



NUMBER

14

PRECISION
DRILLING MACHINES

PEDESTAL and
BENCH MODELS

SINGLE and
MULTIPLE SPINDLES



NO. 2726G



No. 14 High Speed Sensitive Drill

These high precision machines are designed for extremely accurate work in the smaller range of drill sizes. Available in three speed ranges, they handle drills up to $\frac{1}{2}$ ". The high speed range has a capacity of $\frac{3}{8}$ ". Spindles and spindle sleeves are made from alloy steel. Machine frame and sliding head are of close-grained gray iron. Flat sliding surfaces are hand scraped to a very accurate finish. Bored holes are precise to provide extremely close alignment and accurate tolerances for ball bearing fits. All parts are inspected both before and after assembly to assure accuracy and complete interchangeability.

MODELS – Bench or pedestal type in single or multiple spindle units. Standardized head mounting dimensions provide interchangeability. Minimum distance between spindles. . . approximately $9\frac{1}{2}$ ".

DRIVE – Correctly designed and tested V-belt drive assures constant spindle speed without slippage or excessive loading of bearings. Standard constant speed motor and control drives the spindle at five speeds in any selected range. The belt can be shifted from step to step without being loosened. Motor bracket is adjusted by knobs just above sliding head. All routine changes in set-up can be made from normal working position. Spindle pulley is mounted on a broached sleeve accurately aligned by two full-sealed precision ball bearings. Belt pull is not transmitted to spindle to provide free accurate movement of spindle without unnecessary vibration.

SPINDLE – Alloy steel six-splined spindle runs in selected ball bearings. Overhang from chuck nose to bearing is unusually short ($2\frac{1}{2}$ ") minimizing vibration. Two full-sealed ball bearings, life-lubricated, are mounted opposed under constant load by spring tension to prevent lost motion (one of the principal causes of drill breakage).

FEED – Sensitive hand feed is assured by precise fitting and high ratio pinion which reduces hand pressure. Feed handle is adjustable to any position through quickly adjustable serrated mating surfaces. Teeth of alloy steel feed pinion are accurately cut to eliminate backlash.

LUBRICATION – The only lubrication required is for the sliding bearing of the spindle in the spindle pulley sleeve and the spindle sleeve proper.

DEPTH STOP – Rotary type, graduated in $\frac{1}{16}$ ", mounted on left side of sliding head is direct connected to the feed pinion. It is easily adjusted and extremely accurate.

SLIDING HEAD – Mounted in a dove-tailed slide and locked in by an Acme thread clamp. Dove-tailed ways are hand scraped for extreme accuracy and high finish assuring accuracy for extended service. Spindle sleeve is precision machined to provide accurate alignment.

FRAME – Heavy, rigid cast-iron frame dampens vibration while maintaining perfect alignment. Sliding head is counterbalanced by a weight inside the column and is clamped to the frame by a quick opening binding lever.

SAFETY GUARDS – A telescopic guard is fitted between the sliding head and frame. The spindle pulley is guarded through the front 180° (this constitutes legal protection in most states). A complete belt enclosure is available at slight extra cost.

PEDESTALS AND TABLES – 1 to 8 spindle units are available in both bench and pedestal types. Tables have a wide coolant trough to collect oil and chips. Tables are heavily ribbed and are dovetailed to the pedestals with an adjustable gib to compensate for wear. Raising mechanism is full ball bearing. Raising gears are machine-cut steel. 4 and 6 spindle pedestal units are equipped with jacks at each end of the table for added support. Pedestals on multiple units are of cast iron construction; base contains a built-in coolant reservoir.

COOLANT SYSTEM – The coolant system is furnished complete with motor, switch, piping and valves mounted and wired to the machine. It is mounted on the outside of single spindle units and inside pedestals. Bench types have a self-contained unit mounted under the bench. The pump is centrifugal type constantly primed.

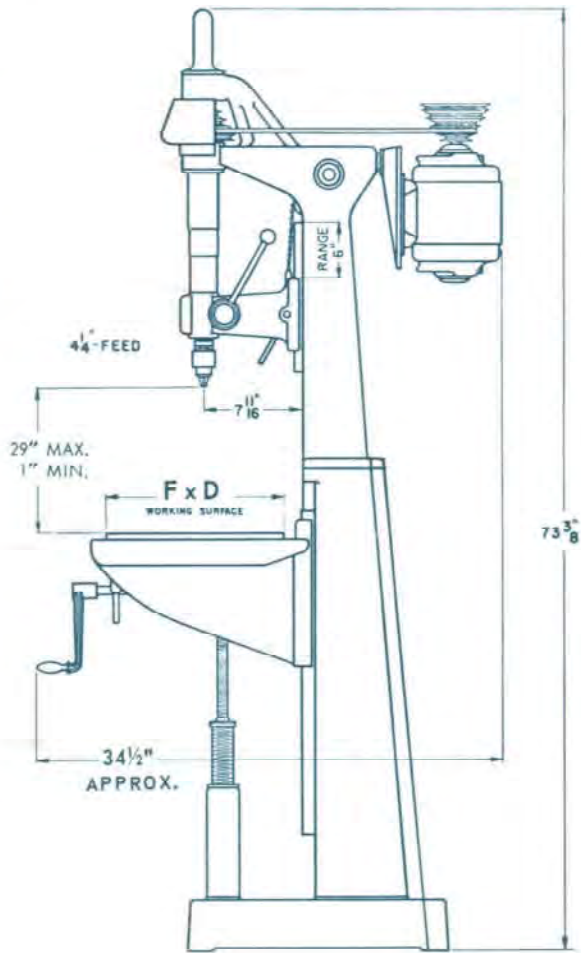
TAPPING – Standard attachments with No. 1 Morse Taper shank are available. A special attachment, with female taper to fit nose of chuck type spindle, can be provided. Taps up to $\frac{1}{4}$ " cast iron and brass.

ELECTRICAL EQUIPMENT – Standard open type ball bearing motors are recommended (normally $\frac{1}{2}$ h.p.). 1800 RPM motor will give five speeds from 900 to 4800 RPM. 1200 RPM motor gives speeds from 600 to 3600 RPM and a 3400 RPM motor from 1800 to 9600 RPM.

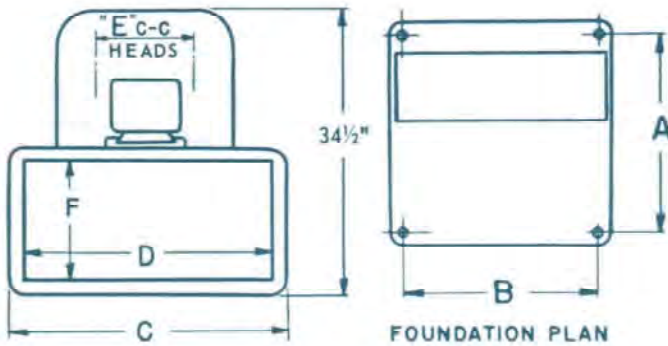
25 or 50 cycle motors give proportionate speeds. A small manual switch with overload protection is recommended for standard installations. Equipment can also be supplied to plant or governmental specifications.

DIMENSIONS & WEIGHTS

PEDESTAL TYPE



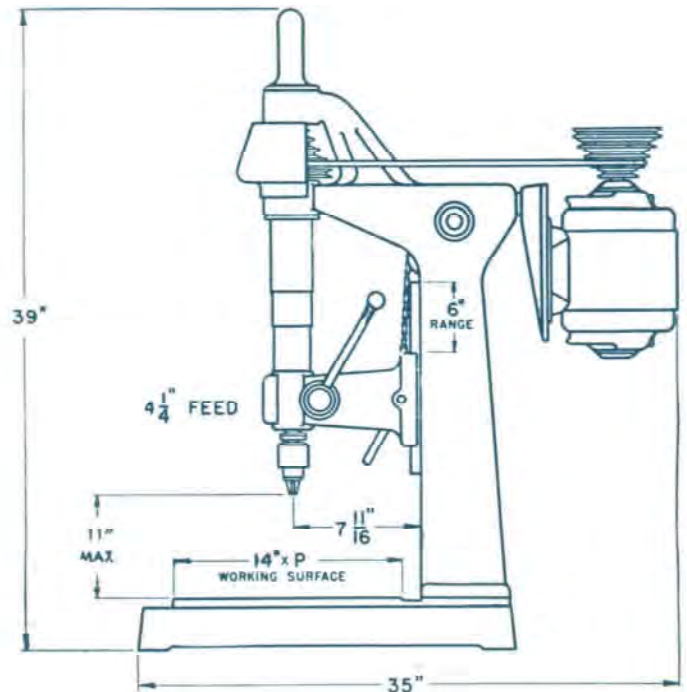
MULTIPLE SPINDLES E-CENTER TO CENTER



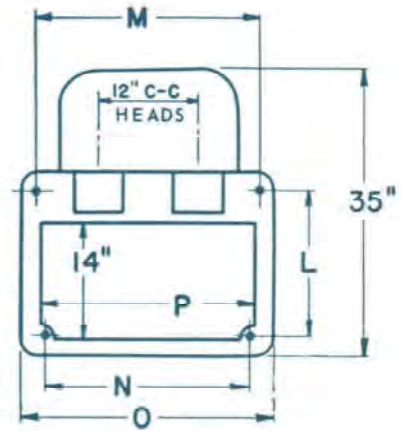
FOUNDATION PLAN

SPINDLES	A	B	C	D	NET WGT.	F	E
1	19	19 ³ / ₄	21 ³ / ₄	18	515	14	-
2	19	19 ³ / ₄	33 ³ / ₄	30	800	14	10
3	19	29 ³ / ₄	45 ³ / ₄	42	1280	14	10
4	19	39 ³ / ₄	57 ³ / ₄	54	1350	14	10
6	19	60	71 ¹ / ₄	65 ¹ / ₄	2050	14	10
8	19	106	120	114	2750	17	13 ³ / ₄

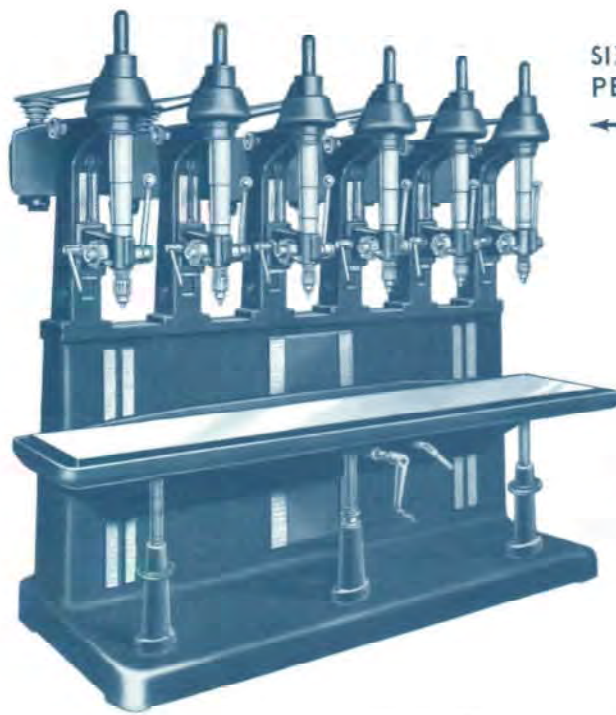
BENCH TYPE



MULTIPLE SPINDLES CENTER TO CENTER 12"



SPINDLES	L	M	N	O	P	NET WGT.
1	18 ⁵ / ₈	15	13	18 ¹ / ₄	14	264
2	18 ¹ / ₂	27	25 ¹ / ₈	30 ³ / ₈	26	566
3	18 ⁷ / ₁₆	39 ³ / ₄	37 ³ / ₈	42 ¹ / ₄	38	819
4	18 ⁵ / ₁₆	51 ³ / ₄	49 ⁵ / ₈	54 ¹ / ₂	50	1102
6	18 ⁵ / ₁₆	75 ³ / ₄	73 ⁵ / ₈	78 ¹ / ₂	74 ¹ / ₂	1660
8	18 ⁷ / ₁₆	92 ⁷ / ₈	91 ¹ / ₈	96 ¹ / ₂	92 ¹ / ₈	2100

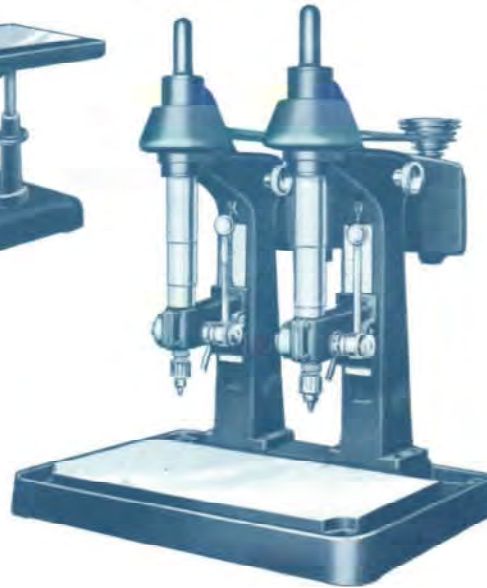


SIX SPINDLE
PEDESTAL TYPE

TWO SPINDLE
PEDESTAL TYPE



TWO SPINDLE
BENCH TYPE



SPECIFICATIONS

and

CAPACITIES

Machines furnished with 3400 R.P.M. motor will be equipped with $\frac{3}{8}$ " chuck only.

Capacity—center spindle to column.....	7"
Distance—chuck nose to table—bench.....	1" to 11"
Distance—No. 1 Morse Taper Nose to table—bench.....	1" to 11"
Distance—No. 2 Morse Taper Nose to table—bench.....	0" to 10½"
Distance—chuck nose to table—pedestal.....	1" to 29½"
Distance—No. 1 Morse Taper Nose to table—pedestal.....	1" to 29½"
Distance—No. 2 Morse Taper Nose to table—pedestal.....	1" to 29"
Range adjustment of head.....	6"
Range adjustment of table.....	16"
Travel of spindle feed.....	4¼"
Motor Speed—1200 R.P.M. Spindle Speeds	600-900-1350-2100-3600
Motor Speed—1800 R.P.M. Spindle Speeds	900-1350-2000-3100-4800
Motor Speed—3400 R.P.M. Spindle Speeds	1800-3700-4400-6200-9600
Motor horsepower.....	½ or ¾
Spindle—least diameter.....	.623"
Spindle Sleeve.....	1.750"
Spindle Nose.....	Jacobs No. 2 taper and chuck, or Morse taper, No. 1 or 2

BUFFALO FORGE COMPANY

MACHINE TOOL DIVISION / BUFFALO 5, NEW YORK

CANADIAN BLOWER & FORGE CO., LTD. / KITCHENER, ONTARIO

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