



High Precision Turning Applications

The superb new Alpha Series from Colchester-Harrison offers a choice of twenty three advanced technology CNC Combination Lathes to suit all types of high-precision turning applications. All Alpha Series lathes are perfectly suited to producing detailed and intricate one-offs to the highest standard of finish and accuracy. With their advanced Fanuc control and software systems, they are ideal for turning small-to-large sized batches with fast, high quality repeatability, excellent accuracy and surface finish and, most importantly of all, lower component production costs.

Alpha quality, plus a wide range of training options, has made Alpha lathes the favorite choice for colleges and training centers around the world. Ideal training features include compatibility with industry standard ISO programs and Colchester-Harrison's AlphaLink software which enables multi-desk training to be given.

No other lathes on the market today, including full CNC machines, can compete with Colchester-Harrison's Alpha Series for cost and speed of production when it comes to 'one-offs' and small-batch turned parts.

Market Leading Performance A Century of Quality and Excellence

Strength, reliability, versatility, ease of operation and accuracy have always been bywords for Colchester-Harrison lathes.

This comes from our continuous commitment to develop and enhance our world famous lathes. Today, advanced new technologies are integrated into all Alpha lathes for market leading performance combined with our traditional build quality and durability. In addition, the award winning Alpha 1550XM has the capability for milling as well as turning.

This innovative machine introduces an extra dimension especially for customers who have previously invested in separate lathes and milling machines.

It adds up to a formula for lathe construction, which is second to none.

The Ultimate Turning Machines

- Superb cutting performance
- High spindle speeds with wider speed ranges
- Fast rapid traverse rates
- Excellent spindle torque at low speeds
- Latest Fanuc Beta i Series spindle and Beta is axis motors
- Top rated GAMET ABEC9 high-precision bearings
- Independent, sliding operator's console
- New state-of-the-art Fanuc controls with conversational programming software
- Fast, easy set up - quickest of any lathe on the market
- New style fully enclosed guarding for maximum safety (Single travelling guard on 120"/160" (3/4m) models)
- Automatic slideway and ballscrew lubrication system
- Extended range with up to 160" (3m) between centers
- AlphaLink Windows CAD/CAM offline programming CD and communications cable

Machine Bed

Colchester-Harrison's cutting-edge lathe design and construction quality begins with the machine bed. Alpha beds use high quality cast iron, with a unique 'Warren' type design for maximum strength and optimum chip clearance.

In addition, the Alpha lathe beds are mounted on cast-iron bases to provide a solid foundation. Slideways are hardened and specially ground to ensure high-precision, parallel operation of the lathe at all times.

Operators Console

The operator's console is located for optimum operator convenience and efficiency directly in line-of-sight with the cutting tool. The hand wheels are installed at the ideal ergonomic height for ease of use and have the Alpha's popular "one-click-one-micron" rotational feel sensitivity.

The complete operator's control panel moves on its own independent carriage which allows it to be moved quickly and effortlessly to the side during loading and setting up.

Drive Train

Into the design and development of all Alpha lathes goes the technical expertise of specialists from

Colchester-Harrison's partner companies, Gamet Bearings and Pratt Burnerd chucking systems. Their combined research programs ensure that all new Alpha lathes feature the most advanced developments in spindle bearing technology and chuck design. This provides the highest possible spindle speeds and optimum chuck performance for high accuracy turning with maximum load carrying capacity.

Headstock

Crucial to turning precision and quality is the design and capability of the headstock. These lathes have top rated Fanuc spindle motors for extra power and more torque in all speed ranges. This means that 'bottom end' torque has been increased by over 75% giving excellent, extremely accurate metal-cutting performance at lower speeds.

All Alpha Series lathes are equipped with three range headstock enabling the correct range to be automatically selected from the lathe's control system.

Standard Machine Features for Alpha XT/XS/XM/MT

- CE Regulated electrically interlocked machine guarding
- Stainless steel ballscrew cover
- AlphaLink CAD/CAM for windows
- AlphaLink instruction disc
- Hands-on tutorial disc
- Rapid traverse joystick
- Machine work light
- Electric coolant system
- Gamet ABEC 9 equivalent super high precision taper roller bearings
- Operation and spare parts manual
- Accuracy charts
- Wheeled swarf bin
- Automatic control oil pump slideways and ballscrew lubrication
- Automatic external oil pump headstock lubrication
- External floor mounted transformer

Machine Options

- Superior precision manual 3 & 4 jaw chucks and hydraulically operated 3 jaw chucks from Pratt Burnerd International
- Range of Crawford collet chucks and collets
- Range of fixed and travelling steadies
- Rotating centers
- Choice of manual or automatic tooling systems
- Workholding faceplate with guard
- Work driver plate
- High pressure coolant system (must be ordered with 8 station turret)