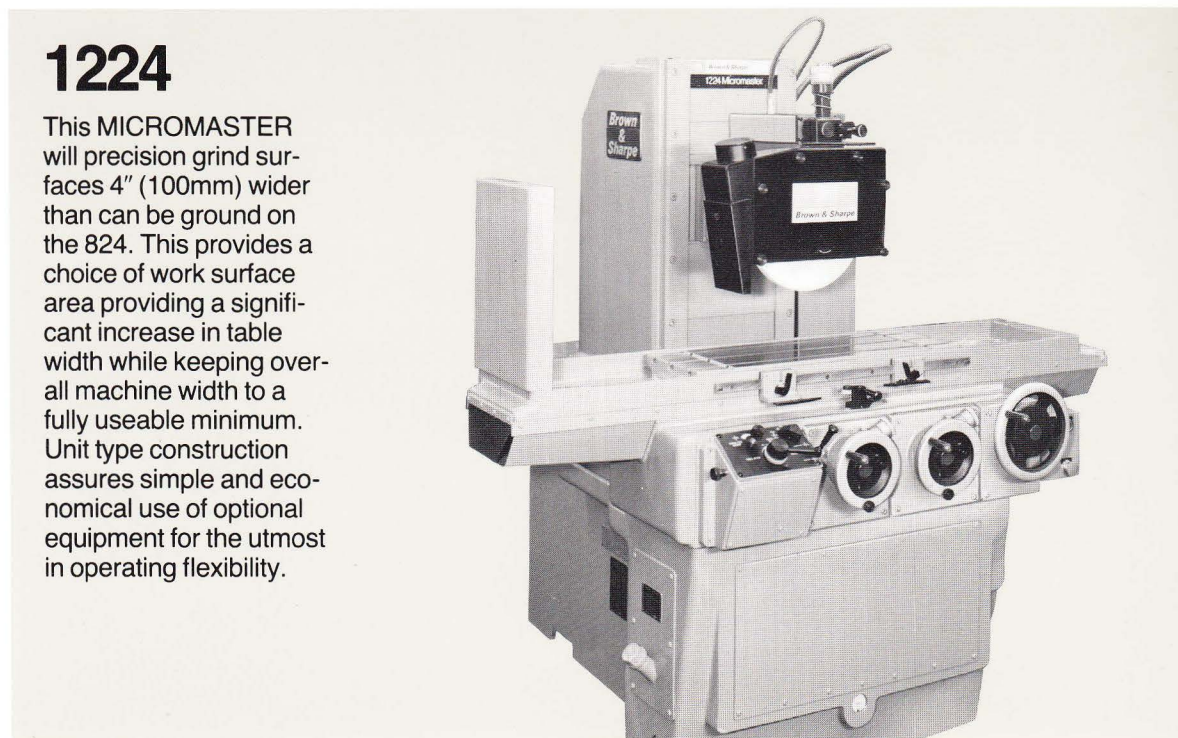
All Brown & Sharpe MICROMASTER Surface Grinding Machines, from the ultra-responsive hand operated surface grinders to the fully automatic slot and surface grinders for the production line, share three basic features that have established MICROMASTER leadership: (1) Independent Way

Construction; (2) Cartridge-Type Spindles; (3) Guaranteed Precision Capabilities. From this unique combination, all MICROMASTER Surface Grinding Machines inherit their Accuracy, Simplicity of Operation and Longevity — regardless of size.



824

Large vertical capacity with superior accuracy for surface, side-wheel or formed wheel grinding with excellent micro-inch finish. Structural stability and rigidity plus simplicity of set-up and ease of operation make MICROMASTER the choice for Toolroom or Production Line.

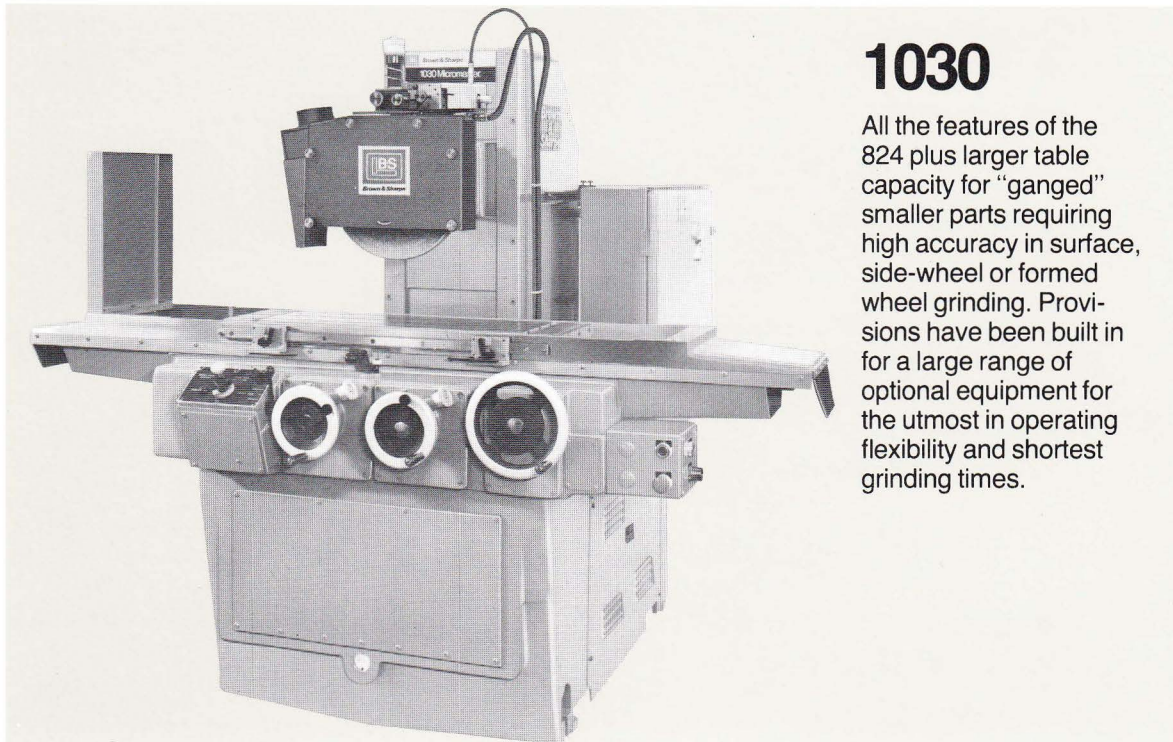


1224

This MICROMASTER will precision grind surfaces 4" (100mm) wider than can be ground on the 824. This provides a choice of work surface area providing a significant increase in table width while keeping overall machine width to a fully useable minimum. Unit type construction assures simple and economical use of optional equipment for the utmost in operating flexibility.

And now MICROMASTER Surface Grinding Machines feature former high-demand options as standard equipment —

- 5HP Direct Drive Anti-Friction Bearing Spindle
- .0001" Fine Cross Feed Control
- .0001" Fine Vertical Feed Control
- 18" (457mm) Vertical Capacity under 14" (356mm) diameter wheel
- Separate Spindle ON/OFF Control
- 110 Volt Duplex Receptacle for Accessories
- Over-the-Wheel Hydraulic Straight Line Dressing Arrangement

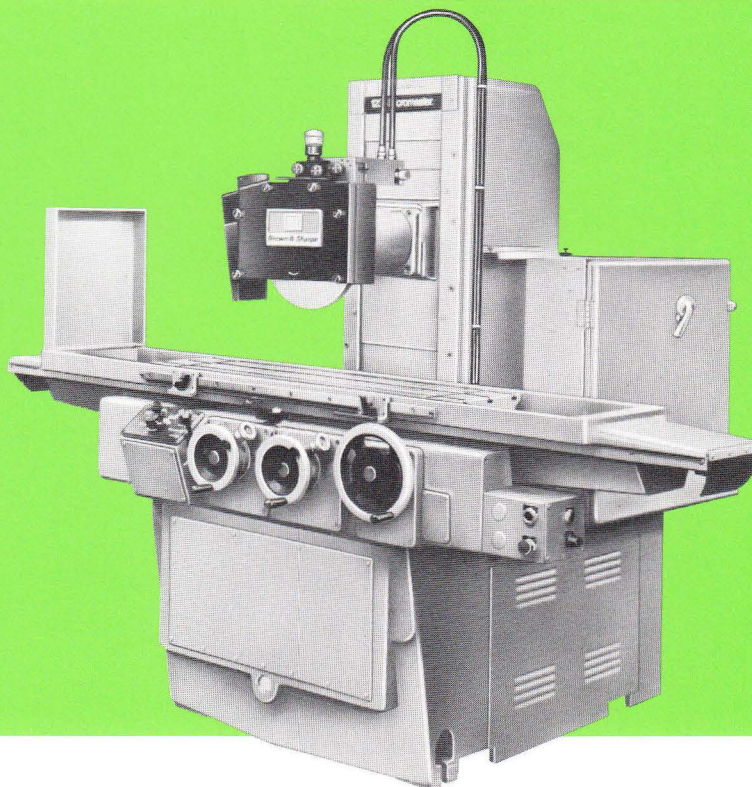


1030

All the features of the 824 plus larger table capacity for "ganged" smaller parts requiring high accuracy in surface, side-wheel or formed wheel grinding. Provisions have been built in for a large range of optional equipment for the utmost in operating flexibility and shortest grinding times.

1236

Positive proof of MICRO-MASTER inherently superior structural design is demonstrated by the outstanding accuracy and fine microfinish of this largest standard MICROMASTER. Superior surface or side-wheel grinding capabilities are inherent in all MICRO-MASTER Surface Grinding Machines. Smooth logical controls promote operator efficiency during all grinding operations.



Machine Features

MICROMASTER Features Engineered for Precision, Reliability, Convenience

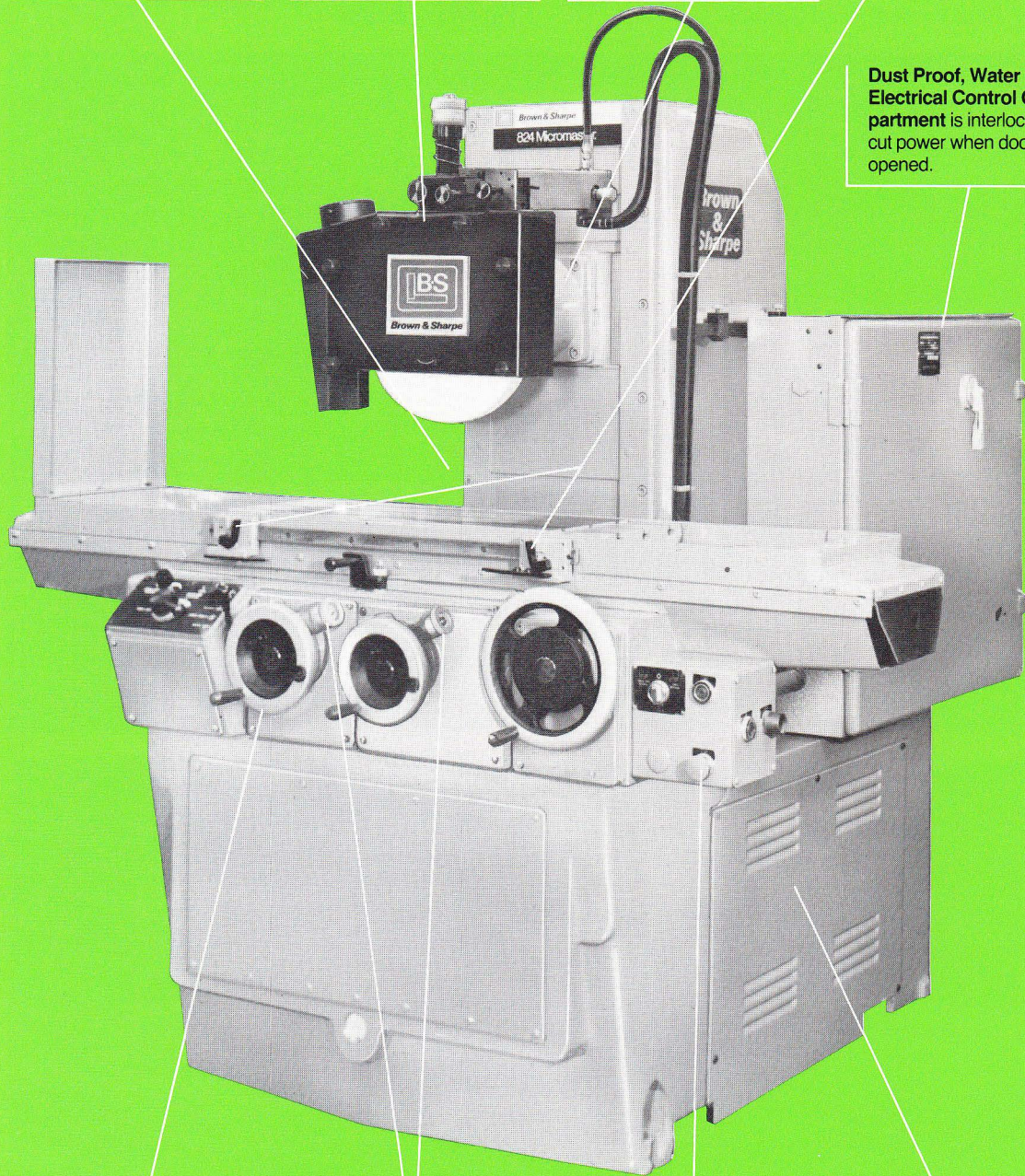
Large Vertical Capacity. 18" (457mm) under 14" (356mm) grinding wheel easily accommodates large work pieces and bulky fixturing.

Heavy Wheel Guard matched to spindle drive to assure proper wheel size. Built-in exhaust port. Guard meets applicable OSHA Specs.

Rigid Spindles with 2 pairs of precision angular contact bearings. Sealed lubrication – precision ground flanges assure mounting accuracy and rigidity.

No-wrench, Hand-set Table Dogs save time in set-up and are quickly and easily aligned "by eye" with ends of workpiece.

Dust Proof, Water Proof Electrical Control Compartment is interlocked to cut power when door is opened.



Handwheels at Hip Level. Table handwheel automatically disengages in power mode. Cross Feed handwheel graduations read left or right with an adjustable "Zero" – no need to add or subtract.

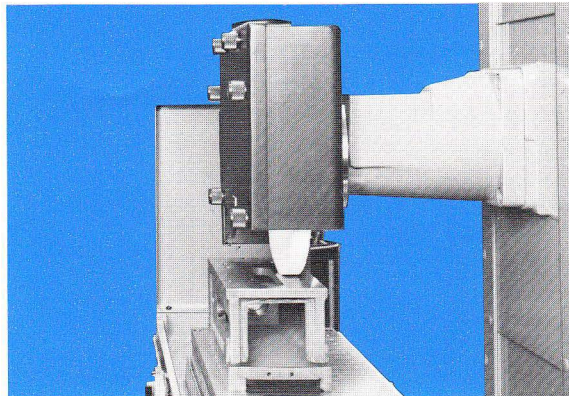
Fine Feed Knobs Standard on Vertical and Cross Feed. Read to .0001" (0.001mm). Wide spaced graduations permit split-tenths setting.

Convenient Power Controls are at hip level and grouped according to function. Stop and Start on right side as OSHA recommended.

Automatic Lubrication provides constant lubrication to the right places in the proper amount assuring long life and smooth operation.

Ultra-Smooth Antifriction Spindle

An ultra-smooth running spindle is mounted in super-precision antifriction bearings in a flange mounted housing. Also, means are provided in the wheel sleeve for balancing. This construction combined with unusually smooth table movement results in exceptional surface quality on the workpieces. The exclusive flange-mounting of the spindle permits adjustment for exact alignment. Correct alignment is indicated by the uniform criss-cross pattern visible when grinding vertical surfaces.



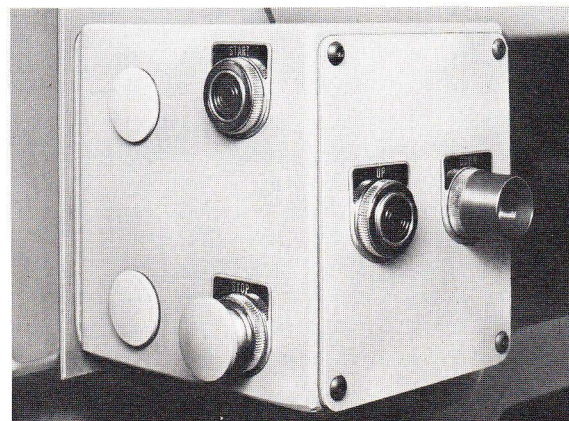
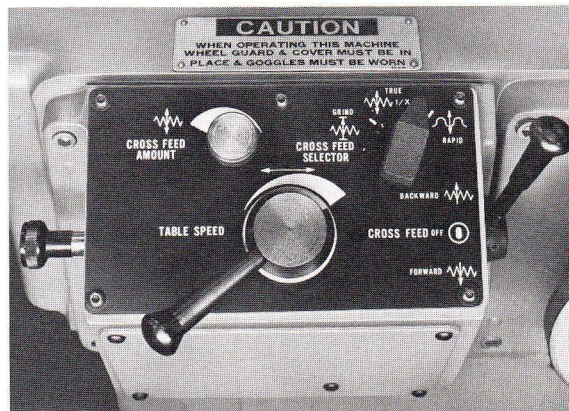
Convenient Power Controls

The convenient sloping control panel puts basic controls at the operator's fingertips. The hydraulic feeds are faultlessly smooth and infinitely variable within their ranges.

Rapid Vertical Positioning at 40ipm* is operated by push-buttons and powered by a Dina-brake motor designed for quick stopping. The rapid DOWN push-button is shielded as a safety feature.

Rapid Cross Positioning at 75ipm*, Truing at 10ipm (254mm/min), and Cross Feed Direction are all conveniently operated by one control arranged with an interlock to prevent accidental table travel while Rapid Positioning or Truing.

Table Speeds are adjustable from 10fpm to 125fpm* (10fpm to 90fpm on 1236) and are instantly obtained with the table throttle. Cross feeds at each table reversal are quickly set and are infinitely adjustable from .010" to .500" (0.254 to 12.7mm/min).

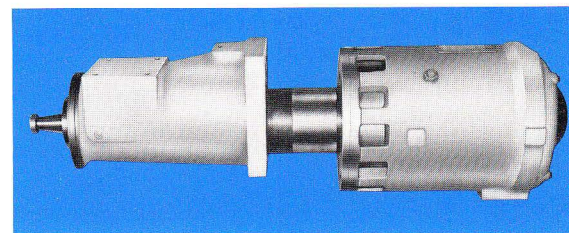


*Metric Equivalents

	with 60 cycle motor	with 50 cycle motor
Rapid Vertical Positioning	1016mm/min	846mm/min
Rapid Cross Positioning	1905mm/min	1588mm/min
Table Speed Range	3 to 38M/min	3 to 32M/min
Table Speed Range (1236)	3 to 27M/min	3 to 23M/min

Superior Spindle Drive

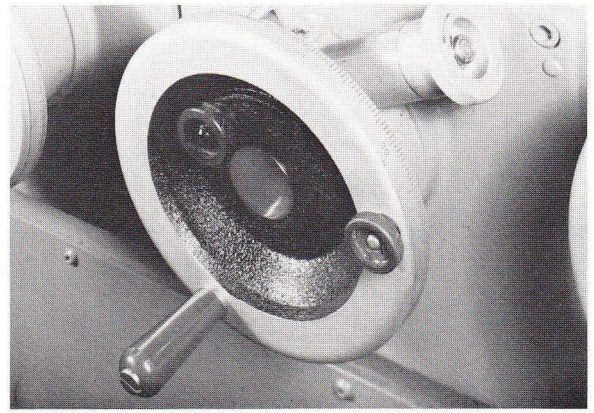
New standards of precision and higher levels of production are being specified for an increasing number of surface grinding jobs. These conditions require a flawless spindle drive. Each MICROMASTER is supplied with a direct drive spindle with a 5HP motor delivering full horsepower to the spindle.



Machine Features

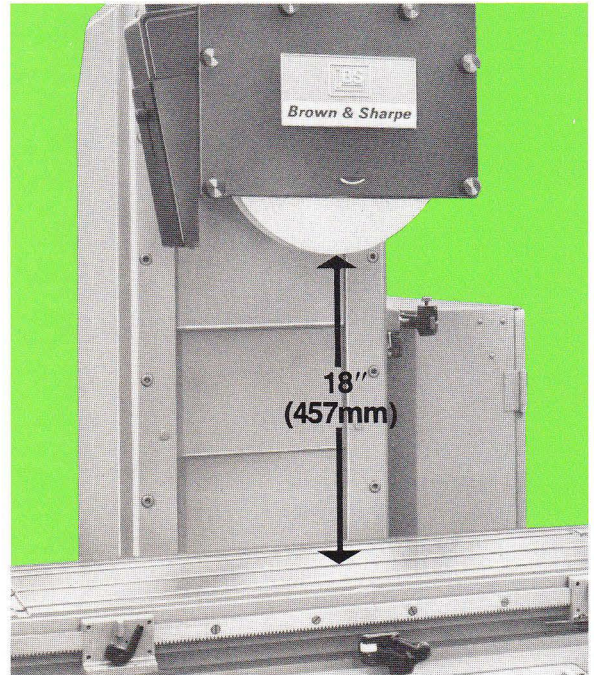
Precise-Setting Handwheels

The Cross Feed and Vertical Feed Handwheel rims have .0002" (0.005mm) graduations and a dull chrome finish with black-filled, cut graduations for accurate, easy-to-read adjustments. Both rims are adjustable for resetting to zero. The graduations on the Cross Feed Handwheel rim read clockwise and counterclockwise from zero for operating ease when slot or side-wheel grinding. A fine-feed knob with .0001" (0.003mm) graduations, coupled to the Vertical Feed Handwheel, provides extremely precise vertical wheel adjustments. A similar fine-feed knob, coupled to the Cross-Feed Handwheel provides a decided advantage when performing slot grinding, side-wheel grinding, etc.



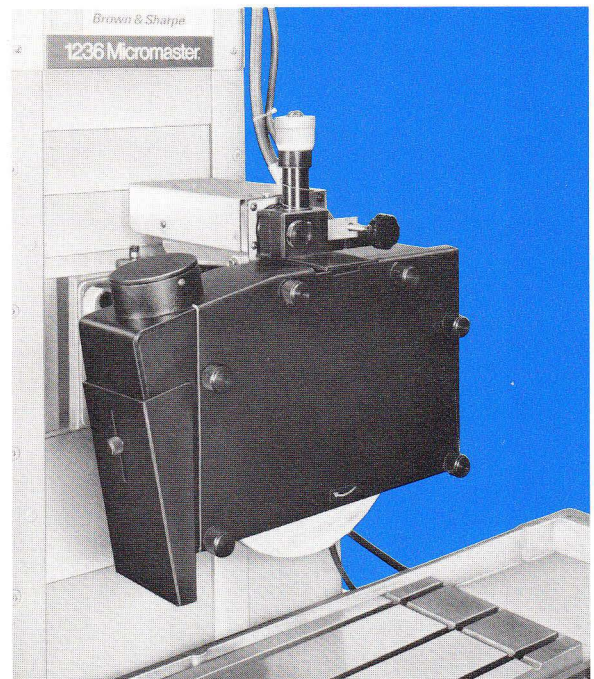
Exceptional Capacity

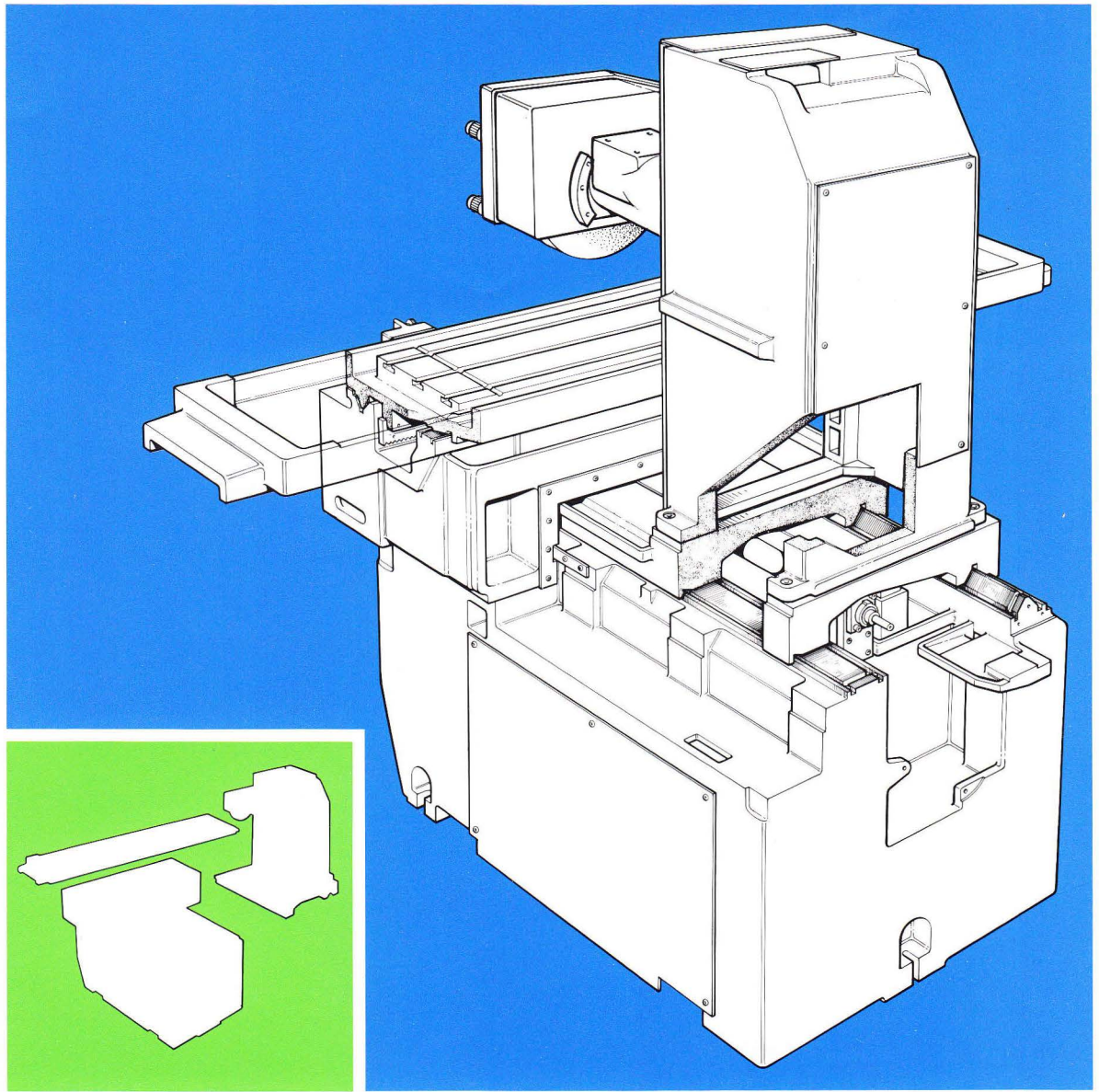
These Brown & Sharpe MICROMASTER Surface Grinding Machines have a tremendous vertical clearance of 18" (457mm) under a 14" (356mm) grinding wheel. This large unobstructed work area gives machine versatility second to none. MICROMASTER has all the precision for tool and die shops yet the capacity to handle the roughest demands on the production line. The Proven Design MICROMASTER is a matchless performer for tool and die work. Grinding deep, accurate slots and grinding to unprecedented depths between pins in die sections is a simple task for MICROMASTER. The large grinding wheel on these machines means more production time between truing. Worn-out wheel replacements and costly machine down-time are greatly reduced.



Over-the-Wheel Hydraulic Straight Line Dresser (standard on all 824 — 1236 machines)

Time and effort required for wheel truing is greatly reduced with this hydraulically actuated truing device mounted directly over the wheel. Truing is completely automatic after simply pressing a button on the right front of the arrangement. This is a straight line truing device for wheels up to 2" (50.8mm) wide. Truing rates are adjustable from 2 to 20 inches per minute (51 to 508mm/min). A diamond (approximately one carat) in a mounting is available at extra cost.





824,1030,1224,1236 Guaranteed Machine Capabilities

Surface Waviness (Proficorder)	Within .000025" (0.00060mm)
Test Bar across Table	Straight Within .0001" (0.002mm)
Test Bar along Table (22" long)	Straight Within .00015" (0.0038mm)*
Slot Grind (22" long)	Sides Parallel Within .00015" (0.0038mm)*
Finish	5 microinches (0.1µm) AA or better

*(.002"/0.005mm on 1030 and 1236 Machines)

The inherent accuracy of MICROMASTER starts with its fixed ways and massive structure. The large V and flat ways for the upright are an integral part of the machine base. The oversized table ways, one V and one flat, are in a bed solidly bolted to the base. This guarantees that the precise alignment between the table and the grinding wheel will be retained throughout the machine's entire life. Due to this exclusive design, there can be absolutely no table twist at cross feed. This provides exceptionally accurate slot and side wheel grinding.

The castings of the MICROMASTER are of the finest cast iron alloy. The well-proportioned design and extremely rigid construction assures life long accuracy. Well designed castings are used for the high structural strength and rigidity that are characteristic

of all Brown & Sharpe machine tools.

In the MICROMASTER, the grinding wheel together with the upright, feeds transversely. The table moves only in one plane (longitudinal). The rugged movable upright and the massive wheel slide give exceptionally rigid support to the spindle and assure the highest surface quality and precision. Fully protected, the exceptionally wide guide ways are precision checked to Brown & Sharpe standards of accuracy.

The rigid base completely supports the table bed and upright under every condition of operation so that the alignment between the table and the grinding wheel is extremely accurate.

New 824SSC/1030SSC/1224SSC/1236SSC MICROMASTER[®] Slot and Surface Cycle Grinding Machines

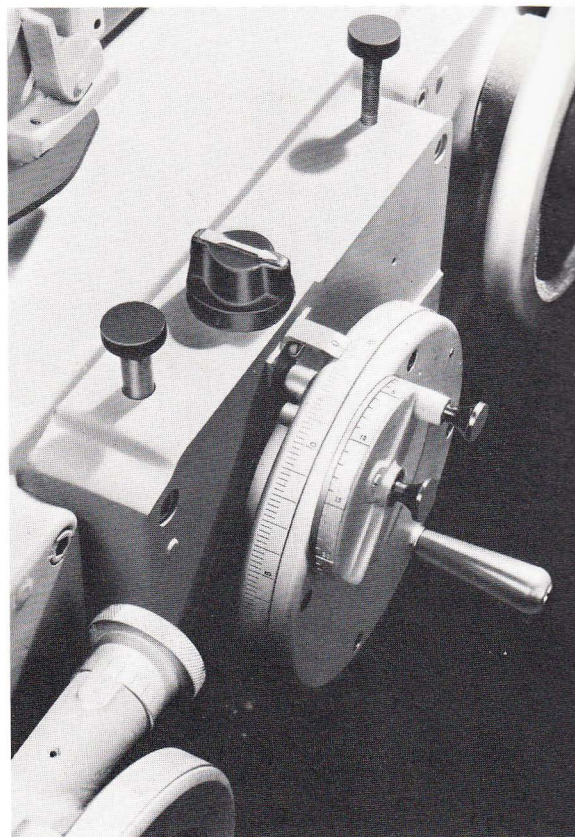
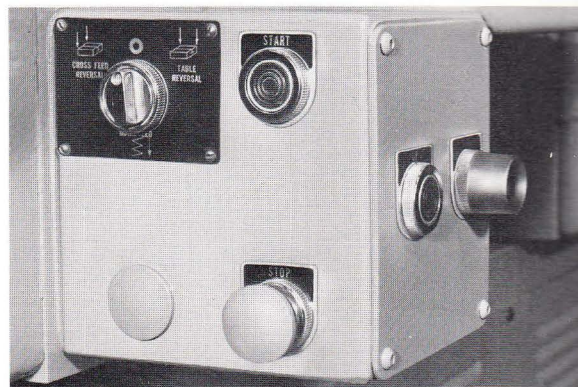
SSC MICROMASTER Slot and Surface Cycle Grinding Machines provide automatic operation of the machine during the slot or surface grinding cycle. On the production line, several machines

can be producing simultaneously with only one operator in attendance. The ratio of parts produced per manhour can therefore be substantially increased.

Automatic Slot or Surface Grinding to a Positive Stop

In the Automatic Slot Grinding Mode this arrangement provides automatic down-feed of the grinding wheel for such jobs as slot grinding and the grinding of narrow surfaces. The wheel is fed down at each table reversal when longitudinal power travel is used. The range of feed is adjustable from .0002" (0.005mm) to .003" (0.076mm) by increments of approximately .002" (0.005mm). Feed is automatically stopped at any desired depth to .040" (1.016mm). An index dial, on the Vertical Feed Handwheel permits setting of the stop to .0001" (0.0025mm). To feed the wheel down more than the .040" (1.016mm), the automatic stop can be retracted and the wheel can be automatically fed any desired amount. Provision has been made to make the arrangement inoperative when normal operation is desired.

The Automatic Surface Grinding Mode is essentially the same as above except that the wheel is automatically fed down at the end of each transverse motion.



Proven MICROMASTER Features Plus The Production Benefits of SSC

Heavy Wheel Guard matched to spindle drive to assure proper wheel size. Built-in exhaust port. Guard meets applicable OSHA Specs.

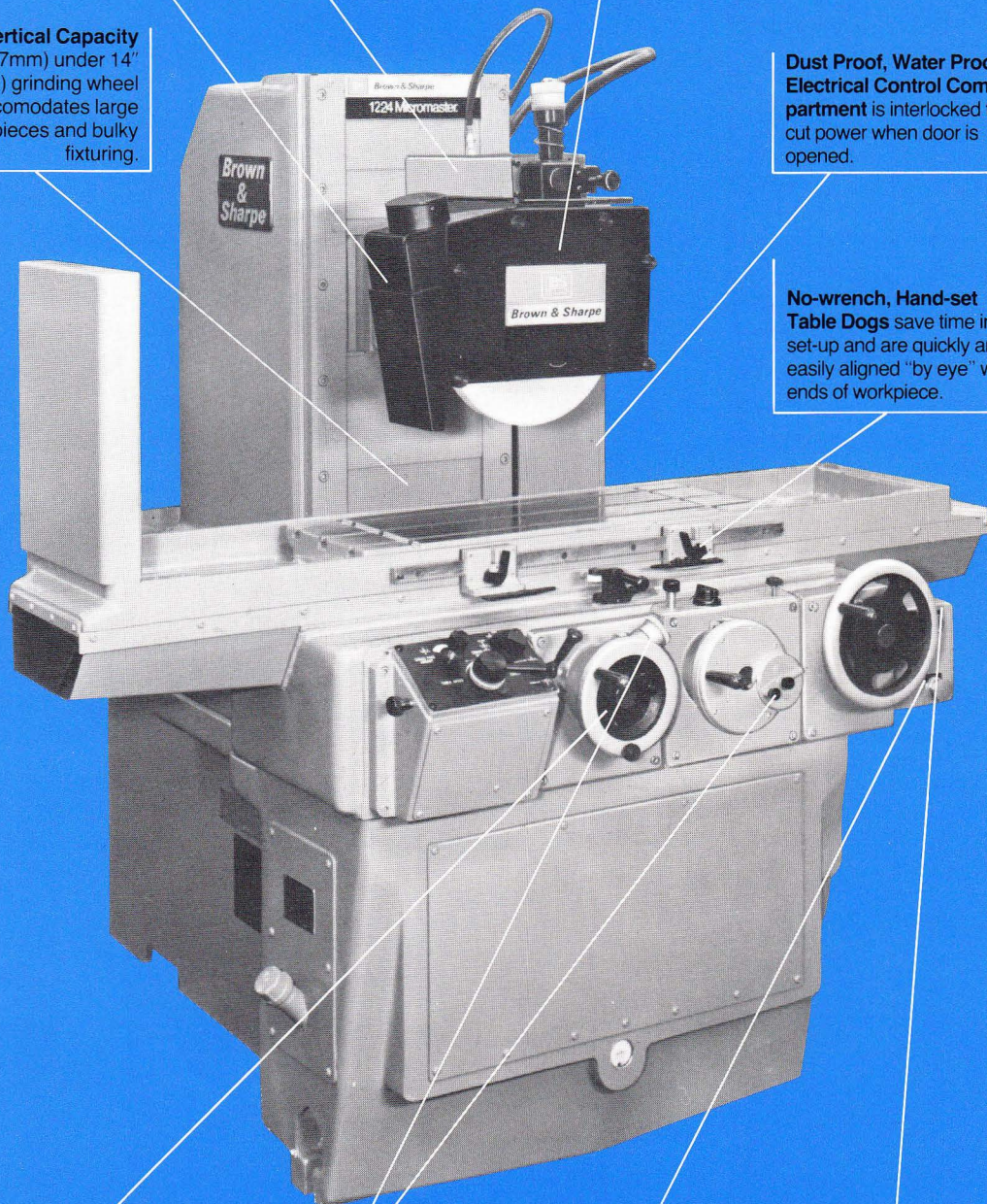
Over-the-Wheel Hydraulic Straight Line Dressing greatly reduces time and effort required for wheel truing. Automatic, fully variable truing for wheels up to 2" (50.8mm) wide.

Rigid Spindles with 2 pairs of precision angular contact bearings. Sealed lubrication – precision ground flanges assure mounting accuracy and rigidity.

Large Vertical Capacity 18" (457mm) under 14" (356mm) grinding wheel easily accommodates large work pieces and bulky fixturing.

Dust Proof, Water Proof Electrical Control Compartment is interlocked to cut power when door is opened.

No-wrench, Hand-set Table Dogs save time in set-up and are quickly and easily aligned "by eye" with ends of workpiece.



Handwheels at Hip Level. Table handwheel automatically disengages in power mode. Cross Feed handwheel graduations read left or right with an adjustable "Zero" – no need to add or subtract.

Fine Feed Knobs Standard on Vertical and Cross Feed. Read to .0001" (0.001mm). Wide spaced graduations permit split-tenths setting.

Automatic Slot Grinding to a Positive Stop features auto down feed by increments of approximately .0002" (0.005mm) to .003" (0.076mm) a each table reversal. Stops at any depth to .040" (1.016mm)—beyond with stop retracted.

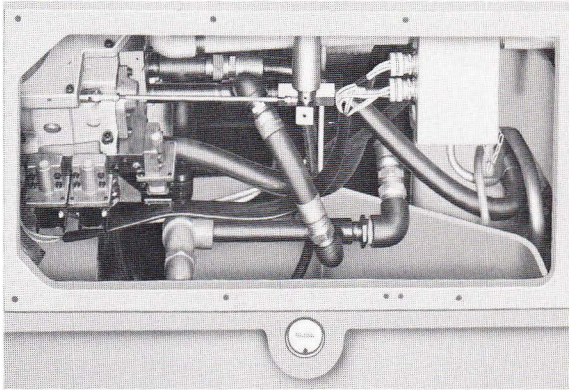
Automatic Surface Grinding to a Positive Stop features feed range adjustment from .0002" (0.005mm) to .003" (0.076mm) by increments of .0002" (0.005mm) at end of each transverse motion.

Maintenance problems have been virtually eliminated in these MICROMASTER Surface Grinding Machines with:

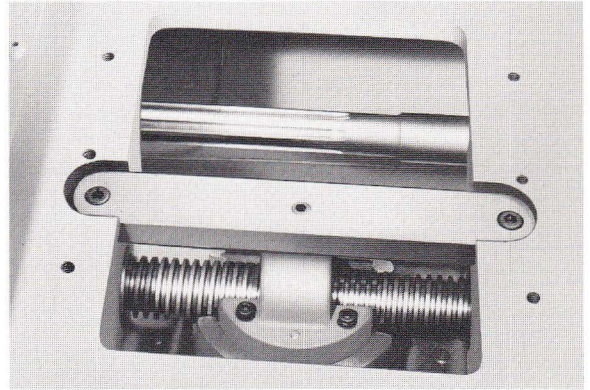
- Unit-type mechanisms, easily removed
- High quality, simple hydraulic components
- Automatic metered lubrication

- Basic compliance with J.I.C. hydraulics and electrical standards

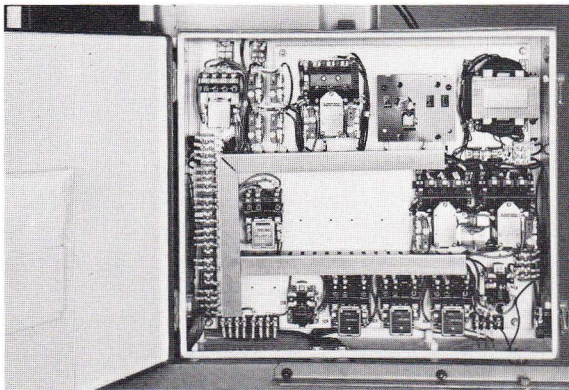
These features reduce maintenance to an absolute minimum assuring efficiency of operation and long machine life.



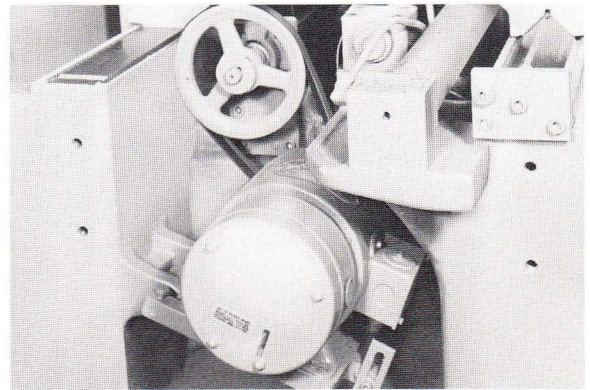
All hydraulic control valves are located in this roomy compartment which provides plenty of space for inspection, adjustment, and servicing.



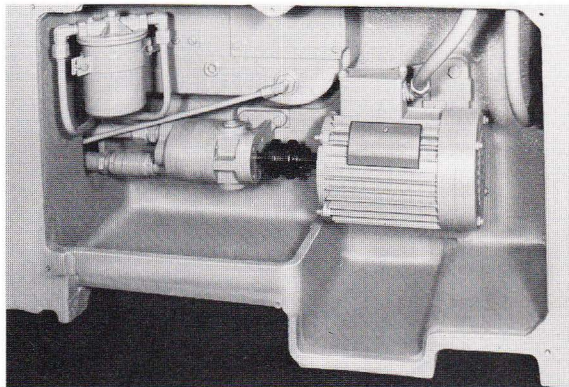
Completely covered ways assure accuracy and long life. Removal of a single cover makes the Cross Feed Nut easily accessible.



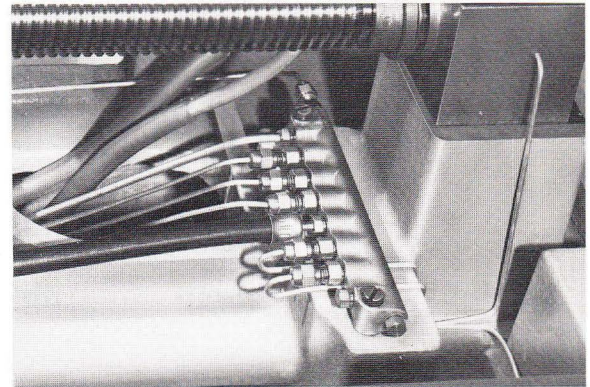
The Electrical Control Compartment, located at a convenient height, is dust-proof and water-proof for safety and long trouble-free life. A safety interlock automatically removes power when the cover is opened.



This spacious compartment (at rear of machine) contains the Rapid Positioning Motor and the Cross Feed Cylinder. An easily-removed cover fully exposes these mechanisms for ease of maintenance.



This readily accessible compartment, containing the Hydraulic System Motor, Pump, and Filter, has been designed with the maintenance man in the mind.



Metered distribution blocks supply lubrication as the machine runs. Automatic lubrication assures long term accuracy and protects your investment.

Optional Mechanisms



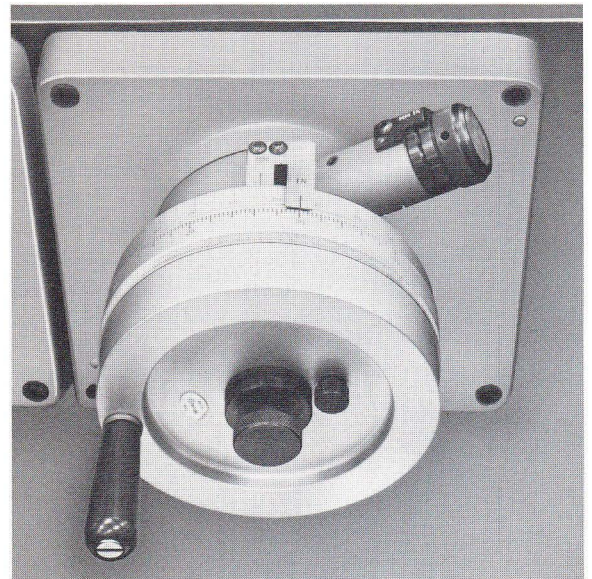
Trabon Lubrication System

All Brown & Sharpe Grinding Machines are equipped with automatic lubrication systems. In industries such as Automotive and Aerospace a fault warning machine shutdown system is often required in addition to an automatic lubrication system. Trabon delivers a micro-accurate quantity of oil to all machine bearing surfaces on a programmed schedule while the machine is running. This single line series system operates through a control panel which energizes the lube source, keeps oil supply coming until "control feeder" has cycled once, shuts off supply, then signals normal

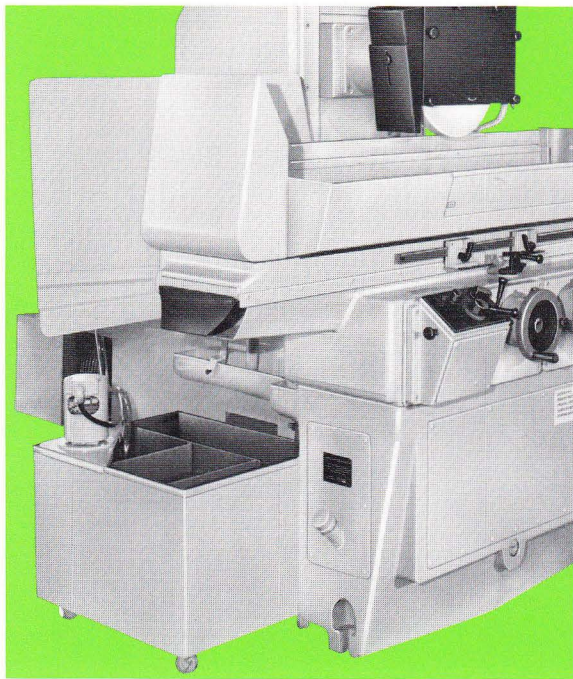
completion of cycle. This Trabon System provides a fault warning with machine shutdown. The control panel is equipped with three (3) indicating lights. The green light when ON indicates last scheduled cycle completed normally, amber light ON indicates lubrication cycle in process and red light ON indicates cycle in process and red light ON indicates cycle not completed (pump failure, lack of lubricant, blockage anywhere in the system). An in-plant air supply of 80PSI (minimum) is required for operation of the Trabon System.

English/Metric Handwheel

The Dual-Dial Handwheel has 2 graduated dials (inner dial Metric, outer dial English) which respond to movement of the handwheel with independent rotation ratios. "O" index marks are provided for each dial and both dials may be disengaged and re-set to their own "ZERO". Dual-Dial is available for both Vertical and Cross-feed and replaces the standard English-reading, single dial handwheels. Dual-Dial units may be retro-fitted to many machines in the field, detailed instructions for fitting these units are provided.



Attachments

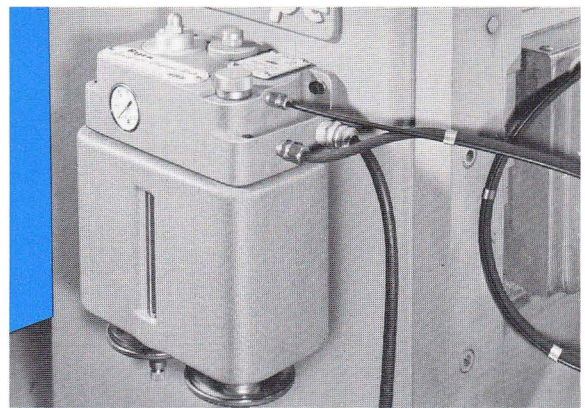


Wet Grinding Attachment

This motor-driven attachment is constructed of strong, durable material, and equips the machine for grinding with coolant. An adjustable splash guard is attached to the regular wheel guard, and coolant is supplied to the wheel through a nozzle and flexible tubing. A valve adjacent to the nozzle adjusts the flow of coolant. The 1/8HP motor-driven centrifugal pump is mounted in the supply tank. A plug, receptacle, and overload relay are included with the attachment. The machine table is surrounded by guards that protect both the machine and operator from coolant spray. Coolant flows back to the supply tank through troughs in the bed of the machine. The 30 gallon (114ltr) floor-type tank is of welded steel construction, and has a two-plate removable baffle unit which provides efficient particle settling. Approximate weight: 165 lbs. (75kg)

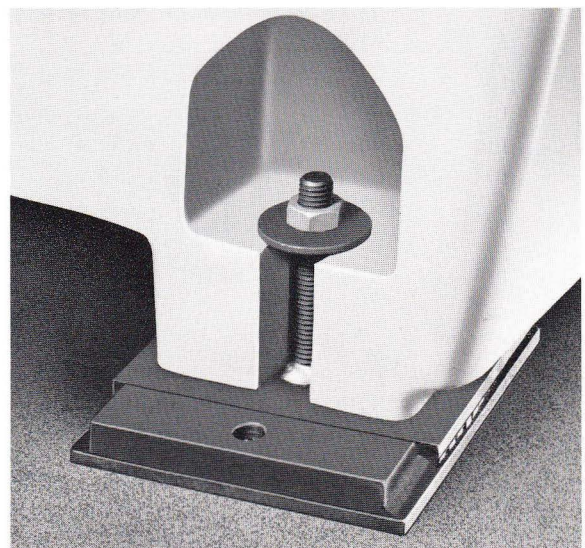
Isolation Mountings

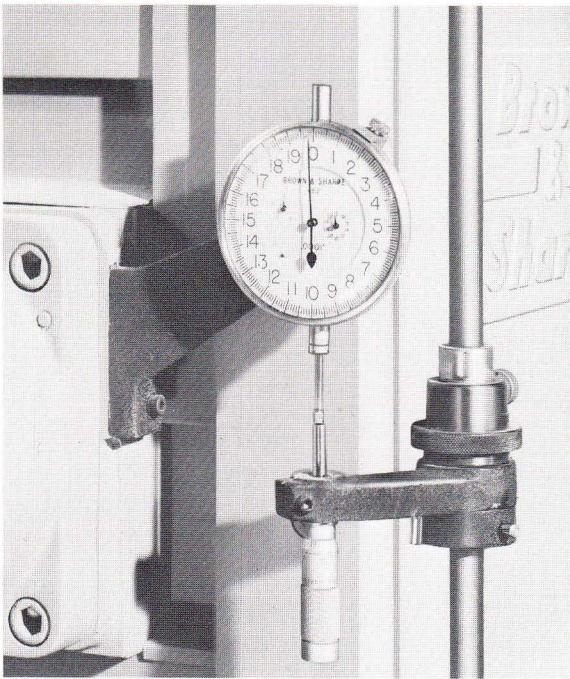
This set of three mounts eliminates the need for expensive machine foundations where external vibrations are a problem. A machine resting on these mountings is isolated from external vibrations such as those present when a machine is located on an upper floor of a multi-story building or located near vibration causing machinery. Use of these mountings raises the machine approximately 3/4" (19mm) off the floor. Approximate weight: 18 lbs. (8kg)



Mist Coolant Arrangement

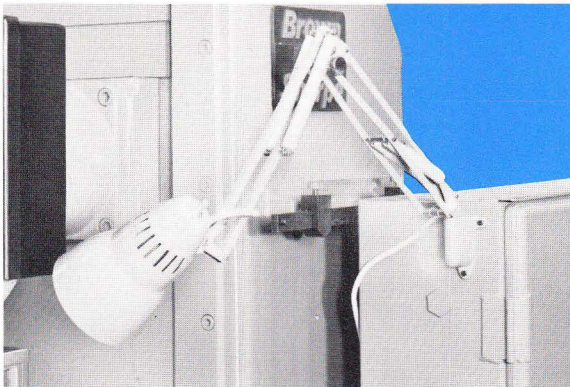
This arrangement combines compressed air with coolant to develop a mist that evaporates on contact with the work, cooling as it evaporates. Full time visibility of the work is provided. A solenoid valve connected to the machine's electrical circuit starts the mist stream when the machine is started. Precision control of mist is provided by a needle valve on the jet. This valve permits accurate control from a very fine mist to a heavy spray. There is never any flooding or "Sputtering." The mist is generated right in the end tip of the jet. There is no condensation in tubes, and no dripping or spurting of coolant when starting or stopping. Approximate weight: 14 lbs. (6kg)





Vertical Position Indicator

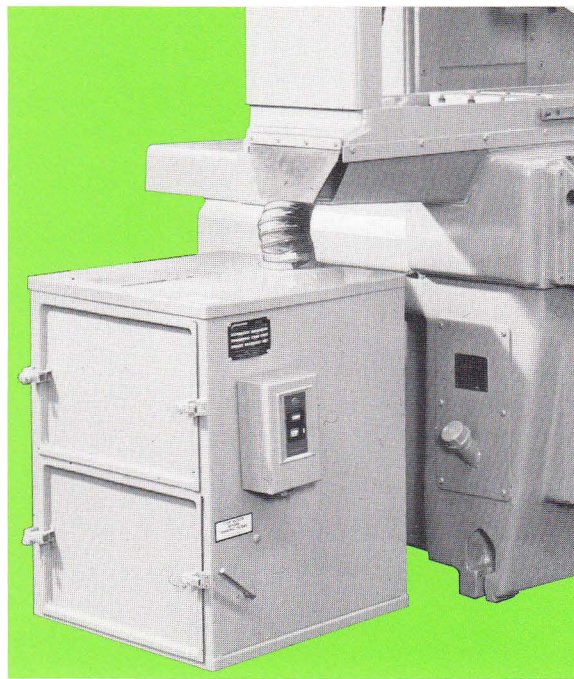
The Vertical Position Indicator greatly reduces set-up time by permitting rapid vertical positioning of the grinding wheel. This eliminates the time wasting motion of "feeling" for the workpiece. This arrangement is adjustable over the entire vertical range of the grinding wheel. The grinding wheel position is indicated by a dial indicator precisely adjusted with a micrometer. Position is easily detected by noting the dial indicator reading.



Work Light

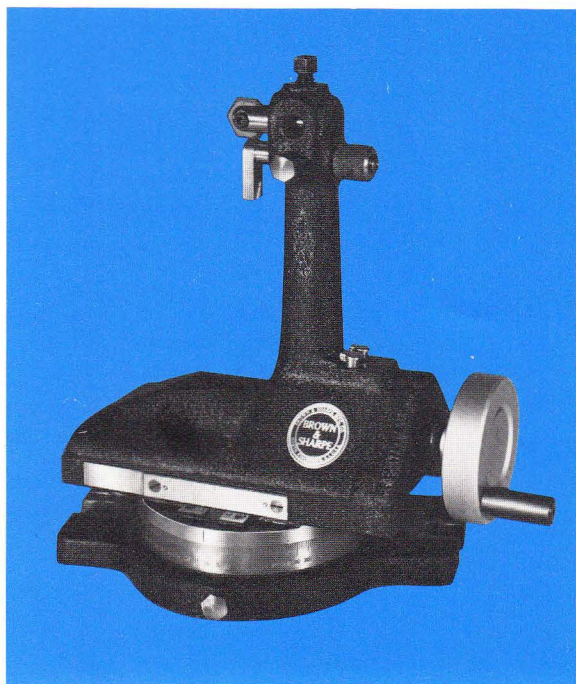
The compact shade of this light is designed to give a broad overall light pattern with a central zone of concentrated light. It is shaped and vented to dissipate heat. A "tension control wrist" prevents sag regardless of repeated turning and flexing. A snap-in, disposable inner reflector simplifies clean-up and restores light efficiency which may be lost due to "spatter" build up. Spring loaded, cantilever arm assembly holds lamp head in any position.

Overall arm reach: 30" (762mm). Recommended bulb: standard 60 Watt (not furnished) Power cord: 5 feet (152cm) 3-conductor, oil-resistant with 3-conductor plug. Furnished with mounting bracket.



Exhaust Attachment

This attachment, which exceeds OSHA standards for dust control, removes grit and dust-laden air from the region of the grinding operation by suction and separates out the foreign matter, leaving the air well-cleaned. A $\frac{3}{4}$ HP, motor-driven fan is mounted on the clean air side of the unit. Dust laden air, (up to 420cfm), drawn through a flexible hose from an exhaust nozzle attached to the wheel guard, must pass through the filters before it reaches the fan. This prevents fan loading and excessive wear, and saves the time and cost of repairs. Grit, dust and other particles exhausted from the work area are deposited in the base of the collection chamber or stopped by the filters. The fabric filtering area totals 30 square feet, providing an exceptionally high collection efficiency for particles of all sizes. This efficiency is up to 99.75% on particles as small as 1.0 micron. Most of the dust and larger particles settle directly in the pull-out-dust drawer. The fine dust which collects on the outside of the fabric filters is easily dislodged by operating the filter shaker lever. The floor space required for this attachment is $19\frac{3}{8}" \times 22\frac{3}{8}"$ (492mm x 568mm). Shipping weight (approx.) 120 lbs. (54.4kg). An Independently Supported Hose Assembly, and an Exhaust Silencer for the utmost in quiet operation, are available as extras.

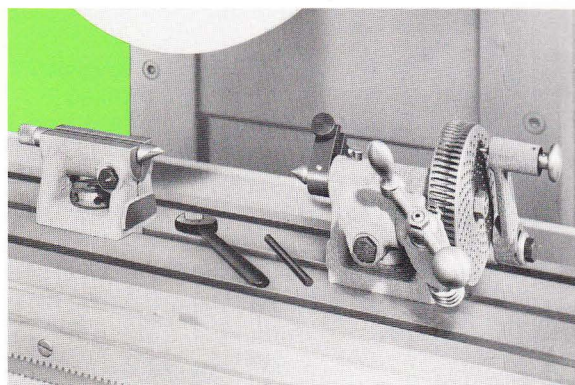


Radius and Angle Wheel Truing Attachment

This attachment provides an accurate and efficient means of shaping abrasive wheels, and is particularly valuable when grinding work such as lamination dies, flat forming tools, and other pieces requiring wheels having radial or angular faces. By its use, convex or concave outlines having radii up to 1" (25mm), and face angles up to 90° either side of zero, can be formed; and numerous combinations of radial and angular shapes otherwise difficult to obtain can be easily developed. The base of the attachment carries a swivel platen upon which is mounted a slide that can be moved longitudinally by a handwheel. An upright, integral with the slide, holds the diamond tool and diamond tool setting gage; and the diamond tool (not furnished) may be set either parallel to the slide (for forming radii) or at right angles (for forming angular surfaces) and clamped in position by a locking screw. A diamond in a mounting can be furnished at extra cost. Approximate weight: 26 lbs. (12kg).

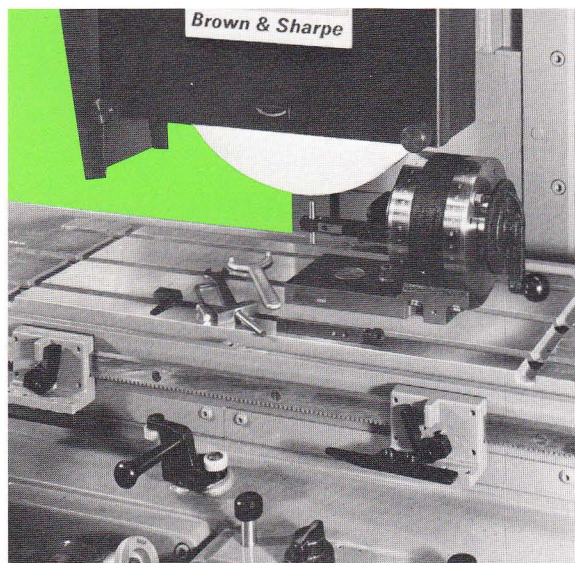
Index Centers — 4³/₄" (120mm)

A "must have" accessory for correct grinding of taps, reamers, formed cutters, and similar work. Unit indexes majority of common spacings — all divisions from 2 to 14 and all even numbers from 18 to 28. Centers swing 4³/₄" (120mm) diameter — optional raising blocks increase swing to 8" (200mm). Precision worm drive can be disengaged for hand rotation of indexing wheel. T-bolts allow fast position changes or rapid removal of entire unit. Weights: Net 12 lbs. (5kg). Shipping: 18 lbs. (8kg).



Continuous Radius and Tangent Wheel Truing Attachment

Forms accurate wheel radii with tangents at either or both sides of radii. Forms convex radii up to 1" (25mm) with tangents to 5/8" (16mm) long at any setting. Forms concave radii with both the maximum and minimum radius in relation to the adjoining angles and to the geometry of the diamond tool being used. A diamond (approx. 1/4 carat) in suitable mounting is furnished with this unit. (The use of coolant with this unit is not recommended.) Weights: Net 32 lbs. (14.5kg). Shipping: 55 lbs. (25kg).





Magnetic Chucks

Electrical magnetic chucks are available in four sizes for these machines:

- 8" x 24"(203mm x 610mm)
- 10" x 30"(254mm x 762mm)
- 12" x 24"(305mm x 610mm)
- 12" x 36"(305mm x 914mm)

These chucks have 1/8" (3.2mm) wide magnetic low carbon steel poles and 1/32" (.79mm) non-magnetic stainless steel separators. They have exceptionally strong holding power to the extreme front and back edges. The close pole spacing makes them ideally suited for the use of magnetic parallels and V-blocks.

Electrical Magnetic Chucks				
No.	Working Surface	Height of Chuck	Watts Used	Net Wt. (approx.)
	in (mm)	in (mm)		lbs (kg)
824	8x24(203x610)	4(102)	208	215(98)
1030	10x30(254x762)	5(127)	316	330(150)
1224	12x24(305x610)	5¼(133)	234	317(144)
1236	12x36(305x914)	5¼(133)	390	518(235)

A neutrofier for use with the above chucks is available. Included with the neutrofier are rectifier, controls for varying chuck holding power, automatic demagnetizer, and control station.

Three permanent magnet chucks, Brown & Sharpe Nos. 824-1, 1030, and 1224 are also available for use on these machines. These lever-operated chucks use no electric current. Special-alloy permanent magnets maintain their holding power indefinitely.

Permanent Magnet Chucks			
No.	Working Surface	Height of Chuck	Net Wt. (approx.)
	in (mm)	in (mm)	lbs (kg)
824-1	8x24(203x610)	2.7(68)	142(64)
1030	10x30(254x762)	2.7(68)	250(112)
1224	12x24(305x610)	2.7(68)	230(104)



Sine Plates and Perma-Sines

The Brown & Sharpe Sine Plates offer reliable means for establishing precise angles for surface grinding, and for tool-making or inspection purposes. With an overall accuracy within .002" (0.0051mm), these Sine Plates give gage block accuracy to angular settings. Made of normalized steel, case hardened and aged, they have glass-like finish on bottom, top and sides.

Simple and compound Sine Plates are available in two sizes, 5" (127mm) and 10" (254mm). Compound Sine Plates are particularly suited for complex angles and can be furnished (at no additional cost) with the lower hinge on the opposite end to that illustrated. The top plate has tapped holes in its sides, ends and top, for the application of clamps or other holding devices.

Sine Plates 5" (127mm) and 10" (254mm)			
Type	Working Surface	Height Set at 0°	Ship. Weight
	in (mm)	in (mm)	lbs (kg)
5" Simple	3 ⁷ / ₁₆ x6(87x152)	1 ⁹ / ₁₆ (49)	11(5)
10" Simple	6x12 ⁷ / ₁₆ (152x316)	2 ⁷ / ₁₆ (62)	44(20)
5" Compound	6x6 ⁷ / ₁₆ (152x163)	3 ³ / ₄ (95)	28(12.7)
10" Compound	6 ³ / ₈ x12(162x305)	4 ³ / ₁₆ (106)	55(24.9)

Perma-Sines are Sine Plates equipped with permanent magnet top plates for holding the work-piece (rather than clamps or fixtures) and are turned on or off by a simple lever. The closely spaced poles in the magnet top plate are ideally sized for holding small or thin work.

Perma-Sines 5" (127mm) and 10" (254mm)			
Type	Working Surface	Height Set at 0°	Ship. Weight
	in (mm)	in (mm)	lbs (kg)
5" Simple	6x6(152x152)	5 ¹ / ₈ (130)	36(16.3)
10" Simple	6x12(152x305)	5 ¹ / ₈ (130)	80(36.3)
5" Compound	6x6(152x152)	6 ¹ / ₂ (165)	42(19)
10" Compound	6x12(152x305)	6 ³ / ₁₆ (173)	96(43.5)

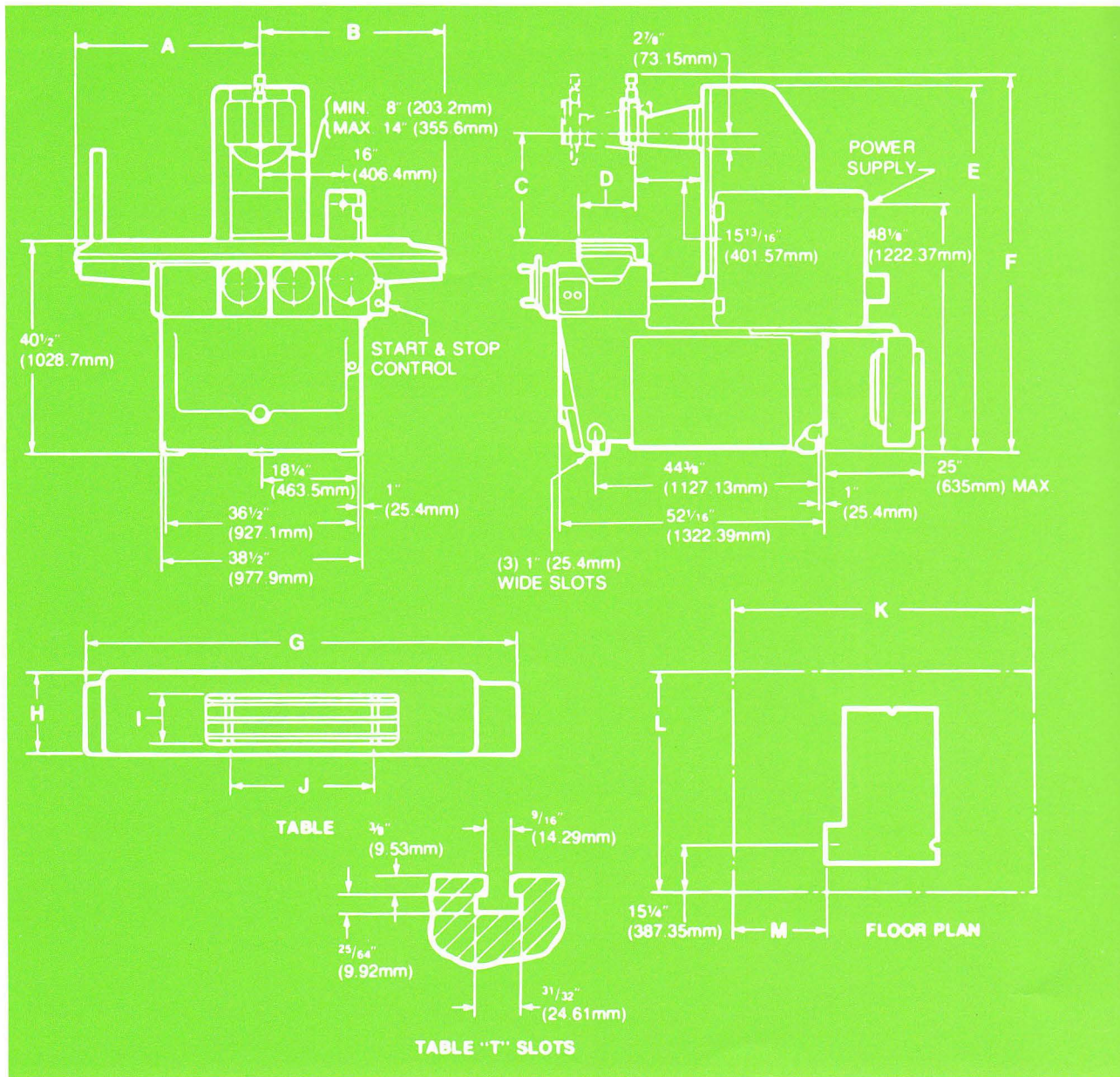
Specifications

	Inch Machines	Metric Machines
Capacity		
Maximum Work Width and Length:		
824/824SSC	8" x 24"	203mm x 610mm
1030/1030SSC	10" x 30"	254mm x 762mm
1224/1224SSC	12" x 24"	305mm x 610mm
1236/1236SSC	12" x 36"	305mm x 914mm
Maximum Work Height with 14" (356mm) Diam. Wheel		
	18"	457mm
Spindle		
Removable-Unit Type with Super-precision, Sealed Antifriction Bearing Unit:		
Direct Drive Motor	5HP	3.75KW
Speed	1760RPM	1760RPM
Wheel Dimensions:		
Diameter	14"	356mm
Thickness (wheel sleeves and guards take wheels up to 1½" (38mm) thick)	1-1½"	25-38mm
Hole Diameter	5"	127mm
Table		
Slides on One V and One Flat Way 3 T-slots:		
Working Surface:		
824/824SSC	8" x 24"	203mm x 610mm
1030/1030SSC	10" x 30"	254mm x 762mm
1224/1224SSC	12" x 24"	305mm x 610mm
1236/1236SSC	12" x 36"	305mm x 914mm
T-slot Width	9/16"	14mm
Feeds		
Longitudinal (Table):		
Hydraulic (feet/meters per minute):		
824/1030/1224/824SSC/1030SSC/1224SSC	10-125 fpm	3-38* or 3-32**Mpm
1236/1236SSC	10-90 fpm	3-27* or 3-23**Mpm
Handwheel (one revolution moves table)	1½"	38mm
Maximum Longitudinal Travel:		
824/1224/824SSC/1224SSC	28"	711mm
1030/1030SSC	35"	889mm
1236/1236SSC	41"	1041mm
Cross (Spindle Slide Upright):		
Hydraulic (amount at each reversal of power table travel; any desired increment from)	.010-.500"	0.25-12.7mm
Continuous Transverse Feed for:		
Wheel Truing (in/mm per minute)	10 ipm	254 mm/m
Rapid Transverse Wheel Positioning (in/mm per minute)	75 ipm	1905* or 1588**mm/m
Handwheel Dial reads to	.0002"	0.005mm
Fine Feed Knob reads to	.0001"	0.001mm
Handwheel (one revolution moves spindle slide upright)	.100"	2mm
Transverse Movement (maximum):		
824/824SSC	10"	254mm
1030/1030SSC	12"	305mm
1224/1236/1224SSC/1236SSC	14"	356mm
Vertical (Wheel Spindle Slide):		
Handwheel Dial reads to	.0002"	0.005mm
Handwheel (one revolution moves spindle)	.050"	1.27mm
Fine Feed Knob reads to	.0001"	0.001mm
Maximum Vertical Adjustment	19¼"	489mm
Rapid Power Positioning (in/mm per minute)	40 ipm	1016* or 846**mm/m
Hydraulic System		
Capacity	23 gls	121 ltrs
Pump (B&S No. 511-modified) Motor	2 HP	1.5KW
Heat Exchanger for Oil. Cooling Fan Motor	¼ HP	¼KW
Lubrication System		
Automatic and Filtered. Uses Same Reservoir as Hydraulic System.	standard	standard

*With 60 Cycle Motor **With 50 Cycle Motor

As Brown & Sharpe is constantly improving the design of its machines, appearance, specifications, dimensions and weights are subject to change without notice.

Principal Dimensions



Model	824/824SSC		1030/1030SSC		1224/1224SSC		1236/1236SSC	
	inch	mm	inch	mm	inch	mm	inch	mm
A (Max.)	50 7/16	1281	61 3/16	1554	50 7/16	1281	69 3/4	1772
B (Max.)	50 7/16	1281	61 3/16	1554	50 7/16	1281	69 3/4	1772
C (Max.)	25	635	25	635	25	635	25	635
(Min.)	5 7/8	149	5 7/8	149	5 7/8	149	5 7/8	149
D	10	254	12	305	14	356	14	356
E	75 1/2	1918	75 1/2	1918	75 1/2	1918	75 1/2	1918
F	80 5/8	2048	80 5/8	2048	80 5/8	2048	80 5/8	2048
G	71 3/4	1822	86 1/4	2191	71 3/4	1822	98 1/4	2496
H	13 1/2	343	13 1/2	343	15 1/2	394	15 1/2	394
I	8 3/8	206	10 3/8	257	12	305	12	305
J	24	610	30	762	24	610	36	914
K	100 7/8	2562	122 3/8	3108	100 7/8	2562	139 1/2	3543
L	83	2108	83	2108	86	2184	86	2184
M	31 3/4	806	42	1067	31 3/4	806	51 1/16	1297

Shipping Data	824/824SSC	1030/1030SSC	1224/1224SSC	1236/1236SSC
Net Weight (Approx.) lbs/kg	4725/2143	5000/2268	5000/2268	5700/2586
Gross Weight (Approx.) lbs/kg	5325/2415	5650/2563	5650/2563	6350/2880
Dimensions for Shipment:				
Inches (H x W x D)	77 x 82 x 80	77 x 95 x 80	77 x 95 x 80	77 x 112 x 80
Centimeters (H x W x D)	196 x 208 x 203	196 x 241 x 203	196 x 241 x 203	196 x 285 x 203

Brown & Sharpe Manufacturing Company

Brown & Sharpe is a leading producer of metal cutting type machine tools and well-known manufacturer of machinists' precision measuring tools, electronic quality control equipment, consumable metalcutting tools, industrial hydraulics and precision components for the nuclear manufacturing industry.

Founded in 1833, the Company is structured into three operating divisions, the Machine Tool and Industrial Products Division, both headquartered in

North Kingstown, Rhode Island, and the Hydraulics Division, centered in Manchester, Michigan.

Other domestic operations are located in Traverse City, Michigan and Statesville, North Carolina.

International operations are located in Renens and Zurich, Switzerland; London, Plymouth, Sunbury and High Wycombe, England; Mainz on Rhein, West Germany; and Paris, France.

Research

The Brown & Sharpe Research Department is staffed by highly competent specialists in numerous fields. Constantly searching for and developing new ideas, materials and methods, this group helps to insure that Brown & Sharpe products remain leaders in their field by constantly improving current machinery and developing new products to satisfy the needs of our customers.

Applications Engineering

Among the many departments maintained to provide service for customers are the Grinding Machine, Turning Machine and Machining Center Special Applications Departments. These groups have been developed solely to solve machining problems.

Their engineers have at their disposal an abundance of data and a wealth of knowledge acquired through years of work in our own shop and in others where our machines are in use. Utilizing this fund of information and experience, Application Engineers are especially equipped to design correct machining methods for any of our customers' particular job requirement on any Brown & Sharpe machine.

Parts Availability

Replacement Parts for Brown & Sharpe machines are readily available from specialized parts inventories and distribution systems especially organized for that purpose. In the main plant in North Kingstown, computerized parts ordering, location, pricing and distribution assure the customers fast, reliable service. In addition parts are available from warehouses and authorized parts distributors strategically located through North America.

Design Engineering

The machines on the drawing boards today result in the manufacture of more productive machines for tomorrow. To show the importance Brown &

Sharpe attaches to design engineering, every division has its own product planning and engineering departments. The trained minds and skills of the men behind the drawing board are keeping Brown & Sharpe in the forefront of advanced design in such areas as the investigation of the latest materials and lubricants, computer aided structural and vibration analysis and other advanced machine tool technology.

Leasing

Brown & Sharpe, through its wholly-owned subsidiary, Brown & Sharpe Financial Company, offers a wide array of lease plans specifically tailored to Brown & Sharpe machine tool customers. Thanks to the Brown & Sharpe lease plans, you can acquire the productive use of quality Brown & Sharpe machine tools at a cost substantially lower than you may think possible.

Four lease plans are available offering a variety of alternatives to meet our customers' specific requirements:

- Plan A – Features a six-month payment delay, allowing sufficient time to build a cash flow from the new machine.
- Plan B – Features attractive pre-determined purchase options at the end of any year for the customer who may be planning an early buyout of the lease.
- Plan C – Features level payment over the lease term for customers desiring a traditional lease structure.
- Plan D – Features the lowest payments of all plans by permitting B&S to retain the Investment Tax Credit.

All Brown & Sharpe lease plans feature:

- Low payments.
- Predetermined purchase options.
- Seven year lease terms with renewals available for up to three additional years.
- Investment Tax Credit passed thru to the customer or exchanged for reduced lease payment.

Before making a decision about how to pay for your new MICROMASTER Surface Grinding Machine, explore the lease plans available from Brown & Sharpe. Contact your B&S representative, or call: Manager of Customer Financing, Brown & Sharpe Financial Company, Precision Park, N. Kingstown, RI 02852. Phone (401) 886-2662.

The Industry's Most Complete Choice

Shown below: (1) 510V/612V VALUMASTER™ Surface Grinding Machine; (2) 618/818 MICROMASTER® Surface Grinding Machine; (3) 618 VISUAL GRIND, shown with optional Reciprocating Wheel Slide Model KE; (4) 618V VALUMASTER™ Surface Grinding Machine; (5) 824 MICROMASTER® Surface Grinding Machine; (6) 1030 MICROMASTER® Surface Grinding Machine; (7) 1224/1236 MICROMASTER® DIAL-A-SIZE®, shown with optional Wet Grinding Attachment, Electro-mag-

netic Chuck and Neutrofler; (8) 13 Universal and Tool Grinding Machine; (9) 814U VALUMASTER™ Universal Grinding Machine; (10) 1024U Universal Grinding Machine, shown with optional Automatic Cycle with Wheelside Rapid Travel; (11) 1440U Universal Grinding Machine, shown with optional ELECTRALIGN® and Automatic Cycle with Wheelside Rapid Travel.

