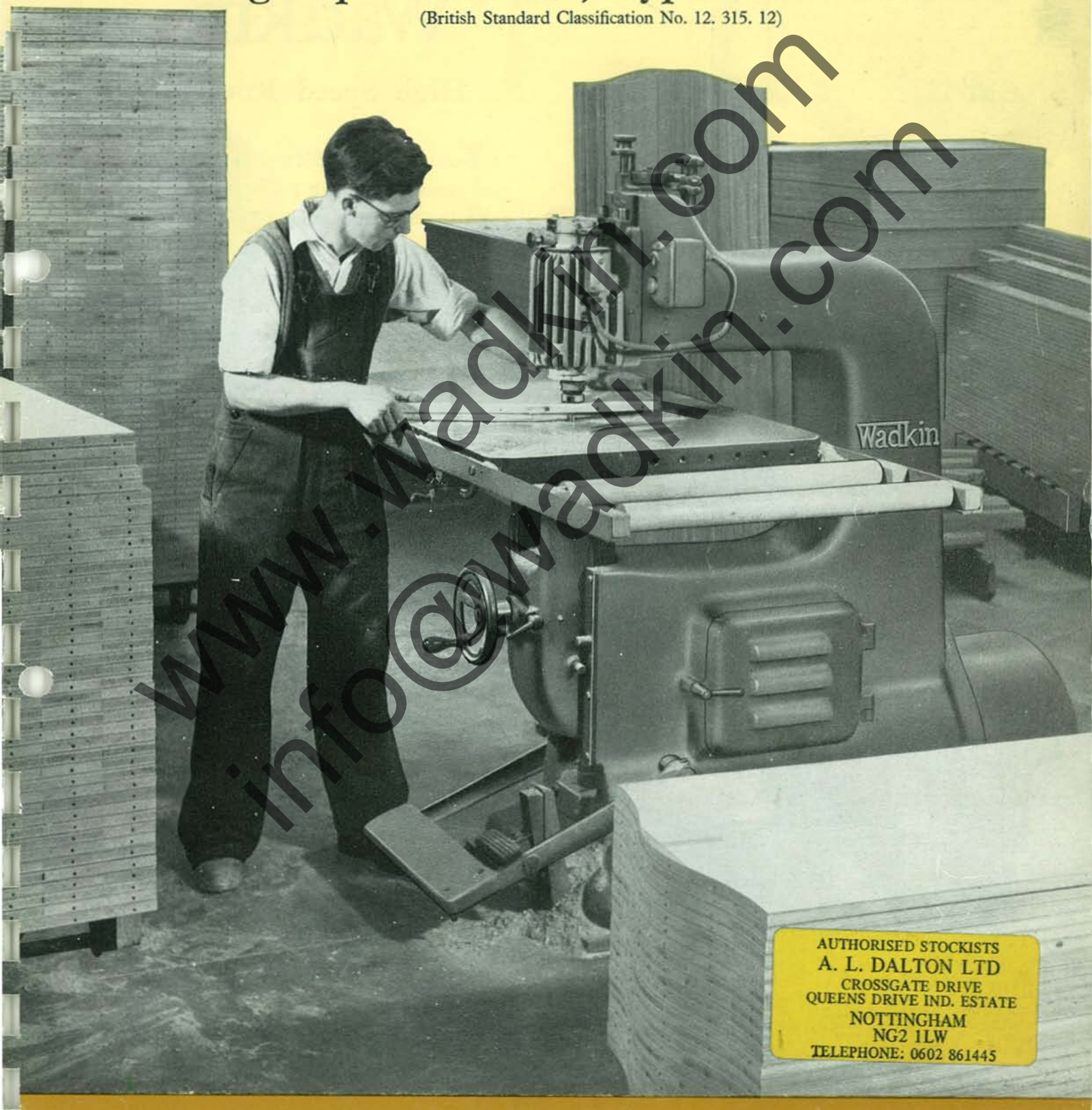
Leaflet No. 669/6

Wadkin

High Speed Routers, Types L.S. and U.R.

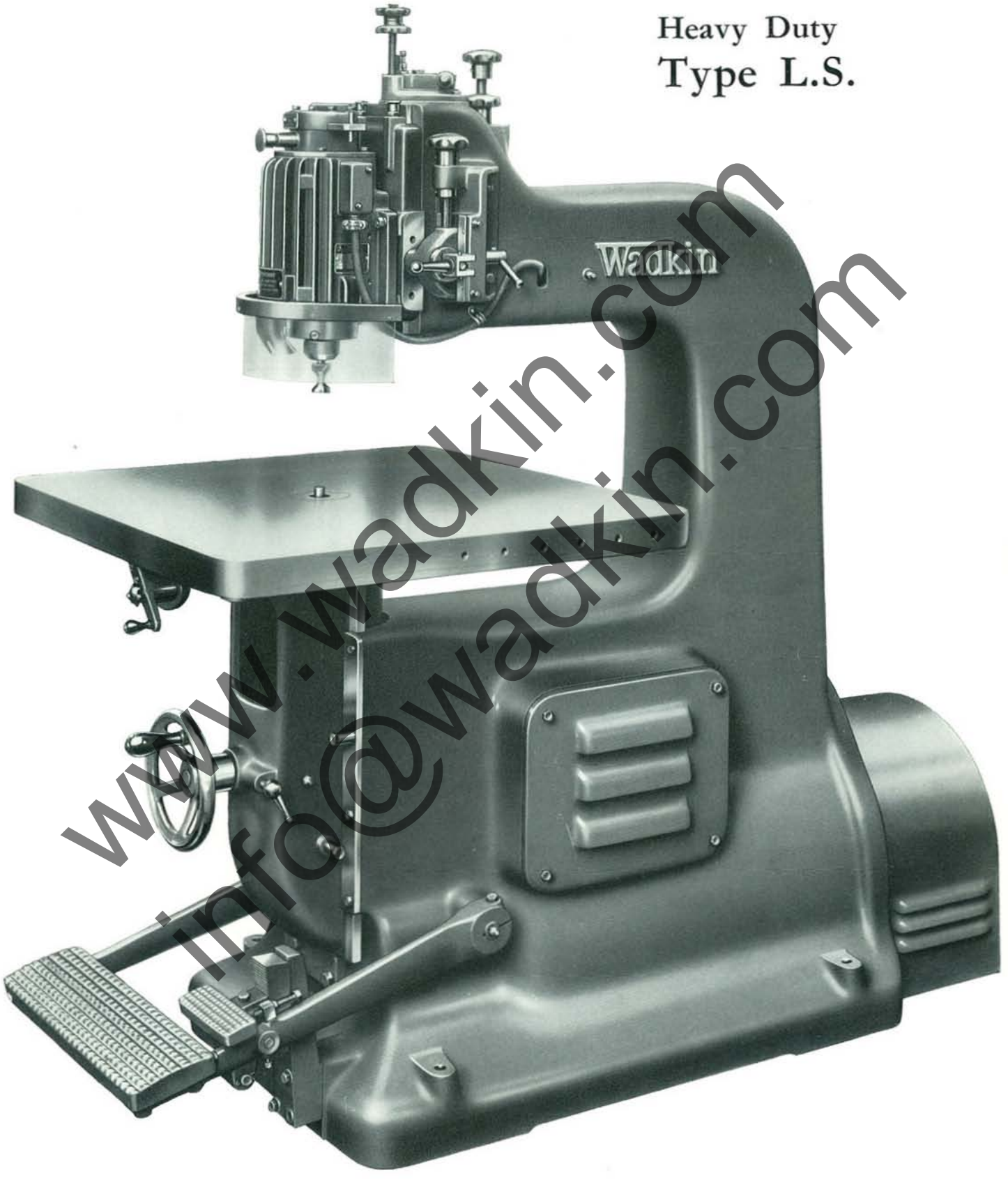
(British Standard Classification No. 12. 315. 12)



Features of the L.S. Type

- Robust precision construction throughout.
- Built-in motor, comprising A.E.I. rotor and stator units, providing up to $8\frac{1}{2}$ h.p. at speeds of 18,000 and 24,000 r.p.m.
- Ample power at cutting point for heavy cutting and fast production.
- Patented system of oil mist lubrication ensuring long bearing life.
- Multiple depth stops each quickly selected or adjusted.
- Brake for quick stopping of spindle.
- Quick and positive spindle lock for easy cutter changing.
- Ratchet mechanism on treadle holds head at any position.
- Frequency changer housed inside main frame away from dust and chips.
- Fine screw vertical adjustment of head for accurate setting.
- Head raises and lowers 4" by treadle operation.
- Table raises and lowers 5" by handwheel and screw.
- Quick hand lever control for vertical movement of table pin.
- Massive main frame to ensure vibrationless support for the head.
- Precision ground table with tapped holes for fences.

Heavy Duty
Type L.S.



Specification

The Main Frame
The main frame is cast in one piece, with the weight properly distributed to provide a substantial and rigid foundation for the high speed head.

The Table
The table is heavily ribbed to prevent distortion. It is carried on broad machined slides and is raised and lowered by handwheel and screw. The surface of the table is ground and polished. This is a big advantage as the mirror-like surface allows the jig to be worked round the pin with less effort on the part of the operator. A centre plate is let into the table to allow the cutter to sink below the table for moulding.

The Former Pin
The former pin is of the double-ended, reversible type. It is infinitely variable up to a given maximum to allow of different sinkings with superimposed templates or formers, using a parallel pin. Alternatively a two-diameter pin can be used for cutting two different recesses of the same contour, also sinking and under-cutting. As a second alternative a taper pin can be used to compensate for cutter wear, and to maintain precision limits of accuracy on the finished parts. The former pin is mounted in a powerful split grip. The locking handle of the grip is brought out to the front of the table for easy operation. A hand-lever immediately under the front of the table adjusts the pin instantly to the required height, also causes it to disappear below the table surface.

Heavy cast iron main frame ensures a vibration-free machine.

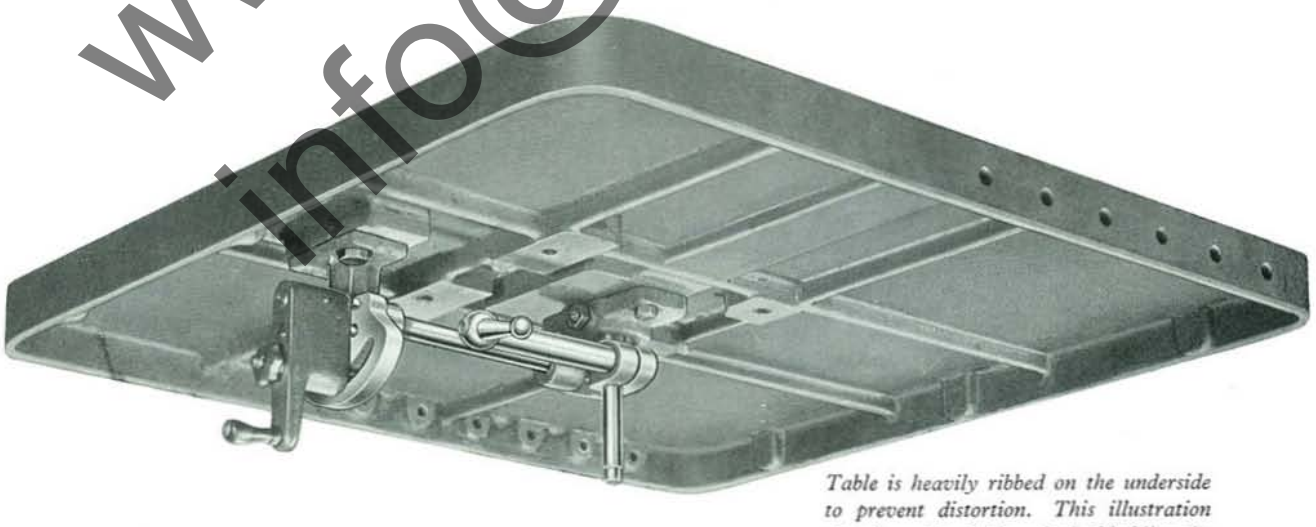


Table is heavily ribbed on the underside to prevent distortion. This illustration also shows the rigid method of holding the former pin.

Specification *(Contd.)*

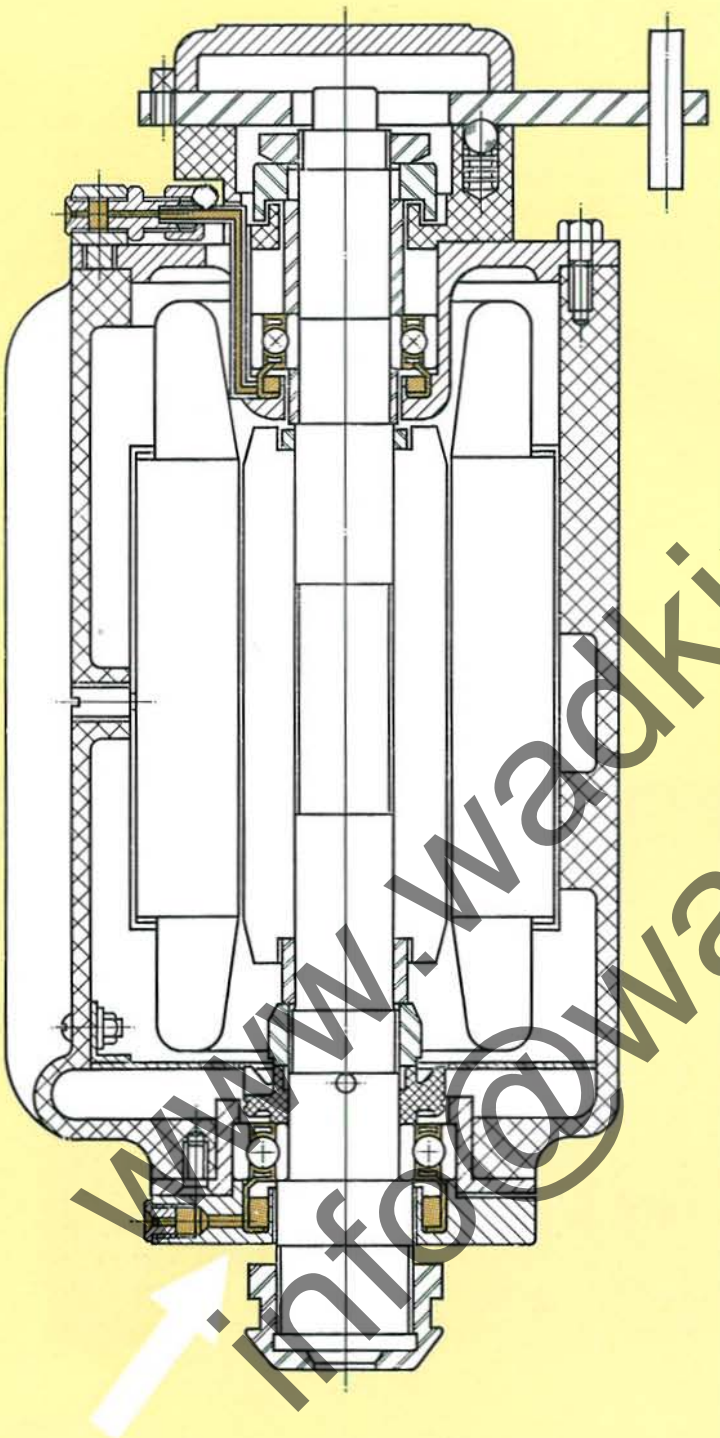
Fences

The tables of all machines are prepared to receive straight fences as illustrated here, which will be found very useful for such work as straight moulding.

A table with compound movements can be fitted in place of the standard table, to special order.

Compound Table

The Wadkin Router can be supplied with a compound table as illustrated above. In this form the machine comprises the functions of both Router and Recessing Machine, and all kinds of geometrical panelling, recessing, etc., done without the use of formers. Large hand-wheels control the rise and fall, also traverse and cross motions and all movements including the rotating movement are under the control of easily adjustable stops. The table has a series of tapped holes in its surface for convenience in clamping the work and fence. When desired we can supply a horse-shoe type adjustable fence for straight work.



The oil mist system of bearing lubrication as developed and patented by Wadkin is the most important factor in the success of the Wadkin Router.

Specification *(Contd.)*

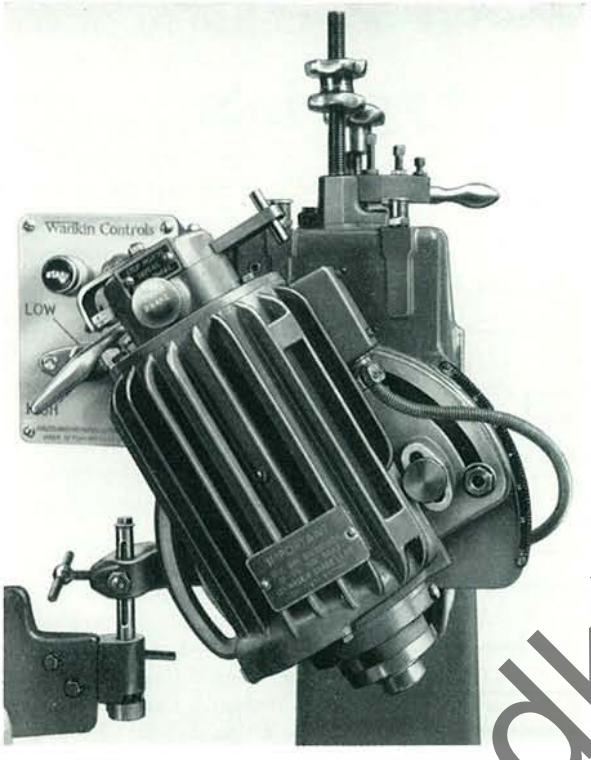
The Head

The head of the Wadkin Router is of simple and robust design. It has the motor built directly on a micrometer ground nickel chrome steel spindle which runs on precision high speed ball bearings.

The bearings are lubricated by a patented oil mist system (Pat. No. 697784) as illustrated. Both bearings revolve over an oil impregnated felt disc carried in a well beneath the bearings, and sufficient oil is drawn up into the bearings, in the form of a mist, to ensure perfect lubrication. This system of lubrication has proved a most efficient and most dependable method for high speed bearings. Experience has proved that excessive lubrication is just as detrimental to bearing performance as insufficient lubricant. The Wadkin oil mist system makes it impossible to overlubricate. It also prevents harmful dust or grit being injected via an oil or grease gun directly into the bearings.

A light yet rigid up and down movement is provided to the head. The head slides on a film of oil on wide vee slide ways and is brought down and locked by foot treadle. A touch on an auxiliary toe pedal disengages a ratchet holding the head, which is counterbalanced so that it rises out of the work automatically. The downward movement of the head is controlled by a range of adjustable depth stops selected by hand lever. In addition a fine screw adjustment is provided on the head to give depth cutting to precision limits of accuracy.

A blower is incorporated in the head, to dislodge chips from the face of the work. The brake provided is a valuable refinement, enabling the cutter to be stopped instantly for cutter changing. A simple yet powerful lock is fitted to facilitate cutter changing.



Canting Head
Most Router operations are done with the Router Head vertical. For some classes of work, however, a canting movement on the head can be an advantage. To meet these exceptional cases we can supply the machine with canting head as illustrated above.

The Guard
Full protection against flying chips is provided by the guard illustrated. This guard does not obstruct the normal working of the machine, or restrict production in any way.

The Motor
The motor consists of "A.E.I." Squirrel Cage Rotor and Stator units, which form the most dependable type of motor in existence. The rotor is practically indestructible and is both statically and dynamically balanced. It is pressed on the ground spindle. The stator is thoroughly protected against damage by moisture by a special impregnated process. The motor has a low temperature rise which reacts very favourably on the life of the high speed bearings. Speeds of 18,000 and 24,000 are obtained by means of a frequency changer, housed inside the main frame of the machine.

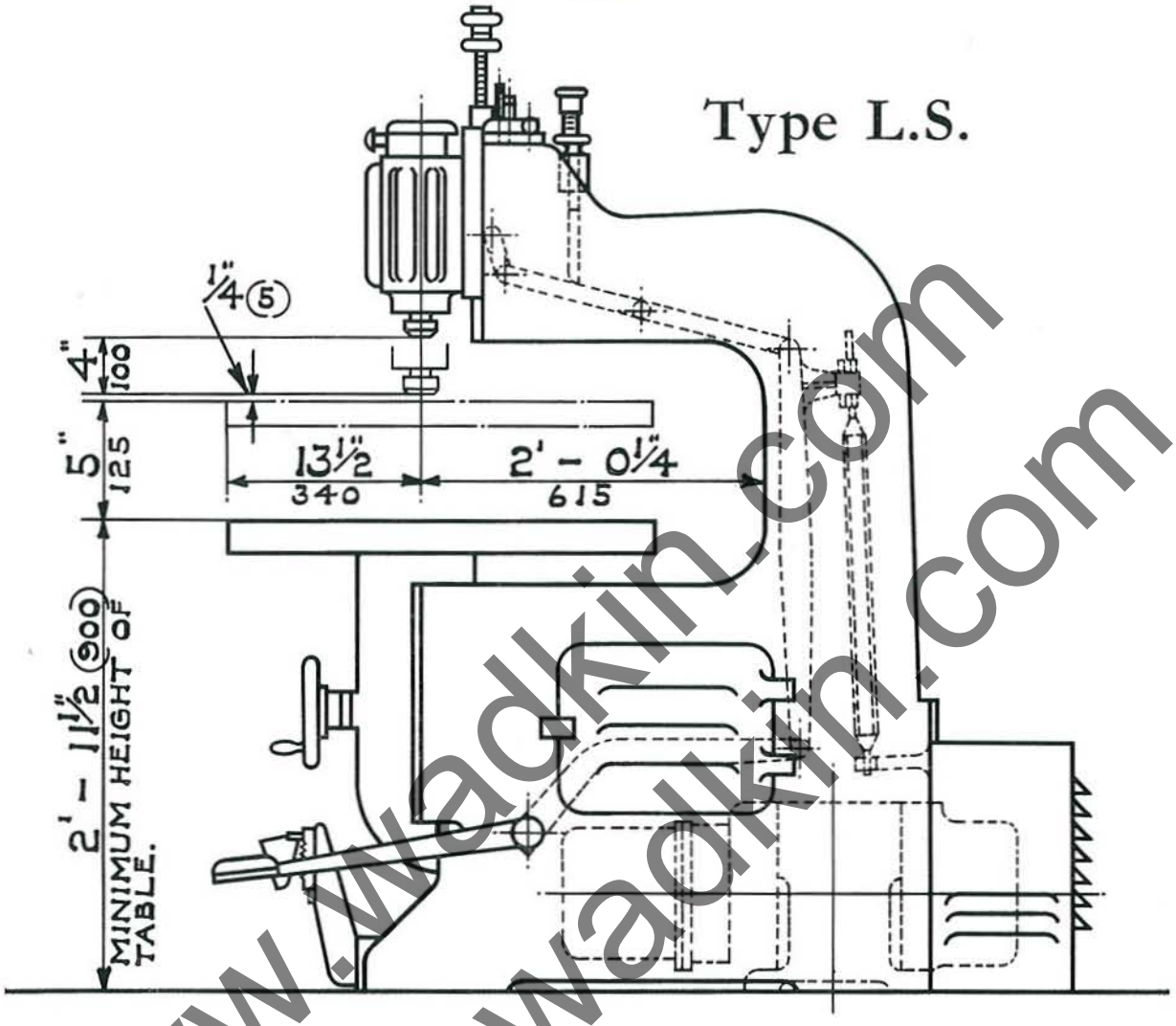
Pneumatic Downfeed
The head movement can be arranged for pneumatic operation from a convenient pedal and, as shown above, this can further be controlled by a hydro-check cylinder with fast approach feature working at any point as the pedal is lifted. This reduces operator fatigue and also gives more consistent depth control.

The Control Gear
The control gear is by start and stop push buttons mounted on the head, controlling a magnetic contactor, built into a dust-tight compartment in the machine. Protective features to safeguard the electrical gear against overloads are incorporated. The machine is supplied for two speeds, and a hand-operated speed selector switch is included.

Frequency Changer
The frequency changer is housed inside the main frame of the machine. It is readily accessible both from the back of the machine and through a hinged door in the main frame.

It is of the single unit type, and gives the high frequency necessary to obtain spindle speeds of 18,000 and 24,000 r.p.m. from a standard 50 cycle supply.

Type L.S.



PRINCIPAL DIMENSIONS AND CAPACITIES

Maximum distance between table and chuck: Compound table	8½" (216 mm.)
Chuck will take cutter shanks up to ⅜" (14·3 mm.) diameter. (Metric size chucks can be supplied)	
Size of standard table	30"×30" (760 mm.×760 mm.)
Size of table with compound movements	27"×33" (690 mm.×840 mm.)
Longitudinal movement	30" (760 mm.)
Transverse movement	15¼" (387 mm.)
Cutter spindle speeds in r.p.m.	18,000 and 24,000
Floor space	66"×30" (1680 mm.×760 mm.)
Horse power of motor: Continuous rating	4
Intermittent rating	8½
Net weight in cwts. with plain table, including frequency changer	15 (1680 lb.) (760 kg)
Gross weight in cwts. with plain table, including frequency changer	19 (2130 lb.) (965 kg)
Shipping dimensions in cubic feet	97 (2·74 m³.)

Details included with the machine:

Motor, control gear, frequency changer.
One each parallel guide pins, $\frac{3}{16}" \times \frac{1}{4}"$ (4·76mm. ×6·35 mm.), $\frac{5}{16}" \times \frac{3}{8}"$(7·94mm. ×9·52mm.), $\frac{7}{16}" \times \frac{1}{2}"$(11·1mm. ×12·7mm.).
One each $\frac{5}{16}" \times \frac{7}{16}"$ (7·94 mm. ×11·1 mm.) taper and $\frac{3}{16}"$ (4·77 mm.) taper ×$\frac{5}{8}"$ (15·9 mm.) parallel guide pins.
One ¾" (19·1 mm.) guide roller.
One each collets for ¼" (6·35 mm.), ⅜" (9·52 mm.), ½" (12·7 mm.), and $\frac{9}{16}"$ (14·3 mm.) cutter shanks. Removable ring for table. One set of spanners. Safety cutter guard.
Supply of our special ball bearing lubricant.
One lubricating pump.