

THE BANNER

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New turning machine gains industry acceptance

Worldwide sales for the new Wickman Bennett range of CNC turning centres have passed the 40 mark in under 12 months. The machine caused a major stir in the market place when the unusual step was taken to launch the machine in the export market. The 52-200 series made its debut in Chicago in September 1986.

This confidence in the product and its development did not go unnoticed. Around 80% of current production is for the export market.

The new turning centres use the dual number designation to indicate bar and chucking capacity, so it will be seen that the latest addition to the range, the 76-250, has a capacity increased to 76mm for bar work and can accept a 250mm diameter chuck.

In other respects, both models follow the same modular construction with 2, 3, 4, and 5 axis versions available.

The 52-200 series feature a 16 kW main spindle with speeds infinitely variable up to 6,000 rev/min. For the new 76-250 series the corresponding figures are 18.5 kW and 4,000 rev/min respectively.

The two-axis version has a compound slide mounted on upper slideways, in addition a Z axis only turret mounted on a lower slideway produces the 3 axis version.

For 4 axis control, compound slides are mounted on upper and lower slideways.

The innovative 5 axis version features a secondary headstock that can pick up the component from the main spindle. This is used to carry out second operation work on the parted off end and the back face.

The secondary spindle has a full 8 kW drive so that the substantial back drilling and boring options can be carried out, using the lower slideway.

Today's emphasis on just-in-time manufacture demands finished parts off the machine in one operation wherever possible. That's why these machines can take live tooling on both turrets to permit transverse milling and drilling operations. For orientation purposes the spindle can be programmed to position in 2.5 degree increments.



Inset shows two spindles and two turrets of 5 axis version of the 52-200.

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Wickman Bennett - 150 years

Using past achievements as a springboard for future success

Two famous names in the British machine tool industry are Wickman and Webster & Bennett. Following their acquisition in 1984, by Ketlon UK Ltd., the two companies merged and now trade as Wickman Bennett Machine Tool Co. Ltd. Together they have 150 years of machine tool experience.

Webster and Bennett — A Story of Change

Originally known as Webster & Howarth, after its two founders, the company was established in 1887, becoming Webster, Howarth & Bennett when A.E. Bennett joined the company in 1895.

When Howarth resigned in 1906, the two remaining partners formed Webster & Bennett Ltd., the name by which the company was to gain an international reputation.

Webster died in 1911 and following A.E. Bennett's death in 1920, his two sons joined the company. It remained a family firm until it was taken over by John Brown & Co. Ltd. in Autumn 1952.

John Brown sold its machine tool interests to Ketlon UK in 1984, and the latest chapter in the Webster & Bennett story began.

A Century of Development

A century ago, Webster & Bennett manufactured a variety of machines, and operated a foundry which also supplied castings to industry.

By 1911, the company decided to specialise in machine tool building and the foundry was closed down. The firm quickly became well known for its boring and turning machines, as well as multiple drilling, milling, profiling and horizontal boring machines.

After the First World War they concentrated on the design and production of vertical boring and turning mills, for which a world-wide reputation was soon gained.

Product development was continuous. 1948 marked a notable milestone with the introduction of the 'Series DH' boring mill. This featured built-in hydraulic controls for easy speed and feed selection, finger-tip control and direct dial reading.

Reflecting the level of innovation, the company moved into electronic controls as early as 1954, with the production of electronic profile turning equipment.

Since then, the story has been one of continuing development with increasingly sophisticated control systems and tooling arrangements, leading to faster machining rates and greater component accuracy.



1.



2.



3.

1. The original Charterhouse Works Coventry in which A.C. Wickman commenced business in 1926, at first selling and servicing factored machine tools only but quickly moving into other fields notably the UK agency for Tungsten Carbide Tips from Friedrich Krupp, Germany.

2. Wickman's second home, at Queen Victoria Road, Coventry, in the 1930s. It was here that Reg Dixon and John Brodhun conceived the Wickman Multi-Spindle Automatic although the first machines were built by John Lang & Sons at Johnstone.

3. The present-day plant at Banner Lane, Coventry. Building commenced in 1938 and production commenced in 1939 within days of the outbreak of World War II. Mr. Wickman intended this modern factory, which was at the time totally unique in the engineering world, to impress both his customers and important principals whose agencies he was determined to secure. But basically this was, and still is, the home of the Wickman Multi-Spindle Automatic.



Above 2, 3, 4 and 5 axis versions of the Wickman 52-200 turning centres in full double shift production on precision complexed gear blanks at Ketlon (UK) Ltd, Paddock Wood, Kent.

Years of production expertise

Wickman Arrives

Wickman started life in a converted garage in Coventry, where Axel Wickman set up business in 1925 to sell high quality machine tools from Continental and United States sources.

By 1934, Wickman was manufacturing machine tools of its own, designed by a team under the leadership of the late Reg Dixon. He was a remarkable engineer who profoundly influenced the development of Wickman until his retirement in 1967. He was then Managing Director.

Perhaps his most important achievement during the 1930's was the Wickman five-spindle automatic, the demand for which was such that the company moved into new, purpose-built premises in Banner Lane.

Significantly, the move to the new factory occurred two days before Chamberlain's

broadcast to the nation on 3 September 1939, ushering in World War II. Between 1939 and 1945 the company supplied some 3,500 machines of various sizes for war production.

Rapid Expansion

After the Second World War, Wickman continued to expand rapidly, widening its range of multi-spindle automatics, as well as factoring a large number of machines.

Overseas activities took off with subsidiary companies in Australia, South Africa, Brazil and the United States.

By then the company had been acquired by John Brown. In common with the rest of the UK machine tool industry, Wickman found the going hard in the early '80's. In 1984 John Brown decided to hive off its machine tool interests to the Ketlon Group.

WEBSTER & HOWARTH,
No. 1
7-in. HOLLOW SPINDLE CAPSTAN LATHE
WITH CHASING ATTACHMENT AND TRAVELLING CUT-OFF SLIDE

WEBSTER & HOWARTH,
No. 1
7-in. HOLLOW SPINDLE CAPSTAN LATHE
WITH CHASING ATTACHMENT AND TRAVELLING CUT-OFF SLIDE

Machining Loco Piston Heads
Two-Spindle Drilling Machines

MACHINE TOOL MAKERS, COVENTRY.



Above The new registered offices of Wickman Bennett reflect the progressive image of the Ketlon Group.

Bright Future

Both arms of Wickman Bennett are now set for a bright future. Wickman will continue development of the multi-spindle autos range. At the same time a new generation of 2, 3, 4, and 5 axis CNC turning machines has been introduced.

Webster Bennett vertical borers have some exciting developments in the pipeline, including the world's first application of a new flexible tool system.

Together as Wickman Bennett they form a formidable force in the international turning market. Anyone with an interest in turning should watch future issues of the Banner for some very significant developments.

Multi-spindle lathes keep Jaguar in the fast lane

At Jaguar Cars Radford engine plant there are 40 multi-spindle automatic lathes. 35 of them are Wickman Bennetts.

The latest Wickman Bennett 1³/₂in six spindle bar autos were an obvious choice when, a small auto section was set up to produce the four sizes of valve caps used in Jaguar engines. Three machines are installed and, a fourth is being considered to give the increased capacity to meet the demand for the new XJ40.

The valve caps are made in four sizes — all very similar but differing slightly in dimensions. Surface finish is particularly important in the female taper into which the two collets fit to hold the valve stem.

By using a quick change, pre-settable tooling system (Sandvik Block Tooling) all tool setting can

be completed away from the machine. As a result the time required to change, and prove out, four tools is between 5 and 10 minutes.

Also, all four sizes of valve cap are produced from the same set of cams. To change size it is necessary only to change the tooling set. This now takes less than half an hour.

Jaguar production engineers drive their machines as hard as Jaguar owners drive their cars. Recently feeds and speeds were increased to take full advantage of the latest carbide tooling. The result was a cycle time of 18¹/₂sec. against a previous best time of 30 sec.

The only machine modification



required was to fit a coolant oil cooler to take care of the extra heat generated.

Now production is virtually continuous, stopping only for tool changes. One setter/operator looks after the three machines including regular quality control checks.

Vertical lathes orders now nudge 50

An order for six vertical lathes placed by a major European aero engine manufacturer brings to 50 the total number sold since Webster Bennett became part of the Ketlon Group two years ago. The majority of these orders have been for export.

This resurgence is seen as a direct result of the versatility of both the product range and the marketing team.

In the intervening years, there has been significant technical developments. For instance, structural improvements based on computer studies means that the 'S' Series features exceptionally high dynamic stiffness. This, coupled with a high spindle power and increased power on the feeds, enables the latest carbide tools to be exploited to the full.

Another important development in this latest machine is that it is designed to operate as a machining cell.

Traditionally, tooling capacity has been the major impediment to extended periods of unmanned operation for turning. Not any more.

This is thought to be the first vertical lathe equipped with the Hertel Flexible Tool System (FTS). The machine utilises a square steel forged ram which carries two collets, for i/d and o/d machining, housed in a special tool block. Automatic tool change is actuated by two grippers, one for loading new tools and one for unloading exhausted tools. A Microlog system is used for tool identification giving random tool selection. Up to 60 tools can be stored in the adjacent rotary magazine. This introduces plenty of capacity for 'sister' tool replacement and having a machine permanently toolled up for a variety of jobs. Full details of this exciting development in the next issue of Banner.

Wickman Exeter plugs a vital gap

Successful selling of machine tools means solving the customer problems — no matter what they are.

That's why Wickman Exeter, who specialise in quality used conventional and CNC machines, play a vital role in the Group's marketing strategy.

Often a new machine replaces an old one. Wickman Exeter can

take the existing plant on very favourable terms.

It is not unusual for the CNC, lathes or vertical borers to form the heart of a manufacturing cell. But, to complete the component, a simple preparation or a second operation machine is needed. Again, Wickman Exeter can supply the solution for a fraction of the cost of a new machine.



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