

CENTRE LATHES



M300 • V350 • V390 • V460 • V550



Harrison is the British centre lathe specialist with over 100 years manufacturing experience, part of the UK's largest machine tool company and over 140,000 lathes are in operation worldwide.

Harrison with their Alpha range is the world's number one producer of computer assisted centre lathes with a total annual production capacity of over 2,500 lathes.

TALK TO THE SPECIALISTS NOW!

The New 600 Lathes CSS DRO



Constant Surface Speed Features

- DRO automatically adjusts spindle speed to maintain constant surface cutting speed during facing operations
- Maximum CSS speed set by key entry or teach function
- Rugged all steel scales with lifetime guarantee
- Speed control via closed loop
- Available in 2 axis or 3 axis (3rd axis display standard)
- Taper function
- 99 Tool offsets
- Vectoring
- Encoder IP67 rated
- Accuracy 5µm
- Repeatability 1 count

A quality asset with outstanding features and performance



The only fully geared headstock centre lathe in the range, the M300 has features for easy control of its comprehensive capabilities. It has the power to deal with heavy metal removal, at the same time offering precision for fine tolerance turning.

The M300 is a full-function machine capable of the entire range of turning operations, and through the available range of accessories its scope and versatility can be increased even further. Quality, reliability and response make it one of the most outstanding lathes of its kind especially in industry, the toolroom, training and secondary and tertiary education and it fully complies with all current CE safety legislation.

- Easy to understand headstock mounted speed, threading and feed charts
- Smooth power transmission through a twin vee belt drive and induction hardened and ground headstock gearing
- Large saddle and slide bearing areas for precision and long life
- Deep section top slide with dovetail guides and gib strip adjustment
- The combination box section cast iron bed and rigid steel base provides an incredibly strong structure
- A huge selection of accessories are available
- Imperial version only available as 40" between centres

M300



V350

Compact, powerful high speed lathe with precision capability



Standard constant surface speed (CSS) cutting with DRO

The V350's cast iron base provides maximum support for the torsionally stiffened bed and prevents swarf accumulation. The bed is epoxy resin bonded to the base and provides excellent structural damping and resistance to vibration.

The universal gearbox adds to the machines overall ability to handle the small to mid-range turning requirements of many toolrooms, production workshops and educational establishments.

The Power

All Harrison V Machines Feature:

- Powerful spindle motor with AC inverter drive and 33:1 constant power range
- Infinitely variable spindle speeds with digital display
- Three gear ranges for maximum metal removal rates
- Standard constant surface speed (CSS) cutting with DRO
- Extra heavy duty tailstock
- Imperial lathes have left-hand aprons, metric have right hand aprons

Maximum cutting performance and fine finishing capability



V390



Standard constant surface speed (CSS) cutting with DRO

The Harrison V390 introduces the latest technology to meet the machining requirements of modern tooling. Heavy metal removal and fine precision finishing are accomplished on this superb machine smoothly, quietly and efficiently.

Improved operator comfort and confidence is achieved by the excellent ergonomic control layout. The increased benefit of improved machine performance guarantees customer satisfaction in a complete range of production, maintenance and toolroom applications.

The Features

All Harrison V Machines Feature:

- Cast iron triangular webbed bed for optimum rigidity and swarf clearance
- Infinitely variable spindle speeds with digital display
- Camlock spindle nose for fast chuck changeover
- Leadscrew reversing box
- Standard constant surface speed (CSS) cutting with DRO
- Comprehensive range of imperial and metric screw thread cutting
- Imperial lathes have left-hand aprons, metric have right hand aprons



V460

A striking combination of power and capacity



The V460's feature packed design offers the advantage of infinitely variable spindle speeds whilst maintaining equal capabilities for high rates of metal removal or fine precision finishing.

On production, maintenance work or in the toolroom the V460 represents an outstanding investment with operators immediately responding to its easy positive and comfortable controls.

The Build

All Harrison V Machines Feature:

- Hardened and Reishauer ground gears for smooth power transmission
- Built to toolroom accuracy
- Precision spindle running on Gamet ultra high precision taper roller bearings
- Induction hardened and ground spindle nose for precise chuck location
- Extra wide induction hardened and full form ground bedways
- Low friction slideway material for long bed life and silky smooth operation
- Centralised one shot lubrication of slides and leadscrew

Large capacity, powerful, heavy duty centre lathe



V550



The all new V550 features a number of outstanding characteristics, making it a natural heavyweight champion in any workshop environment.

High spindle stiffness is achieved with double race front roller bearings and single race rear roller bearings, set to a fixed pre-load and retained under tension. Stability and accuracy are maintained at all speeds, loads and temperatures. Available in 2 and 3 metre lengths with rapid traverse as standard.

The Safety

All Harrison Lathes meet and exceed all the latest International safety standards and CE regulations:

- Full length leadscrew cover
- Interlocked chuck guard, saddle mounted chuck guard and full rear splash guard for operator safety
- Torque limit protection of gearbox and leadscrew
- interlock between thread and feed selection
- Rapid and controlled stopping of the spindle in the event of an emergency stop or mains disconnection

Specifications

| | | M300 | V350 | V390 | V460 | V550 |
|-----------------------------|---------------------|---|---|---|---|--|
| Centres | Height | 167mm/6 ⁹ / ₁₆ " | 170mm/6 ¹¹ / ₁₆ " | 195mm/7 ⁵ / ₈ " | 230mm/9" | 280mm/11" |
| | Admit Between | 635/1000mm/25/40" | 650mm/25 ¹ / ₄ " | 1250mm/50" | 1500mm/60" | 2000/3000mm/80"/120" |
| Swing | Over Bed | 330mm/13" | 350mm/13 ³ / ₄ " | 400mm/15 ³ / ₄ " | 460mm/18" | 554mm/21 ⁷ / ₈ " |
| | Over Cross Slide | 210mm/8 ¹ / ₄ " | 196mm/7 ³ / ₄ " | 246mm/9 ⁵ / ₈ " | 270mm/10 ³ / ₈ " | 370mm/14 ¹ / ₂ " |
| | In Cap Diameter | 480mm/19" | 535mm/21" | 585mm/23" | 730mm/28 ³ / ₄ " | 830mm/32 ³ / ₄ " |
| | Length | 117mm/4 ⁵ / ₈ " | 165mm/6 ¹ / ₂ " | 165mm/6 ¹ / ₂ " | 216mm/8 ¹ / ₂ " | 216mm/8 ¹ / ₂ " |
| Spindle | Bore | 40mm/1 ⁹ / ₁₆ " | 42mm/1 ⁵ / ₈ " | 54mm/2 ¹ / ₈ " | 76mm/3" | 104mm/4 ¹ / ₁₀ " |
| | Nose | D1-4 Camlock | D1-4 Camlock | D1-6 Camlock | D1-8 Camlock | D1-11 Camlock |
| | Morse Taper in Nose | No. 3 MT | No. 3 MT | No. 4 MT | No. 5 MT | No. 5 MT |
| Speeds | Number | 12 | 3 infinitely variable | 3 infinitely variable | 3 infinitely variable | 3 infinitely variable |
| | Range | 40 to 2500rpm | 17 to 3250rpm | 14 to 2500rpm | 20 to 2000rpm | 18 to 1800rpm |
| Motor | | 2.2kW | 7.5kW | 7.5kW | 11kW | 11kW |
| Leadscrew | Diameter | 28mm/1 ¹ / ₈ " | 32mm/1 ¹ / ₄ " | 32mm/1 ¹ / ₄ " | 38mm/1 ¹ / ₂ " | 38mm/1 ¹ / ₂ " |
| | Thread | 6mm Pitch/4TPI | 6mm Pitch/4TPI | 6mm Pitch/4TPI | 6mm Pitch/4TPI | 6mm Pitch/4TPI |
| Threads | Metric Pitches | 45 from 0.2 to 14mm | 51 from 0.2 to 14mm | 51 from 0.2 to 14mm | 66 from 0.2 to 14mm | 66 from 0.2 to 14mm |
| | Imperial Pitches | 52 from 2 to 56 TPI | 56 from 2 to 56 TPI | 56 from 2 to 56 TPI | 73 from 2 to 84 TPI | 73 from 2 to 84 TPI |
| | Module Pitches | 18 from 0.3 to 3.5 MOD | 20 from 0.2 to 3.5 MOD | 20 from 0.2 to 3.5 MOD | 20 from 0.2 to 3.5 MOD | 20 from 0.2 to 3.5 MOD |
| | Diametral Pitches | 18 from 8 to 56 DP | 20 from 8 to 56 DP | 20 from 8 to 56 DP | 27 from 8 to 72 DP | 27 from 8 to 72 DP |
| Feeds | Metric | 21 from .03 to 2mm/rev | 42 from .036 to 2.4mm/rev | 42 from .036 to 2.4mm/rev | 30 from .04 to 2.8mm/rev | 30 from .04 to 2.8mm/rev |
| | Imperial | 21 from .001 to .08in/rev | 42 from .0014 to .096in/rev | 42 from .0014 to .096in/rev | 30 from .0016 to .110in/rev | 30 from .0016 to .110in/rev |
| Cross Slide | Width | 140mm/5 ¹ / ₂ " | 180mm/7" | 180mm/7" | 203mm/8" | 203mm/8" |
| | Travel | 190mm/7 ¹ / ₂ " | 250mm/9 ⁷ / ₈ " | 250mm/9 ⁷ / ₈ " | 300mm/11 ⁷ / ₈ " | 300mm/11 ⁷ / ₈ " |
| Top Slide | Width | 82mm/3 ¹ / ₄ " | 100mm/4" | 100mm/4" | 133mm/5 ¹ / ₄ " | 133mm/5 ¹ / ₄ " |
| | Travel | 92mm/3 ⁵ / ₈ " | 100mm/4" | 100mm/4" | 150mm/6" | 175mm/6 ⁷ / ₈ " |
| Tailstock | Quill Diameter | 42mm/1 ⁵ / ₈ " | 63mm/2 ¹ / ₂ " | 63mm/2 ¹ / ₂ " | 95mm/3 ³ / ₄ " | 95mm/3 ³ / ₄ " |
| | Travel | 110mm/4 ⁵ / ₁₆ " | 145mm/5 ¹¹ / ₁₆ " | 145mm/5 ¹¹ / ₁₆ " | 145mm/5 ¹¹ / ₁₆ " | 178mm/7" |
| | Morse Taper | No. 3 MT | NO. 4 MT | NO. 5 MT | No. 6 MT | No. 6 MT |
| Weight | | 710/790kg 1562/1738lbs | 1350kg 2970lbs | 1400kg 3080lbs | 2615kg 5753lbs | 2850/3610kg 6270/7942lbs |
| Dimensions L x W x H | | 1.68x.97x1.40m 66x38x55" 2.13x1.02x1.45m 84x40x57" | 2.03x1.35x1.65m 80x53x65" | 2.72x1.35x1.65m 107x53x65" | 3.25x1.70x2.05m 128x67x81" | 3.75x1.70x2.10m 147x67x81" 3.75x1.70x2.10m 187x67x81" |

Illustrations and specifications are not binding in detail. The designs are subject to modifications and improvements without notice.



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