

The *Bridgeport*[®]

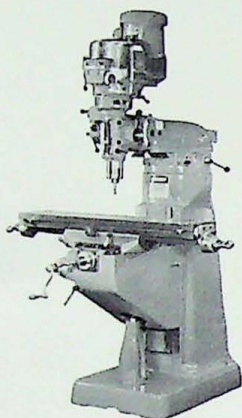
Standard Machines

MACHINERY SALES CO.

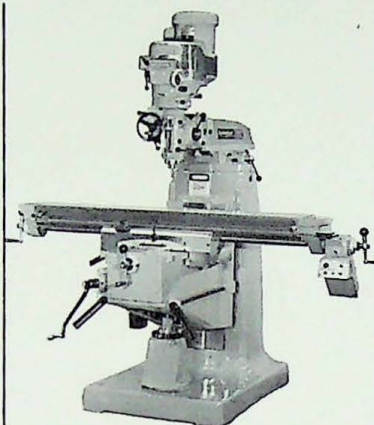
METAL CUTTING TECHNOLOGY MACHINE TOOLS



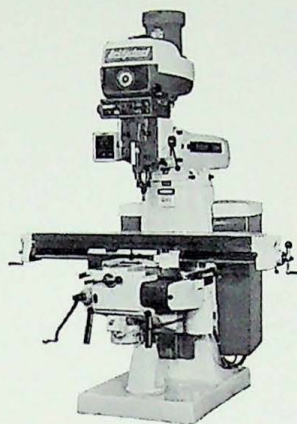
541 TAYLOR WAY
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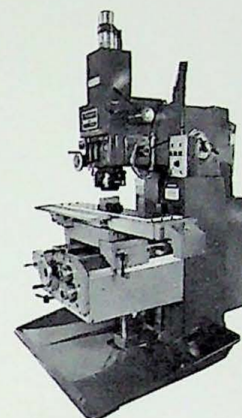
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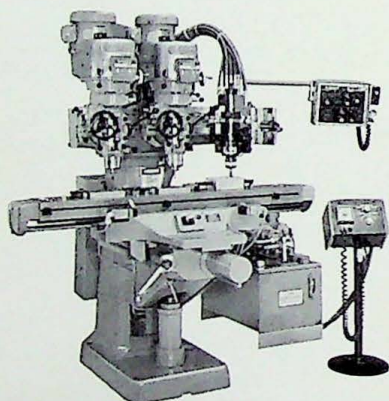
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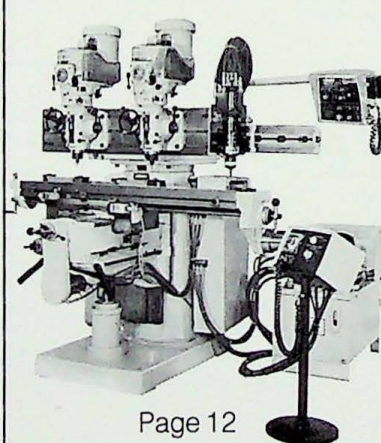
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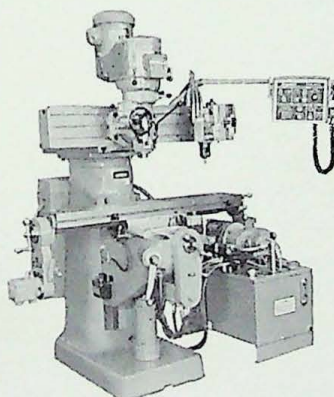
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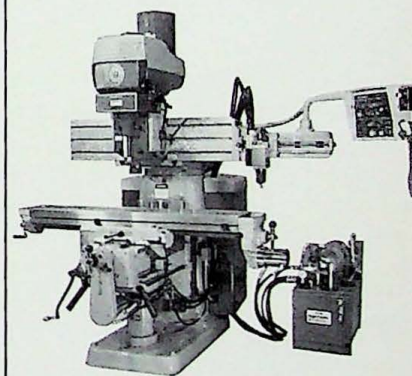
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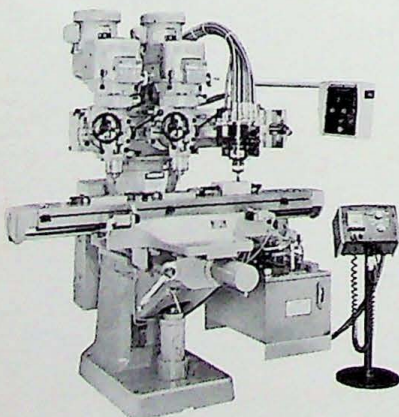
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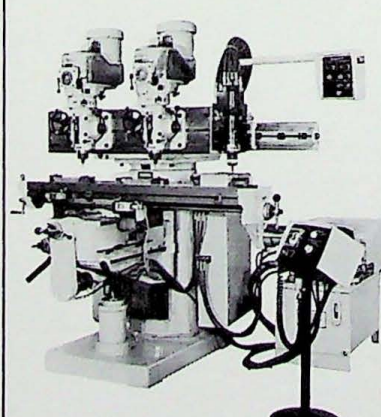
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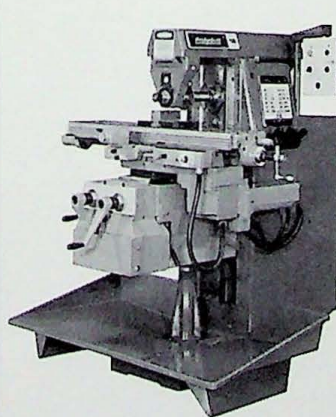
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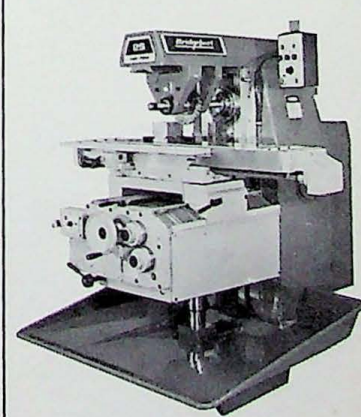
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Who We Are

The Bridgeport name is synonymous with the world's finest standard milling, drilling and boring machines. Our reputation began in 1938 when the Bridgeport craftsmen produced the first vertical turret miller.

Then, as now, the Series I Standard fulfilled the metalworking industry's need for a machine which was accurate, reliable, versatile and simple to operate.

Since then we've built more than 250,000 Series I Standard mills. And today, Bridgeport builds more than a dozen manual machine models, including vertical mills, horizontal mills and fully automatic duplicating machines.

In nearly half a century, the Bridgeport craftsmen have become the world's leading builders of standard milling machines by keeping the quality tradition alive. That's what it means to be built like a Bridgeport.

What We Do

Bottom line pricing has never forced Bridgeport to compromise on durability and performance. Our competitive prices are a result of our higher volume rather than a cheaper machine.

We build Bridgeport mills on a one-piece column and base, integrally-cast with added ribs, webs and precision ways for strength and rigidity. Saddles and knees are specially designed to evenly distribute table loads. All critical surfaces are hand-scraped for precise flatness. Five-pitch Acme thread lead screws and preloaded spindle bearings are standard.

And our factory-built accessories, from digital readouts to multiple head arrangements, are built with the same exacting quality to help boost the productivity of your machining operations.

Bridgeport standard milling machines are built for long, accurate life. That's why used Bridgeports often sell for more than they cost new.

Single-Source Responsibility

Bridgeport stands behind every machine it builds with nationwide parts availability, a factory-trained service organization and application engineering support. Simply contact your local Bridgeport representative or call Bridgeport direct at its toll-free number: **1-800-243-4292**. (In Connecticut call: **1-800-972-4093**.) Don't forget to ask for our free Standard Machine Accessories Catalog, CNC Brochures and Milling Machine Safety Manual with English/Spanish text and operator safety test. All free.



Series I Standard

2 HP Spindle

Table: 9" x 42"

Travels: X = 30", Y = 12", Z = 16", Quill = 5"

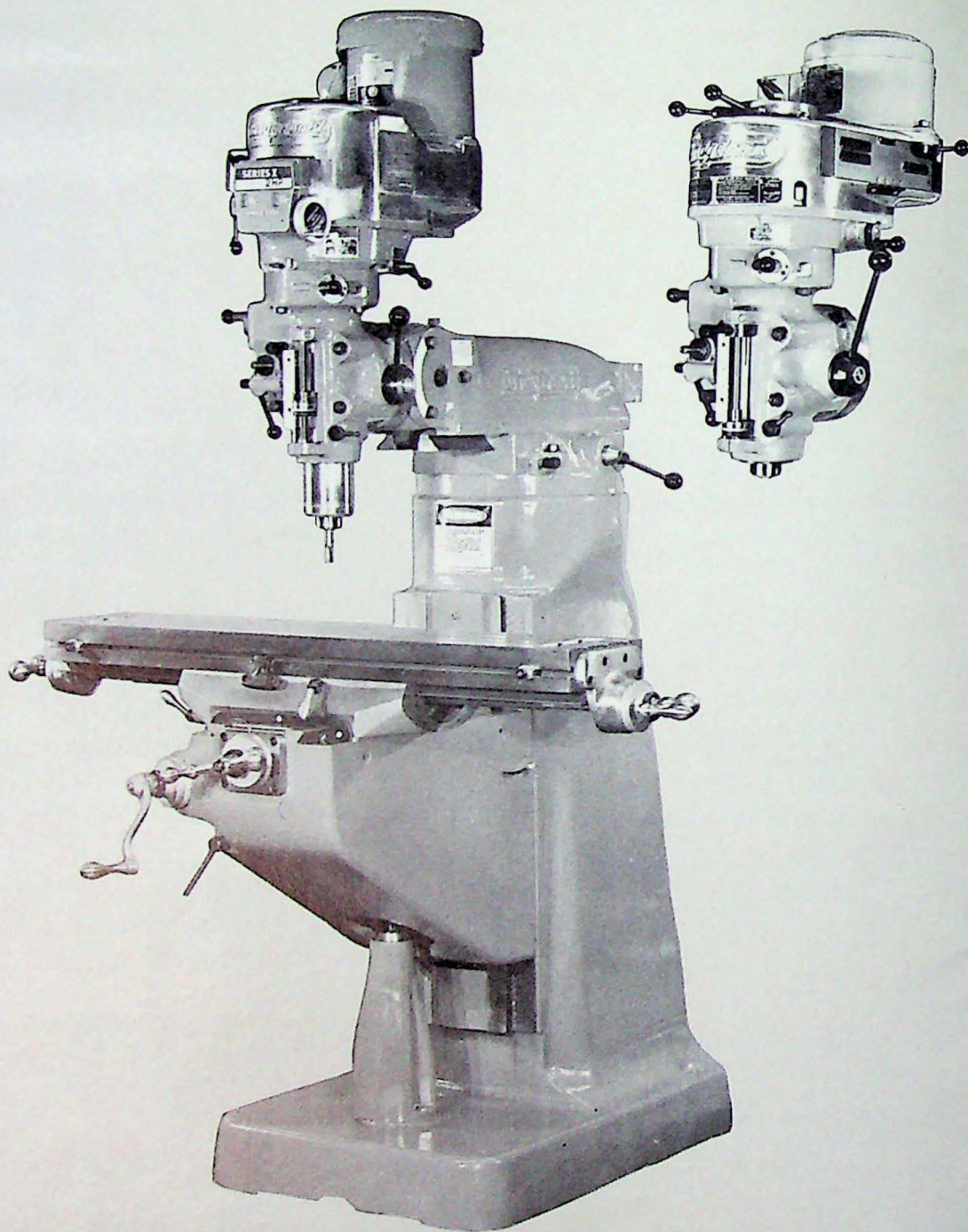
Versatility. Four heads to choose from: 1 or 1½ HP high speed J head, 2 HP variable speed 2J head, ½ HP M head or ⅓ HP Model E vertical shaper head. Most adjust 45° front and back. All adjust 90° left or right. For more versatility, mount a shaper head or M head on the back of the V-ram and position over the worktable by rotating the ram 180°.

Patented flow-through air cooling on 2J head prolongs bearing life and prevents expansion caused by heat build up.

Secure tools from 1/8" to 3/4" in an R8 collet. Specify a #30 quick-change spindle for faster tool changes.

Sturdy, coreless cast table, heavily ribbed for strength. Precision T-slots. All standard.

Precision ways on the column, knee and table. Tapered, hand-scraped gibs, hand-fitted for long life accuracy. Locking clamp lets you mill mild steel at 2 cu. in. per minute with minimum vibration. One-piece column and base with extra ribs and webs. One shot lubrication system. Satin chrome-plated dials. All standard.



Note: For display purposes point of operation safeguarding is not shown.

Model J head (insert) standard.
Machine shown with 2J head.

Features

Rugged. Built to last. Precision spindle bearings and 5 pitch Acme thread lead screws. One-piece column and base. V-ram construction lets you move the head without rechecking spindle squareness.

Production flexibility, too. The 2J head has two speed ranges, infinitely variable from 60 to 500 rpm and 500 to 4200 rpm. Three other heads to choose from, including the J head, M head and Model E shaper head.

Bridgeport pays attention to detail. There's a spindle brake for manual stops. Optional chrome-plating on wear surfaces. Depth stops are graduated in thousandths or millimeters. The quill is chrome-plated and has built-in power feed. A one-shot lubrication system is standard. So are easy-reading satin chrome dials.

Add a digital readout. A rotary table. Infinitely variable table power feed unit. Inch or metric lead screw. Quick-change tooling. 48" table. And a wide range of other options and accessories.

Easy to operate. Untrained help can learn to mill, drill and bore fast. First choice of vocational schools. More people have learned to be machinists on Bridgeport mills than on any vertical turret mill ever built.

Single-source responsibility. Nationwide parts and service. Bridgeport's Series I Standard—still the world's top selling milling machine.

Specifications

Range		High—infinitely variable 500-4200 rpm	
Table travel (X-axis)	30 in. (762mm) or	Controlled down feed range	.0015 in. (0.038mm)
With 48 in. table	36 in. (914mm)	Manual adjust	.003 in. (0.076mm)
Saddle travel (Y-axis)	12 in. (305mm)	Manual adjust	.006 in. (0.152mm)/rev
Quill travel	5 in. (127mm)	Drilling Capacity	
Knee travel (Z-axis)	16 in. (406mm)	Mild steel (manual)	3/4 in. (19mm)
Ram travel	12 in. (305mm)	Mild steel (power)	3/8 in. (10mm)
Throat distance (min.)	6-3/4 in. (171mm)	Milling Capacity—mild steel	
Throat distance (max.)	18-3/4 in. (476mm)	Boring Range—mild steel	
Table to spindle nose gage line	2-1/2 in. (64mm) (min.)	Spindle diameter	1-7/8 in. (48mm)
Max. weight of workpiece	750 lbs. (341 kg)	Quill diameter	3-3/8 in. (86mm)
Table		Milling Feed Rate (X-axis)	
Overall size, or	9x42 in. (229x1067mm)	Standard	3/4-35 ipm (19-889mm)
Overall size	9x48 in. (229x1219mm)	High torque power feed	.3-15 ipm (8-381mm/min)
T-slots—three	2-1/2 in. (64mm) centers	Space and Weight	
T-slot size	5/8 in. (16mm)	Floor area	7x10 ft. (2.1x3.1m)
Height above floor (max.)	47-1/4 in. (1200mm)	Height	82-3/16 in. (2.1m)
Spindle (2J Head)		Net weight	1950 lbs. (885kg)
Power rating	2 hp (1.5kW)	Shipping weight	2180 lbs. (989kg)
Taper*	R8 Taper	Electrical Supply	
Speed Range		60 Hz, 3 phase	208/230/460/575V
Low—infinitely variable	60-500 rpm	Color	Machine tool gray

*No. 30 Bridgeport Quick-Change Spindle is optional.

**Power optional. (Power feed reduces longitudinal travel by 3.5".)

NOTE: Machine also available with 1 HP J Head with 8 speed changes. Dimensions and specifications subject to change without prior notice.

Series II Special

2 HP Spindle

Table: 11" x 58"

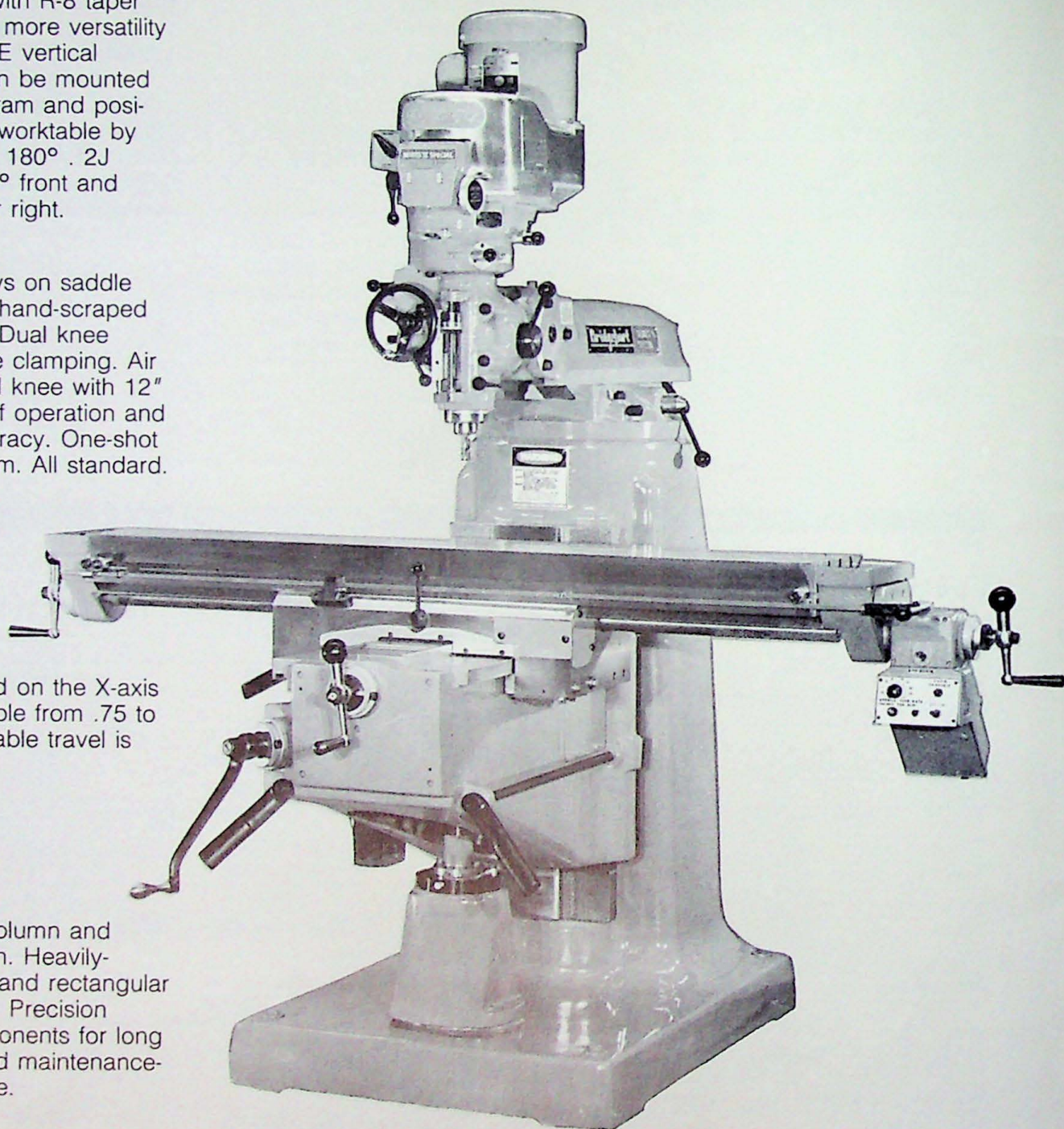
Travels: X = 32", Y = 15", Z = 12", Quill = 5"

2 HP 2J head with R-8 taper is standard. For more versatility a 1/3 HP Model E vertical shaper head can be mounted on the back of ram and positioned over the worktable by rotating the ram 180°. 2J head adjusts 45° front and back, 90° left or right.

Rectangular ways on saddle and knee. Gibbs hand-scraped for precision fit. Dual knee locks for positive clamping. Air counterbalanced knee with 12" travel for ease of operation and positioning accuracy. One-shot lubrication system. All standard.

Power table feed on the X-axis is infinitely variable from .75 to 35 ipm. Rapid table travel is 45 ipm.

Integrally cast column and base for strength. Heavily-ribbed castings and rectangular ways for rigidity. Precision machined components for long life accuracy and maintenance-free performance.



Note: For display purposes point of operation safeguarding is not shown.

Features

Two machines in one. The large work area and heavy workpiece handling capacity of a Series II milling machine. The versatility of a Series I mill.

Versatile. Mount a vertical shaper head on the rear of the V-ram to machine intricate shapes, extruded dies and complex patterns. Eliminate special machines and broaches.

Manual central lubrication system keeps ways and lead screws lubricated. Wick-oiled quill. Spindle bearings grease-packed for lifetime service. Acme 5 pitch, 1-5/8" diameter lead screw centered between the ways for stability. Dual knee locks. Design features for long life.

Rugged V-ram construction with 17" travel and universal positioning in all vertical attitudes. Ram rotation is 360°. Dual locks secure the ram for precision machining.

Tooling flexibility. Equip your mill with options like a #30 quick-change spindle, Bridgeport boring heads, end mill holders, collets, adapters, chucks and arbors.

Bridgeport builds quality into every Series II Special, and stands behind every machine with single-source responsibility, nationwide parts and service, and application engineering support.

Specifications

Range		Controlled down feed range	.0015 in. (0.038mm)
Table travel (X-axis) manual	33.5 in. (851mm)	Manual adjust	.003 in. (0.076mm)
Table travel (X-axis) power	32.5 in. (825mm)	Manual adjust	.006 in. (0.152mm/rev)
Saddle travel (Y-axis)	15 in. (381mm)	Drilling Capacity	
Knee travel (Z-axis)	12 in. (305mm)	Mild steel (manual)	3/4 in. (19mm)
Quill travel	5 in. (127mm)	Mild steel (power feed)	3/8 in. (10mm)
Ram travel	17 in. (432mm)	Milling Capacity (mild steel)	2 cu in/min (32cc/min)
Throat distance (min.)	6 in. (152mm)	Boring Range (mild steel)	To 6 in. (152mm) diameter
Throat distance (max.)	23 in. (584mm)	Spindle diameter	1-7/8 in. (48mm)
Table to spindle nose gage line	4 in. (102mm) (min)	Quill diameter	3-3/8 in. (86mm)
Max. table loading	1500 lbs. (681kg)	Milling Feed Rate	
Table		X-axis	.75-35 ipm (19-889mm/min)
Overall size	11x58 in. (279x1473mm)	or	.3-20 ipm (8-508mm/min)
T-slots—three	2-1/2 in. (64mm) centers	Space and Weight	
T-slot size	5/8 in. (16mm)	Floor area	7x10 ft. (2.1x3.1m)
Height above floor (max)	46.5 in. (1181mm)	Height	83 in. (2108mm)
Spindle		Net weight	3930 lbs. (1783kg)
Power rating	2 hp (1.5kW)	Shipping weight	4780 lbs. (2168kg)
Taper**	R8 taper	Electrical Supply —60 Hz	
Speed Range		3 phase	208/230/460/575 volts
Low—infinitely variable	60-500 rpm	Single phase power feed	(115 volt, 60 Hertz)
High—infinitely variable	500-4200 rpm	Color	Machine tool gray

*Table to spindle nose is 4.5 in. (105mm) min. **No. 30 Bridgeport Quick-Change Spindle is optional.

Note: Dimensions and specifications are subject to change without prior notice.

Series II Standard

4 HP Spindle

Table: 11" x 58"

Travels: X = 30", Y = 15", Z = 16", Quill = 5"

Rugged 4 HP 4J variable speed head standard. Spindle speeds infinitely variable from 50-3500 rpm.

#40 taper standard. #40 quick-change spindle and quill power feed optional. Head adjusts 90° left or right, 45° front or back.

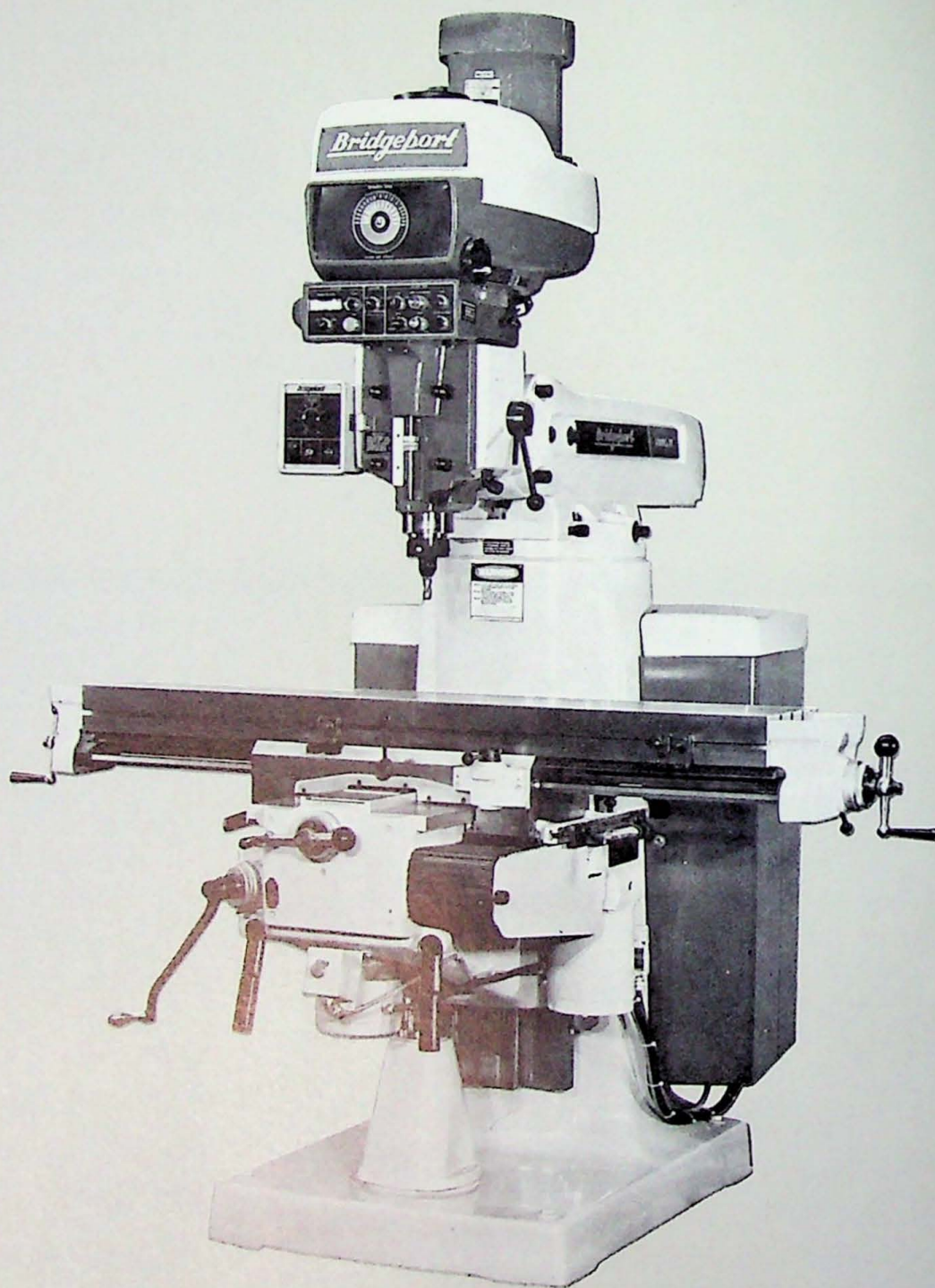
V-ram construction for positioning flexibility. 360° rotation. 16" in/out travel. Locks securely for precision machining.

Rectangular ways on saddle and knee. Gibbs hand-scraped for precision fit. Dual knee locks for positive clamping. One-shot lubrication system. All standard.

X-Y axis feed rates infinitely variable from .38 to 24 ipm. Z-axis feed rate infinitely variable from .19 to 12 ipm. Power feed on all axes.

Emergency stop button for operator safety.

Spring-loaded hand cranks won't engage when the power feed is operating. Integrally cast column and base with added ribs, webs and rectangular ways for strength and rigidity.



Note: For display purposes point of operation safeguarding is not shown.

Features

Beefed-up iron to handle big jobs. Heavily-ribbed castings throughout. 3270 lbs. more mass than a Series I Standard. Larger workpiece handling capacity.

Rugged machine tool construction. Massive V-ram. Dovetail saddle-to-table ways. Extra wide rectangular knee ways to evenly distribute heavy table loads. Optional chrome-plated saddle and knee ways. Front and rear ram travel stops. Precision 1-5/8" diameter lead screw centered between the ways for rigidity. Optional front-mounted longitudinal hand feed for easy table positioning.

Bridgeport quality. Grease-packed spindle bearings for long life accuracy. Wick-oiled quill. Automatic one-shot lubrication of ways and lead screws. Spindle won't start if lube level falls below preset level. Rugged 4 1/2" diameter quill, chrome-plated for long life accuracy. Easy reading satin chrome-plated dials. Automatic overload protection of spindle motor.

Three factory-installed heads to choose from: 1 or 1 1/2 HP J head, or Model E vertical shaper head. Plus options and accessories for every job. Quill power feed infinitely variable from .06 to 2.5 ipm. Metric lead screws.

Optional rigid ram. Rotary table. Vises and sine tables. Quick-change tooling. Riser blocks or tall column for handling big workpieces.

Bridgeport stands behind every machine it builds with nationwide parts and service, training and application engineering support.

Specifications

Range		Controlled Down Feed Range	
Table travel (X-axis)	30 in. (762mm)	Manual adjust	0.6-2.5 ipm (15.2-64mm)
Saddle travel (Y-axis)	15 in. (381mm)	Drilling Capacity	
Quill travel	5 in. (127mm)	Mild steel (manual)	1 1/4 in. (32mm) diameter
Knee travel (Z-axis manual)	16 in. (406mm)	Mild steel (power feed)	3/4 in. (19mm)
Ram travel (rack & pinion)	16 in. (406mm)	Milling Capacity—mild steel	
Throat distance (min) (V-Ram)	10 5/8 in. (270mm)	Boring Range—mild steel	4 cu. in./min (64cc/min)
Throat distance (max) (V-Ram)	26 5/8 in. (676mm)	Spindle diameter	To 8 in. (203mm) diameter
Table to spindle nose gage line	1 in. (25mm) (min)	Quill diameter	2 1/2 in. (54mm)
Max. weight of workpiece	1500 lbs. (681kg)	Milling Feed Rate	
Table		X & Y axis	3/8-24 ipm (10-610mm)
Overall size	11x58 in. (279x1473mm)	Z-axis	3/16-12 ipm (5-305mm)
T-slots—three	2 1/2 in. (64mm) centers	Milling Rapid Feed Rate	
T-slot size	5/8 in. (16mm)	X & Y axis	24 ipm (610mm)
Height above floor (max)	48 3/4 in. (1238mm)	Z-axis	12 ipm (305mm)
Spindle (In 4J Head)		Space and Weight	
Power rating	4 hp (3kW)	Floor area	7x10 ft. (2.1x3.1m)
Taper	No. 40 milling machine*	Height	93 in. (2362mm)
Speed Range		Net weight	5220 lbs. (2368kg)
Low—infinitely variable	50-450 rpm	Shipping weight	6300 lbs. (2858kg)
High—infinitely variable	450-3500 rpm	Electrical—60 Hertz,	
		3 phase	208/230/460/575 volts
		Color	
			Machine tool gray

*No. 40 Bridgeport Quick-Change Spindle as an option. Note: Dimensions and specifications subject to change without prior notice.

2S Vari-Feed Vertical Mill

7½ HP Spindle

Table: 54" x 11¾"

Travels: X = 29½", Y = 12¼", Z = 16", Quill = 4"

Powerful 7½ HP spindle motor delivers 18 spindle speeds from 30 to 1500 rpm. Spindle brake stops the spindle fast.

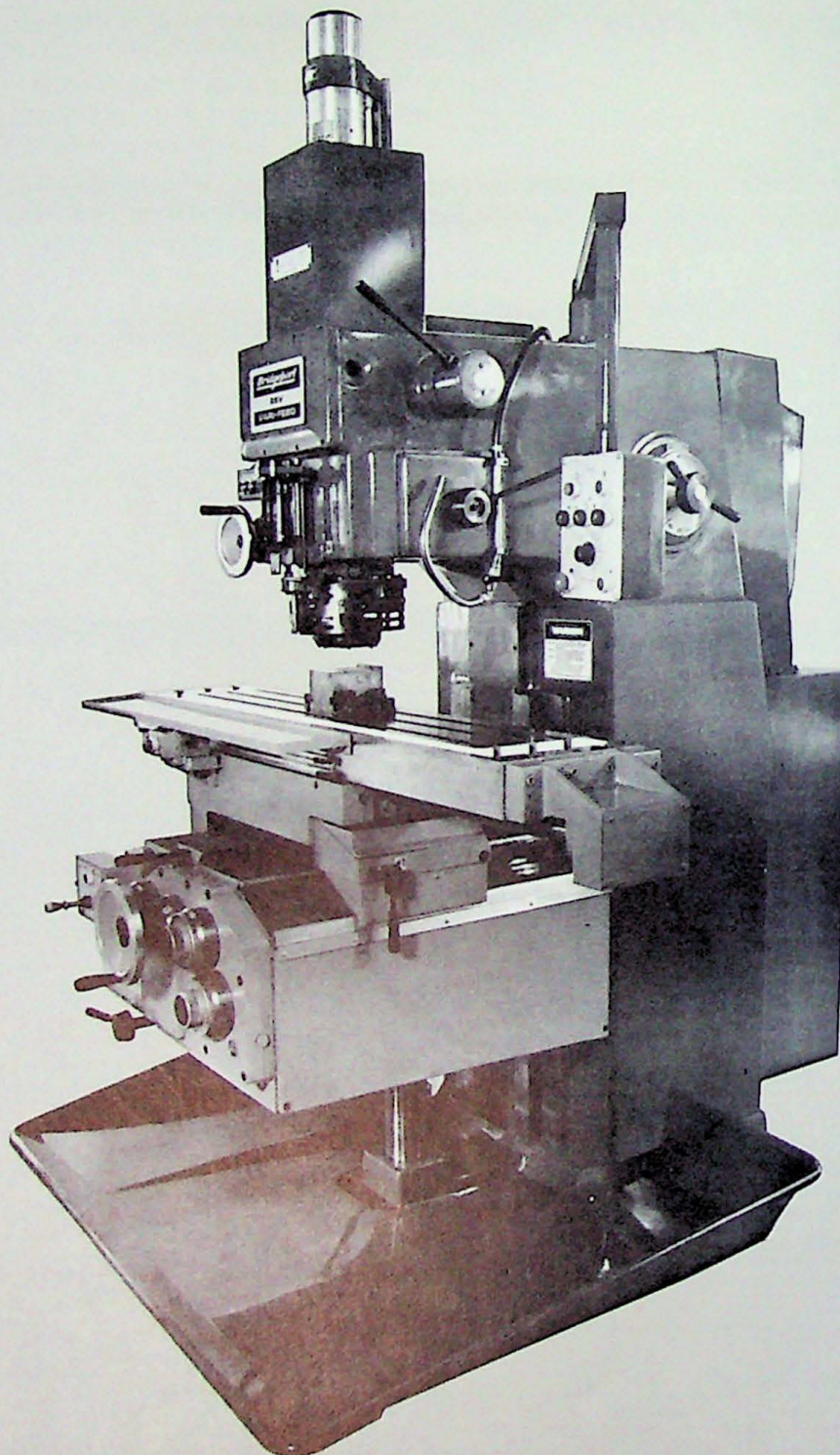
Unique spindle design for maximum drive system stiffness. Bearings mounted behind the spindle nose for maximum rigidity. You get higher metal removal rates. Better surface finishes. Greater accuracy.

Optional 4-station turret depth control and fine feed hand-wheel. Makes close tolerance quill positioning easy.

Recirculating ball screws fitted to all 3 axes. Manual slide movements and positioning are fast, accurate and easy.

Single handwheel provides easy movement of table, saddle and knee through axis selection lever.

Ways, table and lead screws automatically lubricated. Low lube level switch keeps machine from starting when the lube reservoir is low. Vertical axis ball screw immersed in oil bath.



Features

Computer-designed to minimize chatter. Modular construction provides maximum strength and rigidity and allows easy removal of major subassemblies.

Standard features for increased safety and performance. Electrical interlocks between spindle and power feed drives. Electrical and mechanical interlocks between power feed and hand-wheel control. Short, sturdy spindle with special bearing arrangements ensures accuracy and permits metal removal at rates to 7¼ cu. in. per minute in mild steel.

Ball screws permit conventional or climb milling and ensure superior surface finishes and longer tool life. 145 ipm rapid traverse on X- and Y-axis. 72½ ipm on Z-axis. Power feed on all axes. Flood coolant standard. Pendant control swivels for operator convenience. Two emergency stop buttons, one on the control panel, one on the front of the machine.

Production flexibility from a wide range of options and accessories. Quill power feed. Dividing and indexing attachments. Inch/metric dials. Power drawbar for fast tool changing. And more.

Single-source responsibility. Bridgeport Machines stands behind every 2S Vari-Feed vertical milling machine. Your nearest Bridgeport office or distributor provides service support, replacement parts and application engineering support.

Specifications

Range		Quill diameter	6-3/4 in. (171mm)
Travel (X-axis) 54" table	29-1/2 in. (749mm)	Spindle speed changes (18)	30-1500 rpm
Saddle travel (Y-axis)	12-1/4 in. (311mm)	Rapid Traverse	
Quill travel	4 in. (102mm)	Longitudinal & cross (min.)	137 in. (3480mm)
Knee travel (Z-axis)	16 in. (406mm)	Vertical (min.)	68 in. (1727mm)
Table		Milling feed rate	1/2-30 ipm (12-750mm)
Overall size	54x11¾ in. (1372x298mm)	Space and Weight	
T-slots—three	3 in. (76mm) centers	Floor area (approx.)	78x96x84 in. (1981x2438x2134mm)
T-slots size	11/16 in. (17.5mm)	W/power draw bar	78x96x102 in. (1981x2438x2591mm)
Feed motor	3 hp (2-1/4kW)	Net weight	6000 lbs. (2722kg)
Spindle		Gross weight	6900 lbs. (3130kg)
Power rating	7-1/2 hp (5.5kW)	Electrical Supply*	
Taper—international standard	No. 50		208/230/460
Quill power feed option (min.)	3/32-3-1/2 in. (2.4-89mm)	Color	3 phase, 60 Hz
			Machine tool gray

*Consult factory on electrical specifications.

Note: Dimensions and specifications subject to change without prior notice.

Series I Con-Trol-Scan™

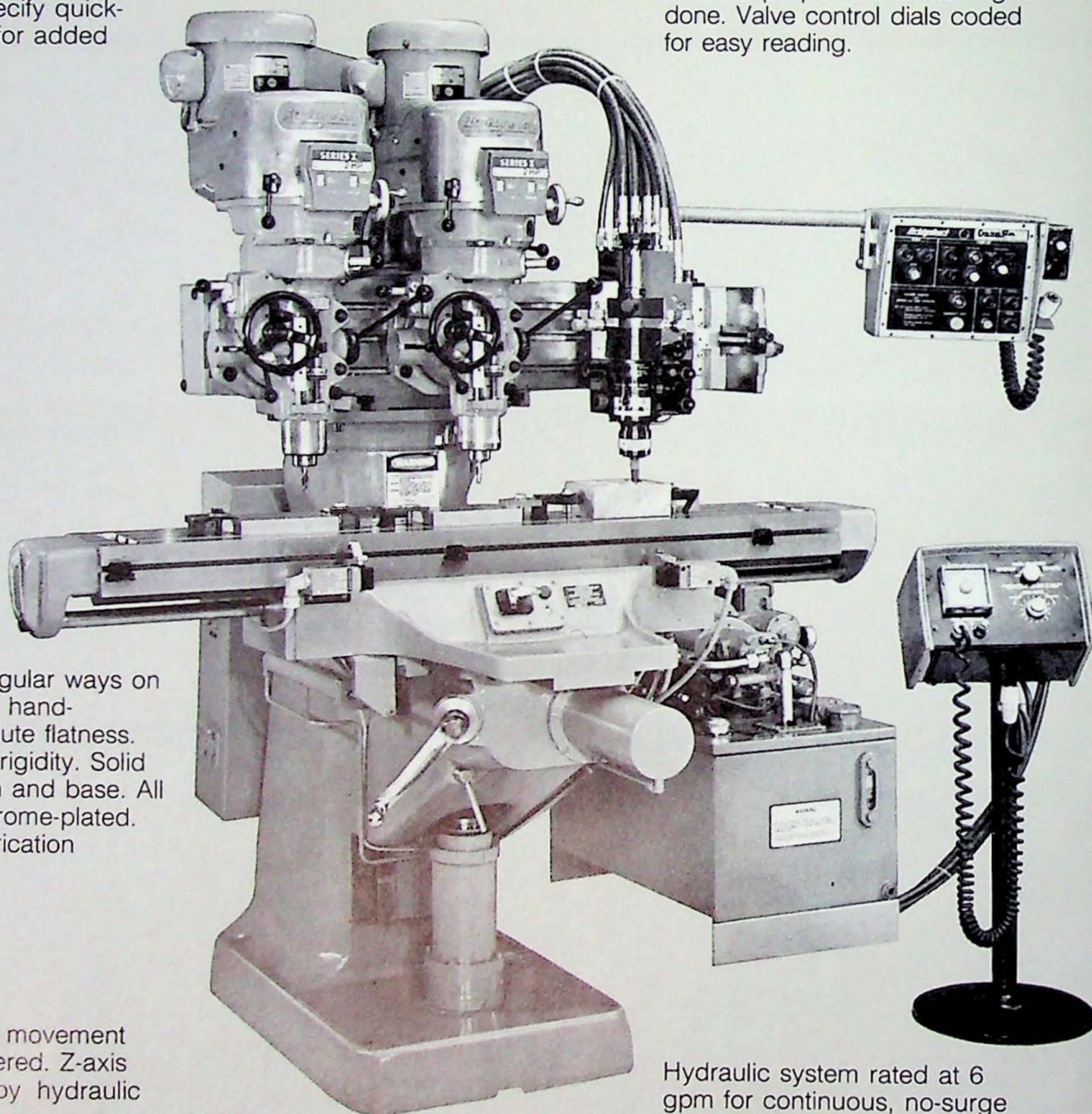
2 HP Spindle

Table: 9" x 60"

Travels: X = 28", Y = 12", Z = 14" (manual), Quill = 5"

Powerful 2 HP 2J head with speeds infinitely variable from 60 to 4200 rpm. Optional J head rated at 1 or 1½ HP. Mount from one to three heads on the T-ram. Specify quick-change spindles for added productivity.

Controls conveniently mounted on moveable pendant. Control dials are interlocked so the selected mode cannot operate until the proper dial switching is done. Valve control dials coded for easy reading.



Extra-wide rectangular ways on knee and saddle, hand-scraped for absolute flatness. Tapered gibs for rigidity. Solid one-piece column and base. All wear surfaces chrome-plated. An automatic lubrication system, too.

Table and saddle movement hydraulically-powered. Z-axis movement to 6" by hydraulic cylinder.

Hydraulic system rated at 6 gpm for continuous, no-surge response.

Note: For display purposes point of operation safeguarding is not shown.

Features

Con-Trol-Scan lets you do the work of three machines by adjusting control dials.

In the 360/3D Manual Mode, it's a pencil-type tracer. You guide the stylus for peripheral pocket and 3-dimensional profile tracing.

Readjust the control dial and go from manual to automatic tracing for 3-dimensional contour milling.

Switch a lever, and you have a Synchro-Trace automatic die sinking system with X-Y scanning capability. Reproduce molds, dies and cavities with minimum handwork by adjusting the pick feed increment for rough cutting or finishing.

Hydraulic valve mounting bracket adjustable in 3 axes. Dials graduated in thousandths. Pendant-mounted controls for operator convenience.

Rugged Bridgeport T-ram construction. Extra-wide ways on the column and knee for strength. Tapered gibs for rigidity. Chrome-plated horizontal ways for wear resistance. Automatic one-shot lubrication system.

Features and options for more productivity. Patented flow-thru air cooling on 2J head minimizes heat expansion. Mount multiple heads on the T-ram. Add an optional pick feed unit for manual or automatic control of the stylus in the Z-axis. Extend tool life by using increasingly smaller diameter stylus to compensate for cutter wear.

Hydraulically-powered table and saddle. Hydraulic Z-axis movement to 6".

One-piece column and base, heavily ribbed for strength and rigidity. Big workpiece capacity, 750 lbs. on Series I version, 1000 lbs. with the Series II.

Single-source responsibility. Factory replacement parts. Wide range of options. Application engineering support. And more.

Specifications

Range		T-slot size	.625 in. (16mm)
Table travel (X-axis) 60 in. table	28 in. (711mm)	Height above floor	49½ in. (1257mm) (max.)
Saddle travel (Y-axis)	12 in. (305mm)	T-ram face dimension	8¼x38 in. (222x965mm)
Knee travel (Z-axis) manual	14 in. (356mm)	Milling Feed Rate	
Knee travel (Z-axis) hydraulic	6 in. (152mm)	3D (mode)	0-40 ipm (0-1016mm)
Ram travel	12 in. (305mm)	3DA (mode)	.5-40 ipm (13-1016mm)
Throat distance (min.)	5-1/2 in. (140mm)	Synchro (mode)	.10-15 ipm (2.5-381mm)
Throat distance (max.)	17-1/2 in. (445mm)	Installation Data	
Table to spindle nose gage line	1/2 in. (13mm) (min.)	Floor area	8x10 ft. (2.4x3.1m)
Max. weight workpiece	750 lbs. (340kg)	Height	83 in. (2108mm)
Table		Net weight (less head)	2700 lbs. (1225kg)
Overall size	9x60 in. (229x1524mm)	Gross weight (less head)	3250 lbs. (1474kg)
T-slots—three	2-1/2 in. (64mm) centers	Color	Machine tool gray

Note: Dimensions and specifications subject to change without prior notice.

Series II Con-Trol-Scan™

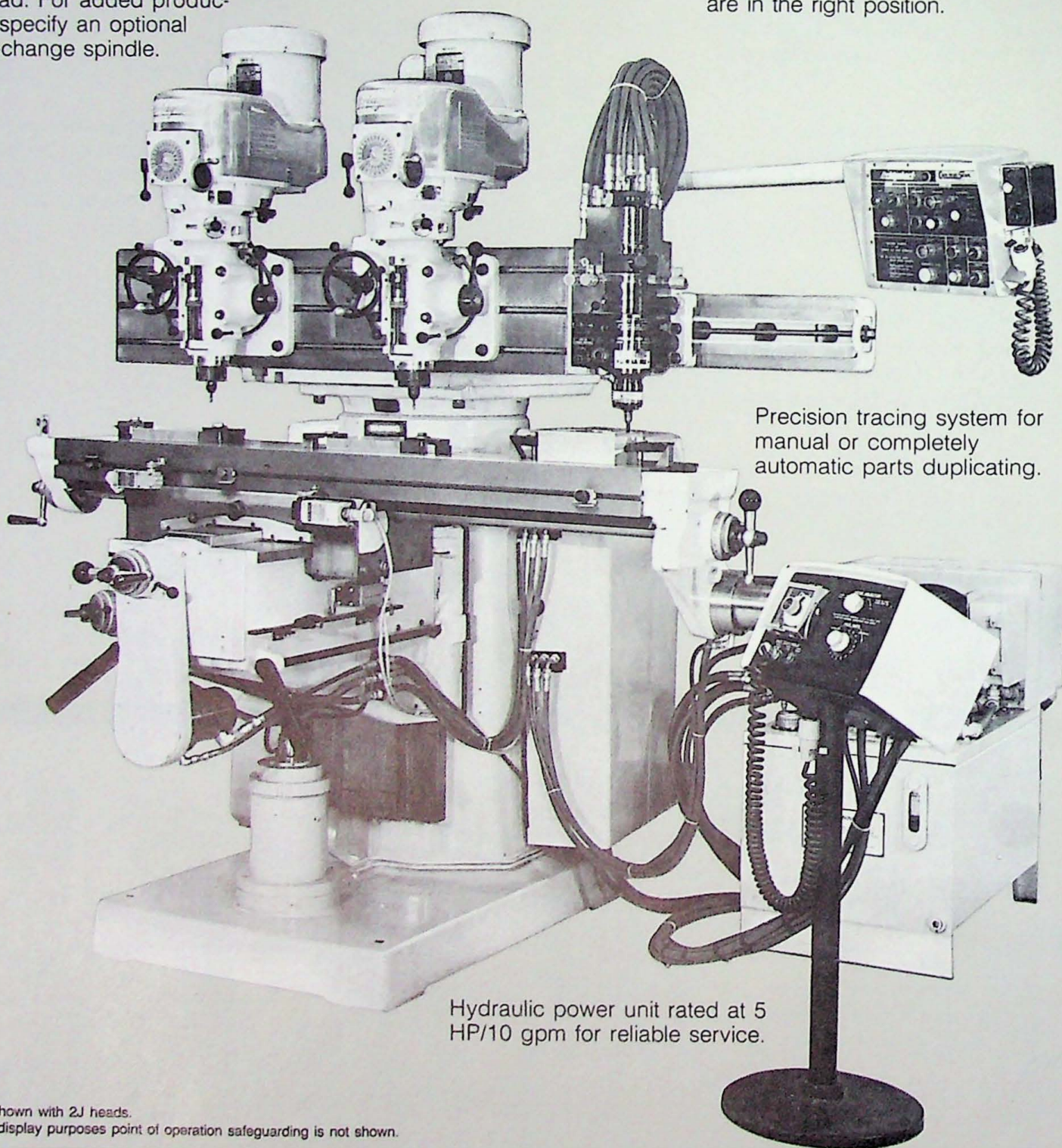
4 HP Spindle

Table: 11" x 58"

Travels: X = 30", Y = 15", Z = 16", Quill = 5"

Multiple head arrangements with four different heads to choose from: 1 or 1½ HP J head, 2 HP 2J head and 4 HP 4J head. For added productivity, specify an optional quick-change spindle.

Coded valve controls and safety interlock system ensures the duplicating mode selected will not engage until all control dials are in the right position.



Precision tracing system for manual or completely automatic parts duplicating.

Hydraulic power unit rated at 5 HP/10 gpm for reliable service.

Machine shown with 2J heads.

Note: For display purposes point of operation safeguarding is not shown.

Features

Hydraulic duplicating capacity tied to a big Series II mill. Double the workpiece capacity of a Series I Standard.

Three duplicating systems in one. In the 360/3D Manual Mode, it's a pencil-type tracer. You guide the stylus for peripheral pocket and 3-dimensional profile tracing.

Readjust the control dial and go from manual to automatic tracing for 3-dimensional contour milling.

Switch a lever, and you have a Synchro-Trace automatic die sinking system with X-Y scanning capability. Reproduce molds, dies and cavities with minimum handwork by adjusting the pick feed increment for rough cutting or finishing.

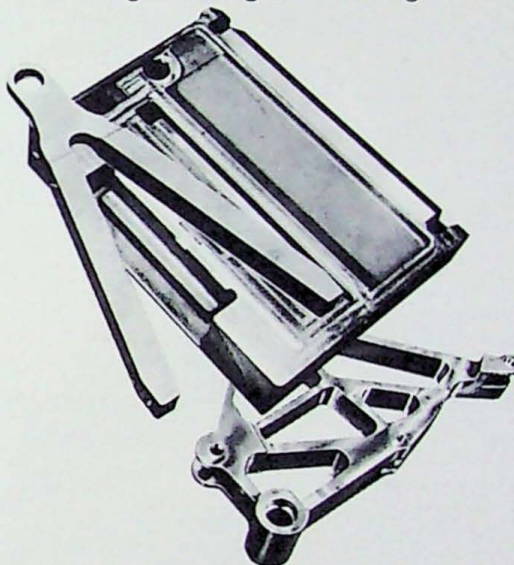
Beefed-up iron to handle big jobs. Massive V-ram construction. Precision dovetail table-to-saddle ways, hand-scraped for absolute flatness. Chrome plated for long life accuracy. Extra wide rectangular knee and column ways and wide saddle to support the table. Ball lead screws and automatic lubrication system are standard.

Bridgeport features include a 1:1 ratio template table and ball screws in X-Y axes to eliminate backlash and ensure smoother operation and better accuracy. Also a wide range of options to choose from.

Single-source responsibility. Nationwide parts and service. Operator training. And more.



Synchro-Trace



3D Manual and 3D Automatic

Specifications

Range		T-slot size	.625 in. (16mm)
Table travel (X-axis)	30 in. (762mm)	T-ram face dimension	11x48 in. (279x1219mm)
Saddle travel (Y-axis)	15 in. (381mm)	Milling Feed Rate	
Knee travel (Z-axis) manual	16 in. (406mm)	3D (mode)	0-40 ipm (0-1016mm)
Knee travel (Z-axis) hydraulic	6 in. (152mm)	3DA (mode)	.5-40 ipm (13-1016mm)
Ram travel	14 5/8 in. (371mm)	Synchro (mode)	.10-15 ipm (2.5-381mm)
Throat distance (min)	6 3/4 in. (171mm)	Installation Data	
Throat distance (max)	20 in. (508mm)	Floor area	8x10 ft. (2.4x3.1m)
Table to spindle nose gage line	4 1/2 in. (114mm) (min)	Height (2J head)	86 in. (2184mm)
Max. weight workpiece	1000 lbs. (454kg)	Net weight (less head)	4850 lbs. (2200kg)
Table		Gross weight (less head)	5600 lbs. (2540kg)
Overall size	11x58 in. (279x1473mm)	Color	Machine tool gray
T-slots—three	2 1/2 in. (64mm) centers		

Note: Dimensions and specifications subject to change without prior notice.

Series I Synchro-Trace®

2 HP Spindle

Table: 9" x 48" (standard)

Travels: X=31", Y=12", Z=14" (manual), Quill=5"

Three head options: 1 or 1½ HP J heads with spindle speeds from 80 to 2720 rpm and 160 to 5440 rpm, or 2 HP 2J heads with spindle speeds from 60 to 4200 rpm. For more productivity, mount multiple heads on the ram.

Precision tracing head scans or traces a template and automatically controls part depth and profile.

Power feed on the X-axis and Y-axis. All controls pendant-mounted for operator convenience.

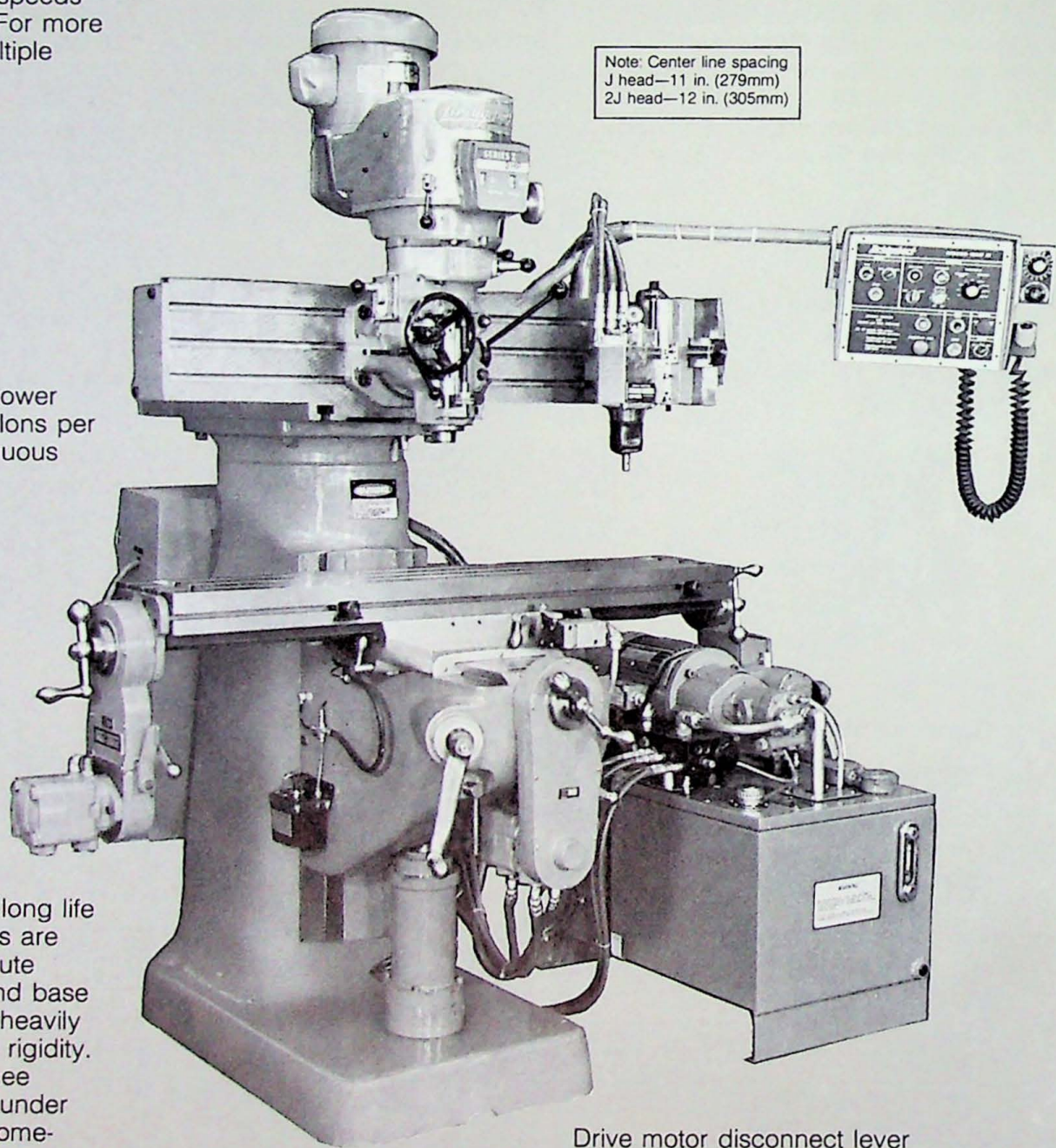
Note: Center line spacing
J head—11 in. (279mm)
2J head—12 in. (305mm)

Bridgeport-built 3 HP power supply is rated at 6 gallons per minute. Provides continuous service.

Sturdy construction for long life accuracy. Dovetail ways are hand-scraped for absolute flatness. The column and base is a one-piece casting, heavily ribbed for strength and rigidity. A big 4½" diameter knee cylinder with 6" stroke under power is standard. Chrome-plated X-Y axis Acme screws.

Drive motor disconnect lever for manual operation.

Note: For display purposes point of operation safeguarding is not shown.



Features

First choice for die sinking and mold making applications. Fast. Accurate. Bridgeport reliable.

Completely automatic. The scanner-type tracer control produces 3-dimensional molds, dies and cavities without any operator support. The machine even shuts itself off when the job is done.

The Synchro-Trace unit is programmed to follow a template and duplicate parts. Automatic pick feed controls longitudinal or cross feed. The hydraulic duplicating system produces 90° walls and maintains feed rates within 10% when contouring. You can even reverse the direction of feed while in the cut to produce cross-hatch surfaces.

X-Y scanning capability. Reproduce molds, dies and cavities with minimum hand-work by adjusting the pick feed increment for rough cutting or finishing.

Versatility for the small shop. Use the machine as an automatic hydraulic duplicating machine or use hand cranks for manual control.

Bridgeport Machines also offers a Series I Synchro-Trace with a heavy-duty 60" table with heavy-duty knee and saddle.

Single-source responsibility. Nationwide parts and service. Bridgeport-built options and accessories.

Specifications

Range		Heavy duty	
Table travel (X-axis) 48 in. table	31 in. (787mm)	T-slots—three	2-1/2 in. (64mm) centers
Heavy duty 60 in. table (X-axis)	24-3/4 in. (629mm)	T-slots size	.625 in. (16mm)
Saddle travel (Y-axis)	12 in. (305mm)	T-ram face dimensions	8-3/4x38 in. (222x965mm)
Knee travel (Z-axis) manual	14 in. (356mm)	Height above floor (max.)	47-1/4 in. (1200mm)
Knee travel (Z-axis) power	6 in. (152mm)	Milling feed rate	1-12 ipm (25-305mm/min)
Ram travel	12 in. (305mm)	Milling feed rate—45° slope	9 ipm (228mm/min)
Throat distance (min.)	5-1/2 in. (140mm)	Installation Data	
Throat distance (max.)	17-1/2 in. (444mm)	Floor area	8x10 ft. (2.4x3.1m)
Table to spindle nose gage line	0 (min.) (2J head)	Height (2J head)	82.5 in. (2095mm)
Max. weight workpiece	750 lbs. (340kg)	Net weight (less heads)	2950 lbs. (1339kg)
Table		Gross weight (less heads)	3480 lbs. (1580kg)
Overall size—standard	9x42 in. (229x1067mm)	Color	
Standard and heavy duty	9x48 in. (229x1219mm)	Machine tool gray	

Note: Dimensions and specifications are subject to change without prior notice.

Series II Synchro-Trace®

2 HP Spindle

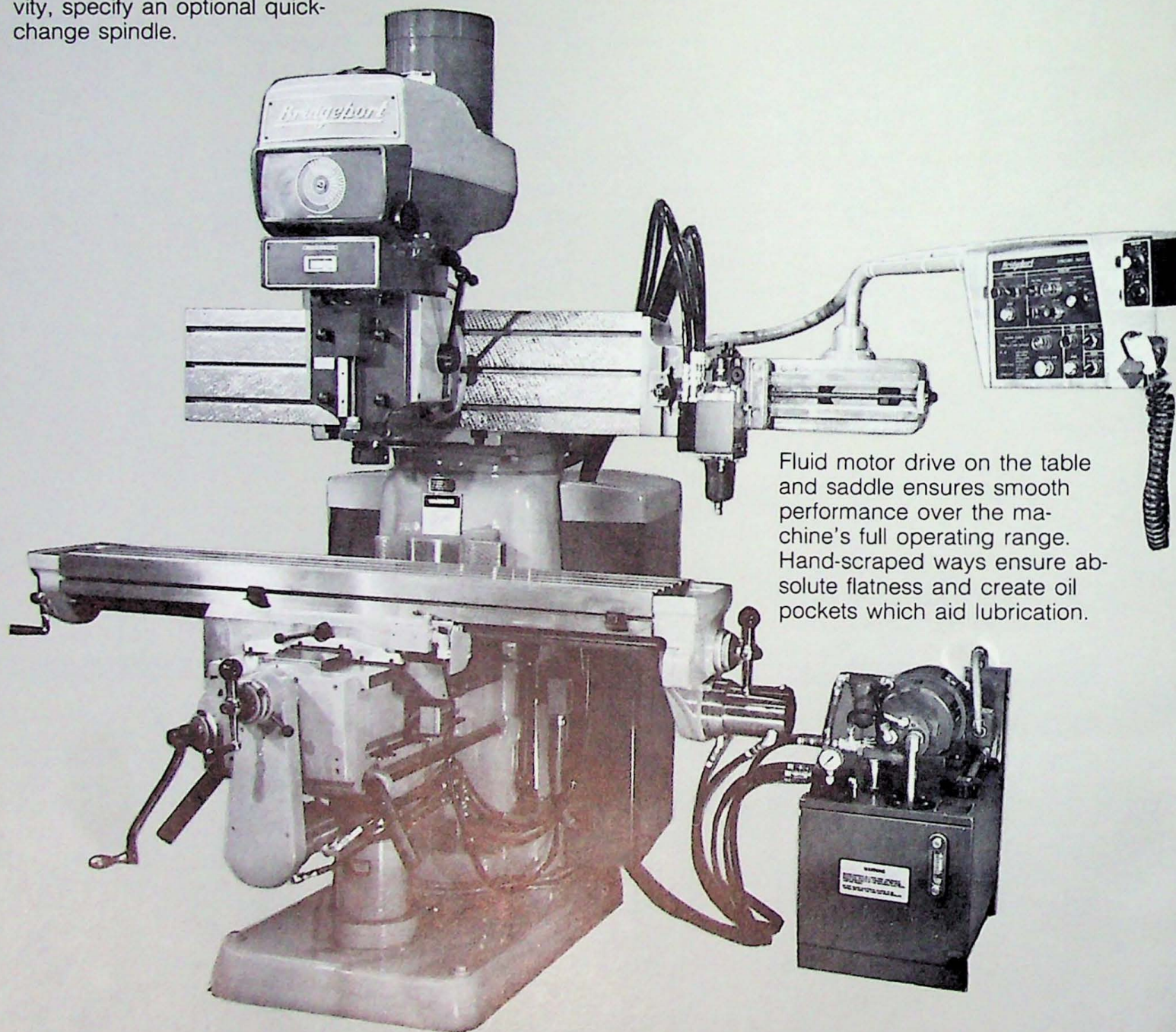
Table: 11" x 58"

Travels: X = 30", Y = 15", Z = 16"

Multiple head arrangements with four different heads to choose from: 1 or 1½ HP J head, 2 HP 2J head and 4 HP 4J head. For added productivity, specify an optional quick-change spindle.

Precision tracing head automatically controls depth or part profile. Automatically synchronizes longitudinal or cross feed travel, too.

All controls pendant-mounted at eye level for operator convenience. Power feed on X- and Y-axes.



Fluid motor drive on the table and saddle ensures smooth performance over the machine's full operating range. Hand-scraped ways ensure absolute flatness and create oil pockets which aid lubrication.

Note: For display purposes point of operation safeguarding is not shown.

Features

A fast, accurate duplicating machine for die sinking and mold making applications. One-piece column and base is reinforced for added rigidity. Lets you handle heavy workpieces. Up to 4 HP at the spindle, lets you remove a lot of metal fast.

Completely automatic scanning in 3 axes. Power feed on the X- and Y-axes. Unique pick-feed mechanism controls amount and speed of pick-feed. All standard.

Optional mist or flood coolant system with 1 or 5 gallon tank capacity. Chrome-plating on back and top of knee, top of saddle, for long life accuracy.

Cross-hatching capability. The Synchro-Trace pick-feed mechanism lets you reverse or change direction in the cut. You can do cross-hatching on both rough and finish cuts.

Duplicate complex molds and dies on a 1:1 scale. Produce 90° walls. Maintain selected feed rates within 10%.

Use your Series II Synchro-Trace as a precision duplicating machine or as a manually-controlled drilling, milling and boring machine.

Nationwide parts and service. Nationwide application engineering support. Single-source responsibility. All Bridgeport traditions.

Specifications

Range		T-slots—three	
Table travel (X-axis) 58" table	30 in. (762mm)	T-slot size	2½ in. (64mm) centers
Saddle travel (Y-axis)	15 in. (381mm)	T-ram face dimensions	.625 in. (16mm)
Knee travel (Z-axis) manual	16 in. (406mm)	Milling feed rate	1-12 ipm (25-305mm/min)
Knee travel (Z-axis) power	6 in. (152mm)	Milling feed rate at 45° slope	9 ipm (228mm/min)
Ram travel	14½ in. (371mm)	Installation Data	
Throat distance (min)	6¾ in. (171mm)	Floor area	9x12 ft. (2.7x3.6 m)
Throat distance (max)	20 in. (508mm)	Height (2J head)	86 in. (2184mm)
Table to spindle nose gage line	4½ in. (114mm) (min)	Net weight (less head)	5280 lbs. (2395kg)
Max. weight workpiece	1000 lbs. (454kg)	Gross weight (less head)	6040 lbs. (2740kg)
Table		Color	
Overall size	11x58 in. (279x1473mm)		Machine tool gray

Note: Dimensions and specifications are subject to change without prior notice.

Series I 3DA

2 HP Spindle

Table: 9" x 60"

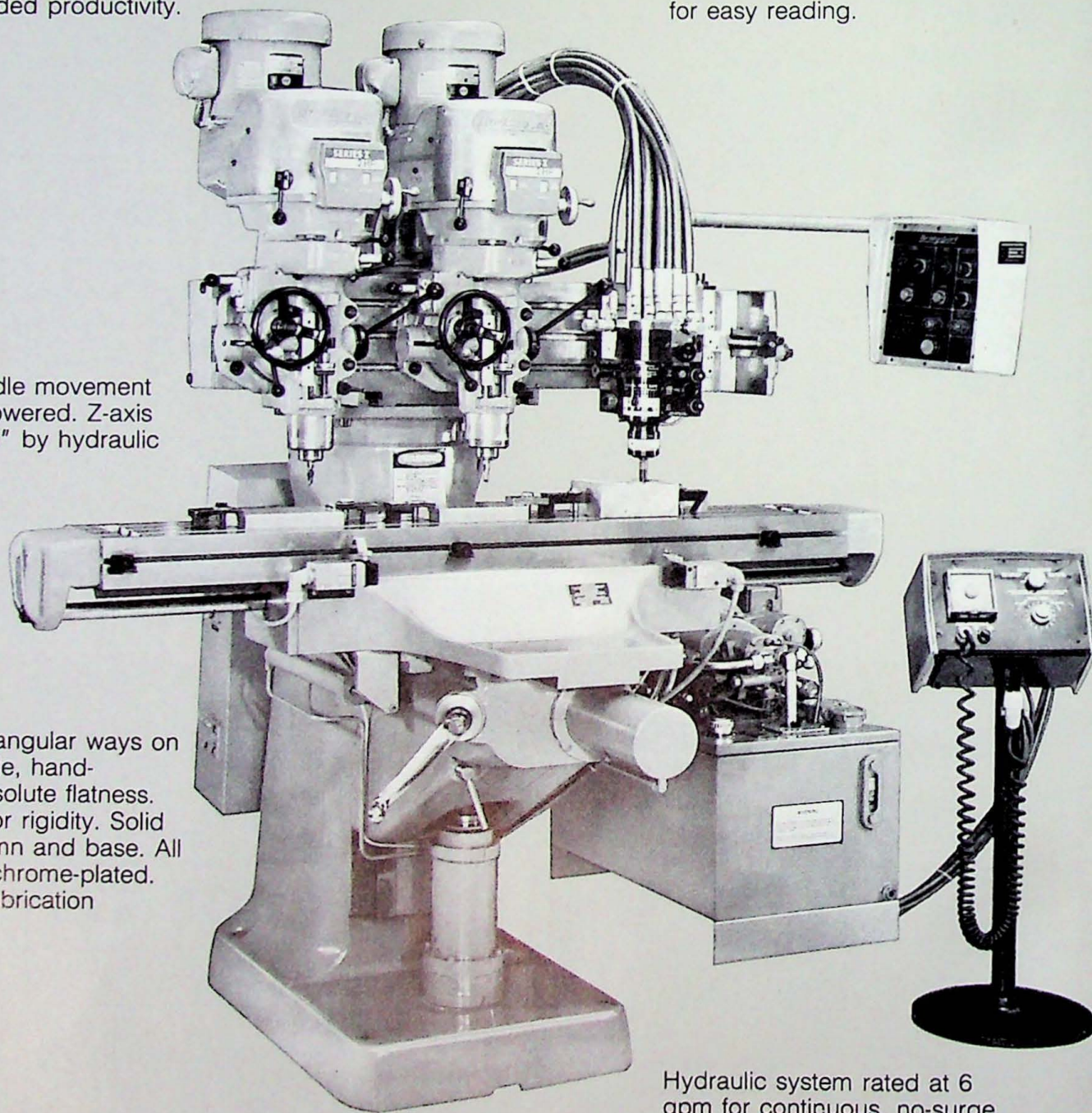
Travels: X = 28", Y = 12", Z = 14", Quill = 5"

Powerful 2 HP 2J head with speeds infinitely variable from 60 to 4200 rpm. Optional J head delivers 1 or 1½ HP. Mount from one to three heads on T-ram. Specify quick-change spindles for added productivity.

Controls conveniently mounted on movable pendant. Control dials are interlocked so the selected mode cannot operate until the proper dial switching is done. Valve control dials coded for easy reading.

Table and saddle movement hydraulically-powered. Z-axis movement to 6" by hydraulic cylinder.

Extra-wide rectangular ways on knee and saddle, hand-scraped for absolute flatness. Tapered gibs for rigidity. Solid one-piece column and base. All wear surfaces chrome-plated. An automatic lubrication system, too.



Hydraulic system rated at 6 gpm for continuous, no-surge response.

Note: For display purposes point of operation safeguarding is not shown.

Features

Manual and automatic hydraulic duplicating capability. Series I Bridgeport milling machine capability. Total productivity.

Unmatched manual tracing flexibility with the 3D duplicating mode. Guide the tracing stylus through 360° on the X- and Y-axes. Full 3-dimensional capability in manual. Finger tip control for profiling.

Operate the 3DA as a manual 3-dimensional tracer, or switch to automatic. In full 3-axes operation, automatic rise and fall profiling at angles to 30° is

done simultaneously with automatic 360° contouring and automatic 360° profiling of ID's and OD's. Add a vertical pick (knee) control for .001" to 1" pushbutton control for ease of operation.

Hydraulic valve mounting bracket adjustable in 3 axes. Dials graduated in thousandths. Pendant-mounted controls for operator convenience.

Rugged Bridgeport T-ram construction. Extra-wide ways on the saddle and knee for strength. Tapered gibs for rigidity. Chrome-plated horizontal ways for wear resistance. Automatic one-shot lubrication system.

One-piece column and base, heavily ribbed for strength and rigidity. Big workpiece capacity, 750 lbs. on Series I version, 1000 lbs. with the Series II.

Options for more flexibility. Round nose tracing stylus sets. Square nose tracing stylus sets. Template extension tables for multiple head set-ups or large workpieces.

Specifications

Range		T-slots—three	
Table travel (X-axis) 60 in. table	28 in. (711mm)	T-slot size	2-1/2 in. (64mm) centers
Saddle travel (Y-axis)	12 in. (305mm)	Height above floor	.625 in. (16mm)
Knee travel (Z-axis) manual	14 in. (356mm)	T-ram face dimension	49-1/2 in. (1257mm) max.
Knee travel (Z-axis) hydraulic	6 in. (152mm)	Milling feed rate	8 3/4 x 38 in. (222 x 965mm)
Ram travel	12 in. (305mm)	Installation Data	
Throat distance (min.)	5-1/2 in. (140mm)	Floor area	1-40 ipm (25-1016mm)
Throat distance (max.)	17-1/2 in. (444mm)	Height	8x10 ft. (2.4x3.1m)
Table to spindle nose gage line	1/2 in. (12mm) (min.)	Net weight (less head)	83 in. (2108mm)
Max. weight workpiece	750 lbs. (340kg)	Gross weight (less head)	2700 lbs. (1226kg)
Table—overall size	9x60 in. (229x1524mm)	Color	3250 lbs. (1474kg)
			Machine tool gray

Note: Dimensions and specifications subject to change without prior notice.

Series II 3DA

4 HP Spindle

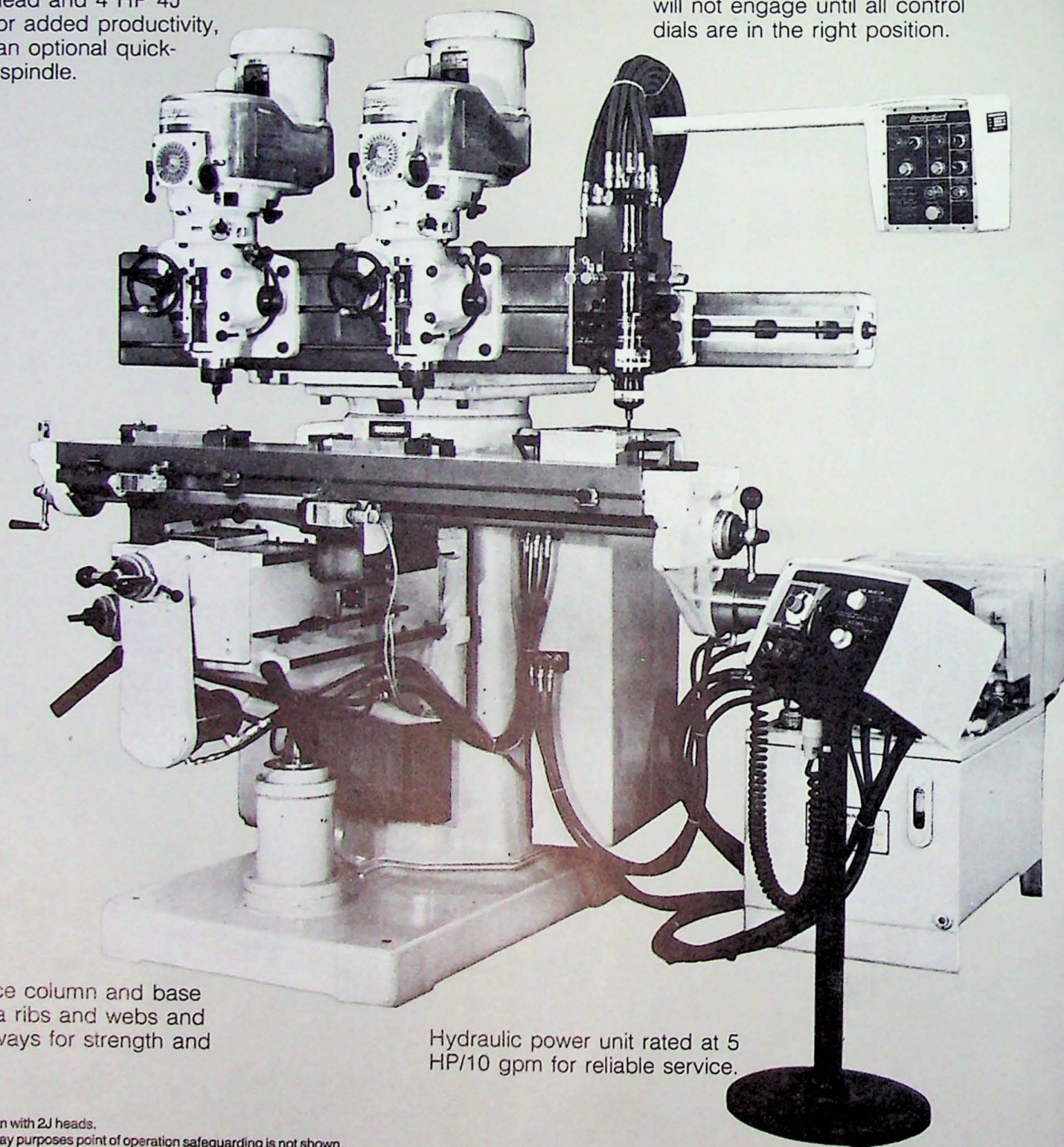
Table: 11" x 58"

Travels: X = 30", Y = 15", Z = 16", Quill = 5"

Multiple head arrangements with four heads to choose from: 1 or 1½ HP J head, 2 HP 2J head and 4 HP 4J head. For added productivity, specify an optional quick-change spindle.

Precision tracing system for manual or completely automatic parts duplicating.

Coded valve controls and safety interlock system ensures the duplicating mode selected will not engage until all control dials are in the right position.



One-piece column and base has extra ribs and webs and square ways for strength and rigidity.

Hydraulic power unit rated at 5 HP/10 gpm for reliable service.

Machine shown with 2J heads.

Note: For display purposes point of operation safeguarding is not shown.

Features

Hydraulic duplicating capacity tied to a big Series II mill. Double the workpiece capacity of a Series I Standard.

Three duplicating systems in one. In the 360/3D Manual Mode, 3DA works like a pencil tracer. You guide the stylus by hand to perform peripheral, pocket and three dimensional profile milling.

In the 360/3DA Automatic Mode, 3DA is a completely automatic tracer for part duplication.

Beefed-up iron to handle big jobs. Massive T-ram construction. Precision dovetail table-to-saddle ways, hand-scraped for absolute flatness. Chrome-plated for long life accuracy. Extra wide rectangular knee and column ways and wide saddle to support the table. Ball lead screws and automatic lubrication system are standard.

Bridgeport features include X-Y axes ball screws to eliminate backlash and ensure smooth operation and accurate performance. There also are a full range of options and accessories to make your machine more productive.

Single-source responsibility. Nationwide parts and service. Operator training.

Specifications

Range		T-slots—three	
Table travel (X-axis)	30 in. (762mm)	T-slot size	2½ in. (64mm) centers .625 in. (16mm)
Saddle travel (Y-axis)	15 in. (381mm)	T-ram face dimension	11x48 in. (279x1219mm)
Knee travel (Z-axis) manual	16 in. (406mm)	Milling feed rate(3D) (min)	0-40 ipm (20-1016mm)
Knee travel (Z-axis) hydraulic	6 in. (152mm)	Milling feed rate (3DA) (min.)	.5-40 ipm (13-1016mm)
Ram travel	14½ in. (371mm)	Installation Data	
Throat distance (min)	6¾ in. (171mm)	Floor area	8x10 ft. (2.4x3.1 m)
Throat distance (max)	20 in. (508mm)	Height (2J head)	86 in. (2184mm)
Table to spindle nose gage line	4½ in. (114mm) (min)	Net weight (less head)	4850 lbs. (2200kg)
Max. weight workpiece	1000 lbs. (454kg)	Gross weight (less head)	5600 lbs. (2540kg)
Table		Color	
Overall size	11x58 in. (279x1473mm)		Machine tool gray

Note: Dimensions and specifications subject to change without prior notice.

1S Horizontal Mill

4 HP Spindle

Table: 9" x 42"

Travels: X = 23-5/8", Y = 8 1/4", Z = 15 3/4"

Sturdy spindle design lets you take heavy cuts with minimum deflection— up to 4 1/2 cu. in. per minute in mild steel with a roll or face mill.

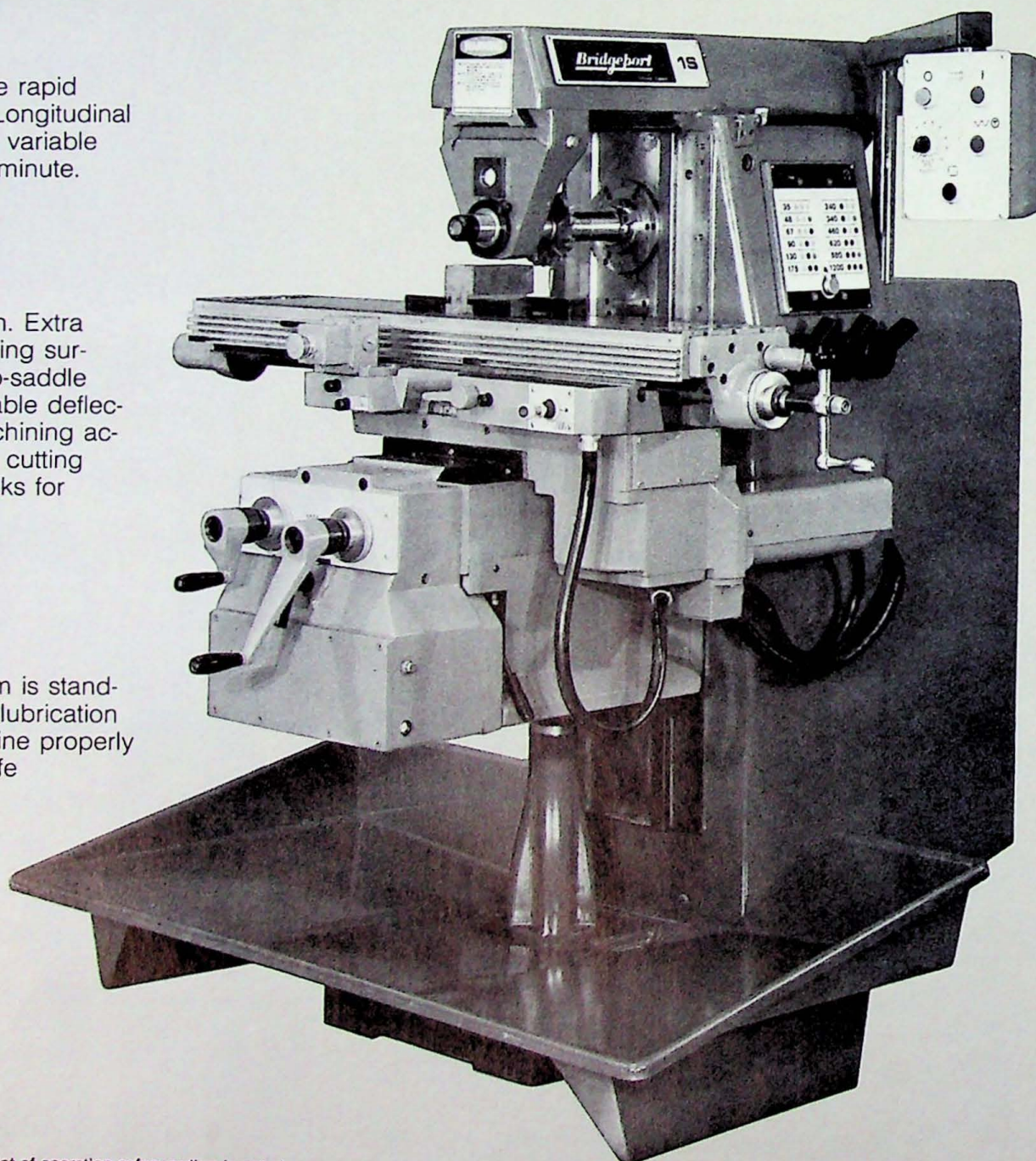
Fast, 98" per minute rapid traverse on X-axis. Longitudinal power feed infinitely variable from 1" to 20" per minute.

Rugged construction. Extra wide ways. Six bearing surfaces on the knee-to-saddle slideway minimize table deflection and assure machining accuracy under heavy cutting conditions. Knee locks for positive clamping.

Flood coolant system is standard. Manual central lubrication system keeps machine properly lubricated for long life accuracy.

Powerful 4 HP spindle motor delivers 12 spindle speeds from 35 to 1200 rpm. Powerful brakes on the spindle and feed mechanism stop the machine fast.

Pendant-mounted controls always in easy reach of the operator. Simplifies machine setup and operation.



Note: For display purposes point of operation safeguarding is not shown.

Features

First choice for toolroom and maintenance applications for 65 years. Versatile enough to handle single parts and small batch production. Easy to operate. The ideal machine for vocational training.

Computer-designed for top performance. Take smooth, accurate cuts through mild steel at 4½ cu. in. per minute. Modular construction.

All axis clamping devices are lever operated. Single and 3-axis power feed models available.

Big 42" x 9" universal table swivels 45° either side of center. Lets you mill complex spirals and worms when used with a direct drive dividing head. Automatic, self-relieving backlash eliminator on the X-axis stabilizes lead screw and makes climb milling easy.

Totally enclosed spindle drive, mounted within the column, keeps chips and coolants away from precision components. Fewer maintenance problems.

Beefed-up iron to handle large, heavy workpieces. Sturdy enough to take heavy cuts in tough materials at high metal removal rates.

Machining flexibility with standard and form cutting tools. Automatic table cycle arrangement provides rapid approach, cut feed, spindle stop and rapid return in either direction of longitudinal travel. Feed rate selection is through a potentiometer on the control panel. You get full use of spindle horsepower and electrical overload protection.

Specifications

Range		Speed Range	
Table travel (X-axis)	23½ in. (600mm)	12 speeds	35-1200 rpm
Saddle travel (Y-axis)	8¼ in. (210mm)	Milling Capacity — mild steel 4.5 cu. in./min.(75cc/min)	
Knee travel (Z-axis)	15¾ in. (400mm)	Milling	
Max. weight of workpiece	N.A.	Feed rate (X-axis)	1-20 ipm(25-500mm/min)
Table		Space and Weight	
Overall size	9x42 in. (229x1067mm)	Floor area	5x5.5 ft. (1.5x1.6m)
T-slots—three	2.5 in. (63mm) centers	Height	62½ in. (1592mm)
T-slot size	¾ in. (14mm)	Net weight	N.A.
Height above floor (max.)	45.5 in. (1157mm)	Shipping weight	N.A.
Spindle		Electrical Supply*	
Power rating	4 hp (3kW)	208/230/460, 3-phase, 60 Hz	
Taper—international standard	No. 40	Color	Machine tool gray

*Consult factory on electrical specifications. Note: Dimensions and specifications subject to change without prior notice. N.A. Not available.

2S Vari-Feed Horizontal Mill

7½ HP Spindle

Table: 11¾" x 54"

Travels: X = 29½", Y = 12½", Z = 16½"

Continuous duty 7½ HP spindle motor with 18 speeds from 30 to 1500 rpm. Sturdy spindle lets you cut fast and accurately. Up to 7¼ cu. in. per minute in mild steel.

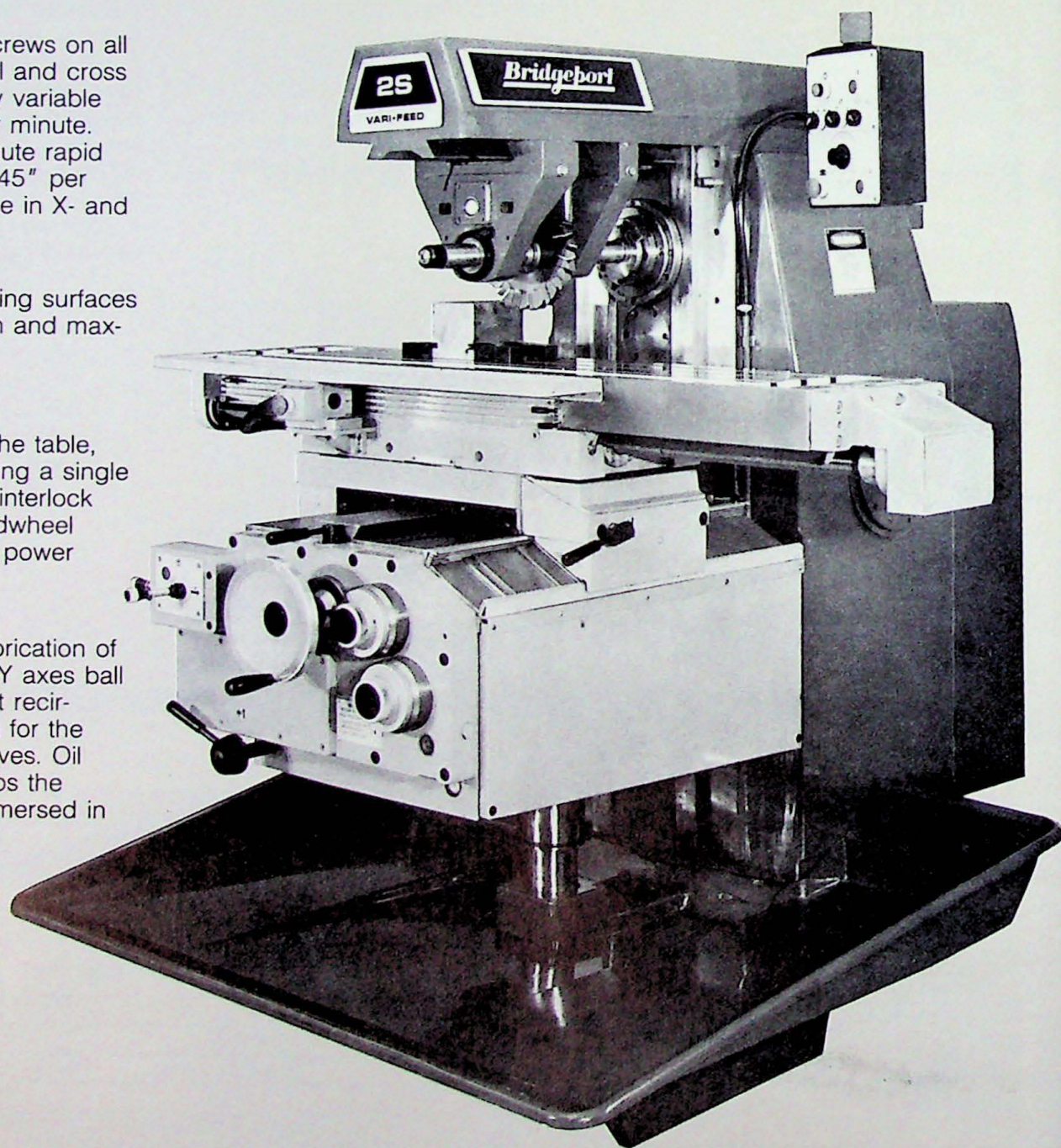
Recirculating ball screws on all 3 axes. Longitudinal and cross feed travels infinitely variable from ½" to 30" per minute. Fast, 72½" per minute rapid traverse in Z-axis. 145" per minute rapid traverse in X- and Y-axis.

Ways have six bearing surfaces for smooth operation and maximum rigidity.

Easy movement of the table, saddle and knee using a single handwheel. Unique interlock system to keep handwheel from rotating during power movements.

Built-in automatic lubrication of all ways and X-and-Y axes ball screws. Independent recirculating lube system for the feed and spindle drives. Oil bath lubrication keeps the Z-axis ball screw immersed in oil.

Pendant-mounted controls always in easy reach of the operator. Simplifies machine setup and operation.



Note: For display purposes point of operation safeguarding is not shown.

Features

Heavy cuts. Better surface finishes. Longer tool life. Features that make the 2S Vari-Feed a worldwide favorite for tool, die and mold applications.

Feed rate selection through a potentiometer on the pendant-mounted control. Gives you full use of spindle horsepower and electrical overload protection.

Beefed-up iron and modular construction of major assemblies keep maintenance costs down, minimize downtime.

Single handwheel provides easy movement of table, saddle and knee.

Six bearing surfaces on the table slideway provide high accuracy and metal removal capability.

Precision ball screws in all three axes provide sensitivity and operator ease. Automatic one-shot lubrication with low-level protection is standard.

Regenerative braking on feed drive. Electrical interlock between spindle and power feed locks. Electrical and mechanical interlocks between power feed and handwheel control.

Single-source responsibility. Worldwide parts and service. Application engineering support from your Bridgeport representative.

Specifications

Range		Speed Range	
Table travel (X-axis)	29-1/2 in. (750mm)	18 speeds	30-1500 rpm
Saddle travel (Y-axis)	12-1/2 in. (318mm)	Milling Capacity —mild steel	7.25 cu in./min (120 cu cm)
Knee travel (Z-axis)	16-1/4 in. (413mm)	Milling	
Table		Feed rate (X-axis)	1/2-30 ipm (12-762mm/min)
Overall size	11 3/4 x 54 in. (298 x 1372mm)	Space and Weight	
T-slots—three	3 in. (76mm) centers	Floor area	6.75 x 5 ft. (2.1 x 1.5m)
T-slot size	11/16 in. (17.5mm)	Height	66.5 in. (1700mm)
		Net weight	5520 lbs. (2504kg)
Spindle		Shipping weight	N.A.
Power rating	7 hp (5.6kW)	Electrical Supply*	208/230, 460/360, 3 phase, 60 Hz
Taper—international standard	No. 50	Color	Machine tool gray

*Consult factory on electrical specifications. Note: Dimensions and specifications subject to change without prior notice. N.A. Not available.

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world's finest CNC machines, CNC
controls, off-line programming
systems and surface grinders.**

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