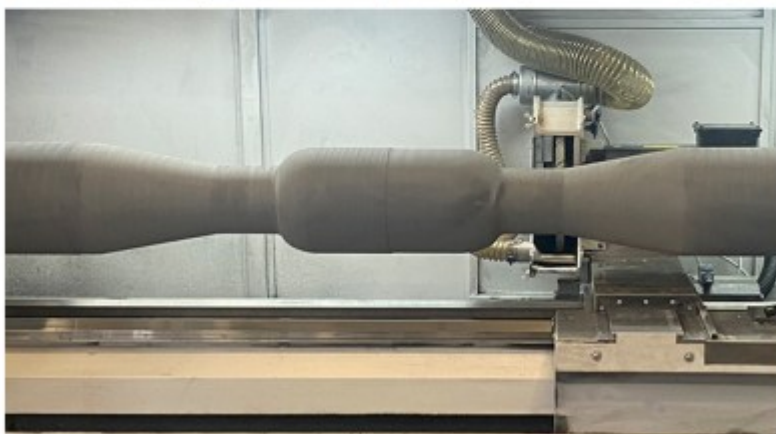




2024
Builders
Grinders
Groovers



THE MOST ADVANCED AUTOMATIC ROLL GRINDERS AND GROOVERS IN THE WORLD



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HALIFAX NUMERICAL CONTROLS

Based in Halifax, West Yorkshire, England, HNC is a team of professional engineers specialising in all aspects of Machine Tools, CNC and Factory Automation Systems. The company was formed in 1998 and continues to serve clients throughout the UK and Worldwide from its own workshop premises.

INTRODUCING HNC ROLL GRINDERS & GROOVERS

The development of the first Roll Grinder came about when HNC was contacted to see whether their experience in CNC machine tool control could be applied to the production of rubber rollers. Traditionally reliant on increasingly rare operator skills, the rubber roller industry presented a huge opportunity *if* the technical problems could be overcome.

HNC engineers set about solving the complex mathematical and engineering challenges to produce an Automatic Roll Grinder that was highly accurate and very easy to use. HNC's engineers then developed and applied innovative technology to Roll Grooving and subsequently to full duplex Grinding, Grooving and Finishing.

HNC's products are radically transforming the roll production industry. The range of automatic roll Grinders and Groovers are the most advanced machines of their type in the world.

A STRATEGY FOR SUCCESS

HNC's strategy is based on more than just great products. As Managing Director Mike Diskin explains;

"Our fundamental business strategy is building long-term client relationships. We have always attracted and retained clients by providing superior customer value. Over 95 percent of our work is repeat business from satisfied clients. New customers appreciate that our rubber roller machines have been specifically designed to be the very best in features and in performance, but it is HNC's quality of engineering and our focus on fully supporting our products which create the winning formula."

CORE VALUES

Our core values are **a no-nonsense approach** to dealing with customers and a primary objective of making the **quality and reliability of the finished product paramount**. Our customers can always deal directly with an engineer who has knowledge and expertise to deal with any query.

HNC is a global business trusted by industry leading companies throughout the world. HNC project manage a number of installations across China, The Middle East, Germany, The USA as well as at home in the UK.

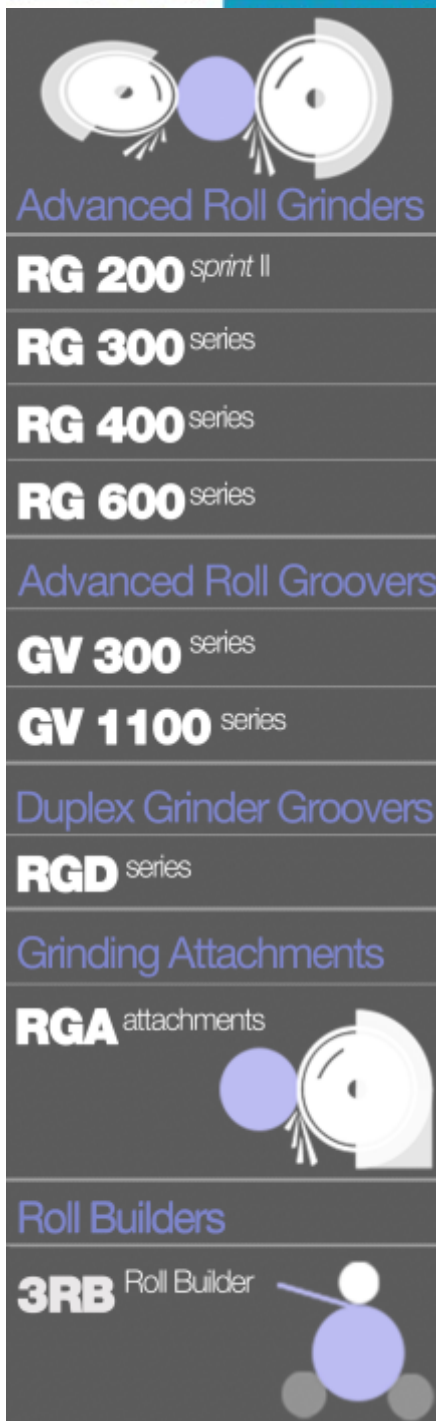
HNC are able to support the entire range of Grinders and Groovers to customers anywhere in the world. As Mike explains;

"The very best way to support our products is to make sure that they are the very highest quality to begin with. This way our customers can be sure that their machines are efficient and extremely reliable. At the rare occasional times when things do go wrong, the team at HNC is there to sort things out quickly, effectively, and without making a fuss."

For more information about HNC, Contact Mike Diskin
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Halifax Numerical Controls

Advanced Automatic Roll Grinders and Groovers



HNC design and manufacture the world's leading automatic Grinding and Grooving machines for the production of rubber & polyurethane rolls and rollers.

HNC engineers have extensive experience in all aspects of machine tool design, build, and servicing. Supporting clients worldwide from its UK premises, the team have a particularly high level of expertise in CNC and PLC Automation Systems.

HNC's engineers have developed solutions to solve the problems experienced by manufacturers of rubber rollers. The results have been substantial increases in product quality, production efficiency and business profitability.

HNC's range includes machines suitable for roll production from small high precision rollers to heavy duty quarrying rolls of lengths of over 7 metres (22.97 feet). Each HNC machine is designed around an easy to use graphical interface for fully automatic operation. The unique control systems enable rapid and easy set-up for both simple and complex roll profiles.

New for 2024

The **3RB** features a **new updated algorithm** for calculating the diameter of the roll. This has been developed with help of The University of Huddersfield's, Department of Precision Technologies.

Furthermore, we're delighted to announce that we have secured a **PAPI** (Product and Process Innovation) **grant** to purchase a full suite of **Renishaw Laser Alignment Equipment**, which includes the XK10, XL80 & QC20-W. This equipment is allowing us to **easily to measure** Squareness, Parallelism and Straightness more accurately, providing **better precision** when building our machines. In addition to completing service work.

Solutions Built For You

Fully automatic machining of rolls means that product quality is consistently high and not dependent on operator skill. Duplex capability enables grinding, grooving, and finishing of rolls in in one single manufacturing operation.

Built around a solid core design, some elements of each machine are changeable to suit individual customer requirements. A range of optional modules such as **Stone Wheel**, **Robot Loader**, **Auto Balancer**, **Bar Code Reader** and **Thermocutter** are available to maximise productivity and enhance production management.

HNC Connect is our optional support module which links your machines from anywhere in the world to an HNC engineer. It's like having your own HNC engineer on site.

HNC Custom is a service where machine modifications or additions are made to suit a customer's *exact* requirements. This might be a simple tweak or component swap on a standard machine, through to complete bespoke manufacture of any machine at any size.

WE BUILD THE MACHINE YOU WANT : HOWEVER YOU WANT IT

Tel: +44 1422 360607



HNC Flexible Manufacturing Systems

The use of robots in roll production can deliver a variety of benefits ranging from higher asset utilisation to high volume of productivity. HNC have extensive experience in flexible manufacturing systems and advanced factory automation, and can offer customers a bespoke turnkey system for the production of ground and grooved rubber rolls.

Built to individual customer requirements, a manufacturing cell consisting of at least one HNC Roll Grinder & Groover is located with an integrated robotic material handling system. Transport and loading, grinding & grooving, and unloading of rolls is controlled through a fully integrated management system. At the end of processing, the finished rolls are routed to a quality inspection cell, and subsequently available for dispatch.

As an approved systems integrator for Fanuc, HNC have solid track record of building highly efficient and profitable automated production solutions.



Providing technical information
and exchanging ideas with roll
manufacturers around the world



STANDARD FEATURES

Automatic Operation

HNC machines come with pre-programmed industry standard roll profiles which are easily selected from the list on the touch screen.

Standard Grinding Profiles :

- Parallel
- Cambered (Crowned)
- Taper (Straight Taper)
- Step Taper (Trapezoidal)

Standard Grooving Profiles :

- Linear (Horizontal)
- Radial (Circumferential)
- Diamond
- Helix (Spiral)
- Spreader (Chevron)
- Herringbone

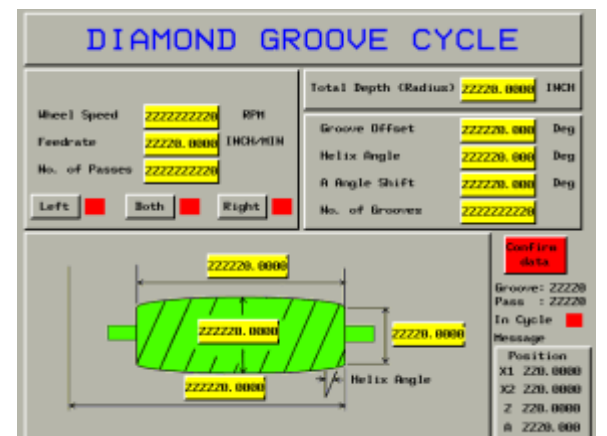
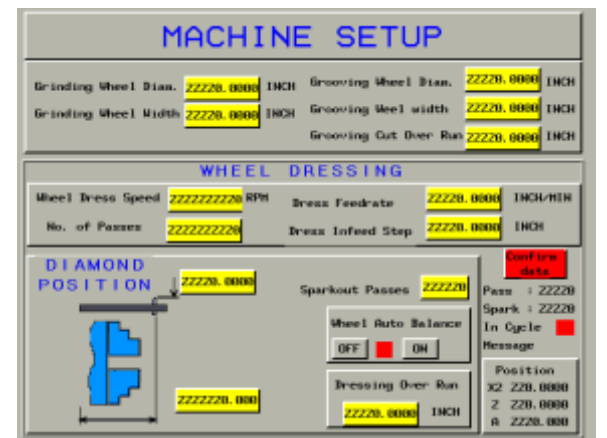
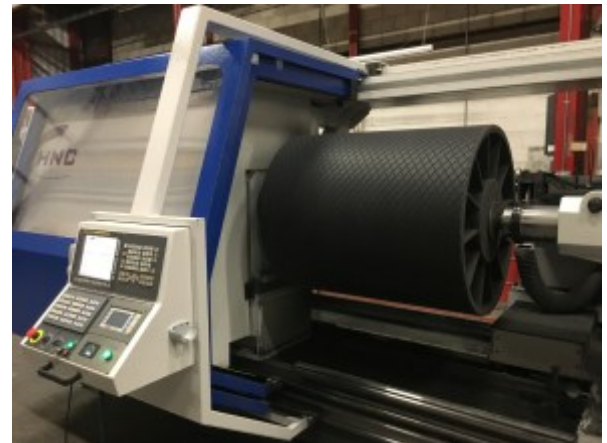
Customisation

A selected profile is displayed graphically with dimensions. Parameters can easily be altered by touching the appropriate window to select and then 'key-in' the new dimensions.

All inbuilt profiles can be customised for one off use, or new profiles can be created and stored in memory.

Offline Custom Profiles

HNC Grinders and Groovers can be remotely pre-programmed with roll profiles to suit your requirements. Our profiling software is ideal for complex or specialist profiles that can be prepared in the production office and simply transferred and loaded onto any machine.



Manual Operation

HNC Grinders and Groovers come with full manual operation that is easily accessed from the touch screen and through physical hand wheel controls.



Safe Operation as Standard

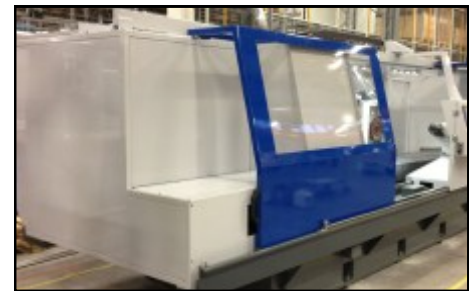
All HNC machines are fitted with fully enclosed and interlocked guarding system complete with an extraction tube ready to connect to a dust extractor.

- Protects the operator
- Meets Health & Safety requirements
- Maintains a clean working environment



Language & Regional Options

All HNC Machines are available in 16 different languages with Metric or Imperial Measurements



Global Backup from HNC

Remote Diagnostics and Support

HNC's complete range of machines feature the **HNC Connect Module** option. Unique to HNC, the Connect Module network links your machines from anywhere in the world to an HNC engineer. Machine functions can be monitored, diagnosed and corrected or updated.

It's like having your own HNC engineer on-site!



RG series Grinders



Advanced Automatic Roll Grinders

As all roller manufacturers know, customers are becoming more demanding in terms of quality and price whilst production costs rise. Many are struggling with old inaccurate lathes adapted for roller grinding and are heavily dependent on a declining pool of skilled staff for their production quality. Some however, are surging forward by laying their old machines aside and benefitting from state of the art automated production by HNC .

HNC Grinders can constantly and consistently produce high quality rolls in a fraction of the time normally taken. Roll Grinders are available in a range of capacity and size.

The **RG200 Sprint Mk2** is specifically designed to bring profit back into smaller roller manufacturing. Larger roller sizes can also be rapidly produced with the **RG300, RG400 and RG600** ranges.

For customers with grooving requirements HNC also produce a range of **Duplex Grinder & Groovers** with efficient one-touch operation from loading to removal of the finished roll.



For the largest or specialist requirements HNC Custom can design and build machines to any specifications for grinding, grooving, and finishing.

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RG 200 *sprint II*

*Fast and effective production of smaller rubber rollers.
Ideal for the Print Industry.*

Designed to suit roll manufacturers with standard or straightforward specification requirements. The RG200 Sprint Mk II has enhanced capabilities over the original design. With a stable compact footprint, it is perfectly suited for the grinding of smaller rolls up to 250mm in diameter and 1250mm in length. The Sprint provides an edge over the competition by enabling manufacturers to accurately grind rolls, (including cambered profiles) at a very affordable price.



RG 300 series

*(300mm in diameter and 2m or 3m in length)
(11.8 inch in diameter and 6.6 feet or 9.84 feet in length).*

The RG300 Series of Grinders are advanced grinding machines supplied complete with a full range of industry standard roll profiles. The RG300 comes with a high speed grinding spindle suitable for use with tungsten carbide grinding wheels of 350mm (13.8 inch) in diameter. The RG300 comes with a manually moveable tailstock and hand wind quill.



RG300x2m

RG 400 series

*(400 mm in diameter and 2m, 3m or 4m in length)
(15.748 inch in diameter and 6.56 feet, 9.84 feet, or 13.12 in length)*

The RG400 Series has the same features as the RG300 range plus the capability to grind rolls of 400mm diameter and 2m, 3m, or 4m in length or to suit customer needs. The RG400 comes with a manually moveable tailstock and hand wind quill.



RG400x3m

RG 600 series

(600mm (23.6 inch) in diameter and up to 5m (16.4 feet) in length)

The RG600 Series has the same features as the RG300 range plus the capability to grind rolls of 600mm diameter and in a length to suit customer needs. Loading and unloading of large components is quick and easy with enhanced loading access and hydraulically powered quill movement.

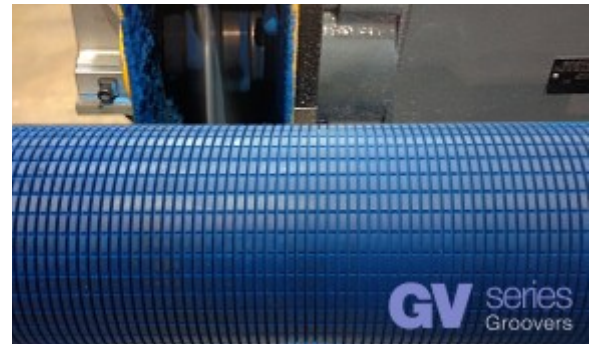


RG600x4m

GV series Groovers

The GV Series of Automatic Grooving Machines are advanced grooving machines supplied complete with a full range of industry standard grooving patterns. The high speed grooving head is mounted on a servo controlled indexing table allowing a fully automatic grooving cycle.

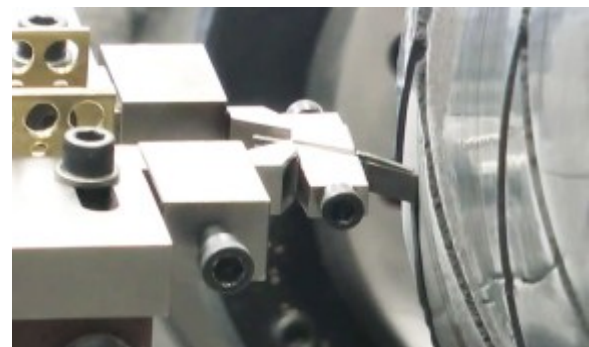
Extremely simple to use via the touch screen control panel, production profiles can be recalled from memory or quickly loaded from a bar code reader. Operator training requirements are minimal as the production is fully automatic; fast, accurate and of consistently high quality, first time and every time. Moveable pendant that allows the operator to position the control station anywhere along the traverse range. This allows the operator to have all the controls available within easy reach while at the same time observing the grooving process safely from behind a clear macrolon window.



GV 300 Groover

The GV300 features a moveable pendant that allows the operator to position the control station anywhere along the traverse range. This allows the operator to have all the controls available within easy reach while at the same time observing the grooving process safely from behind a clear macrolon window.

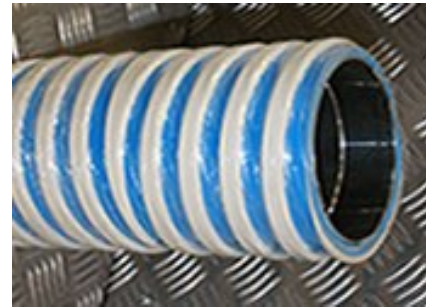
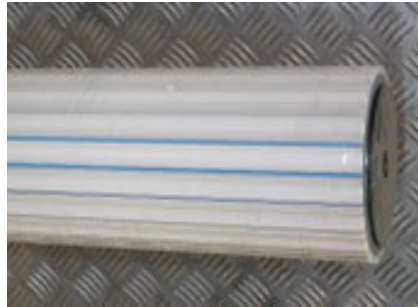
The GV300 Series can groove and finish rolls up to **300mm in Diameter and 2m, 3m, and 4m in length.** Other length capacities are available with HNC Custom.



FOR MORE INFORMATION ABOUT GV SERIES GROOVERS

CONTACT HNC Tel: +44 (0) 1422 360607

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GV 1100 Groover

The GV1100 series can groove and finish rolls up to **1100mm in Diameter and 7m in length**, ideal for industrial rollers. An integrated Fanuc CNC system controller makes the GV1100 a powerful and versatile machine. Although the primary function of the GV series is roll grooving, they can also be utilised for grinding. By setting the grooving wheel in the vertical position, the integrated controls can grind standard roll profiles followed automatically by the groove patterning.

As with all HNC's machines, any GV series can easily be switched between **sixteen different languages**. Each machine is fully automatic and comes complete with an **interlocked guarding system, dual check safety systems** and dust extraction tubes.



GV1100

Commissioning & testing the GV1100 - (guarding removed)

RGD series

*Automatic Duplex Grinder and Groover, and Finisher
(up to 1100 mm (43.30 inch) in diameter length to customer specification)*

The RGD Series of Automatic Duplex Roll Grinders, fitted with a Fanuc CNC are the most versatile machines available. With **automatic grinding, grooving, or finishing on one machine**, processes can be completed without moving product from machine to machine. This optimisation of your workflow results in even greater efficiencies.

High speed grinding, grooving, or finishing heads are mounted with separate axes (X1 & X2), enabling fast and accurate change between operations without disturbing the work piece. Either a **tungsten carbide grinding wheel or a large stone or vitrified grinding wheel** of up to 800mm (31.5 inch) in diameter can be fitted on the spindle.

The two X-axes travel on a separate set of linear rails to the **hydraulically powered tailstock traverse and quill movement**. This enables rapid and effortless loading and unloading of large components and for the fitting of optional steadies to support heavy rolls

The RGD series is supplied **complete with a full range of industry standard roll grinding and grooving or finishing profiles**.

Fanuc CNC controls give the user the ability to program complex profiles and enables the RGD series to offer great versatility in production.



RGD Series machines can be custom built from a choice of head options

- High speed Grinding (5800 rpm, 350mm tungsten carbide wheel, 8KW)
- High speed Grooving (5800 rpm, 350mm tungsten carbide wheel, 5KW)
- Large Grinding head (1400 rpm, 750mm vitrified wheel, 15 KW)
- Thermo Cutter
- Polishing Attachment
- Linishing Attachment



“The RGD Series provides a one-touch solution for the efficient manufacture of all roll specifications. It's as simple as load the blank, start the operation, and remove the fully finished roll. Rolls are ground and grooved to incredible accuracy in one operation.”

RGA Attachments

Lathe Attachment Rubber Roll Grinders

Advanced Grinding Attachments suitable for retrofitting to existing lathes.

Advanced roll production is possible on a manual lathe without the capital outlay of a large roll grinder. HNC's popular range of Advanced Roll Grinding Attachments turn a standard manual lathe into a highly cost effective rubber roll grinder. The **RGA1** Attachment enables the user to grind parallel rolls. The **RGA2** attachment can additionally produced cambered rolls. The standard attachment is fitted with a high speed grinding spindle, capable of using the tungsten carbide grinding wheels, with a maximum speed of 5800rpm.

RGA/S models feature a larger spindle head and a stone grinding wheel, with a maximum speed of 1400rpm.



3RB series Roll Builders

Advanced Automatic Roll Builders

Fast, efficient roll manufacture from calendered rubber sheet.

HNC's range of 3RB, Three Roll Builders are designed specifically to suit the needs of rubber roll manufacturers and the rubber roller industry. Manufactured in the UK, The 3RB is very easy to operate and offers fast and efficient manufacture of rubber rolls.

Available for roll length manufacture of up to 2000mm, with advanced automatic operation, production capacity is increased without compromising quality.

Finished product quality is improved by eliminating air entrapment and de-lamination typically associated with alternative production methods. Waste is reduced through advanced overbuild control. HNC's advanced automatic controls both simplify operation and provide additional features including preset build diameter, automatic diameter control, guided cure tape wrapping, and automatic polythene or paper take-up.

FOR MORE INFORMATION ABOUT THE 3RB

Tel HNC on: +44 1422 360607



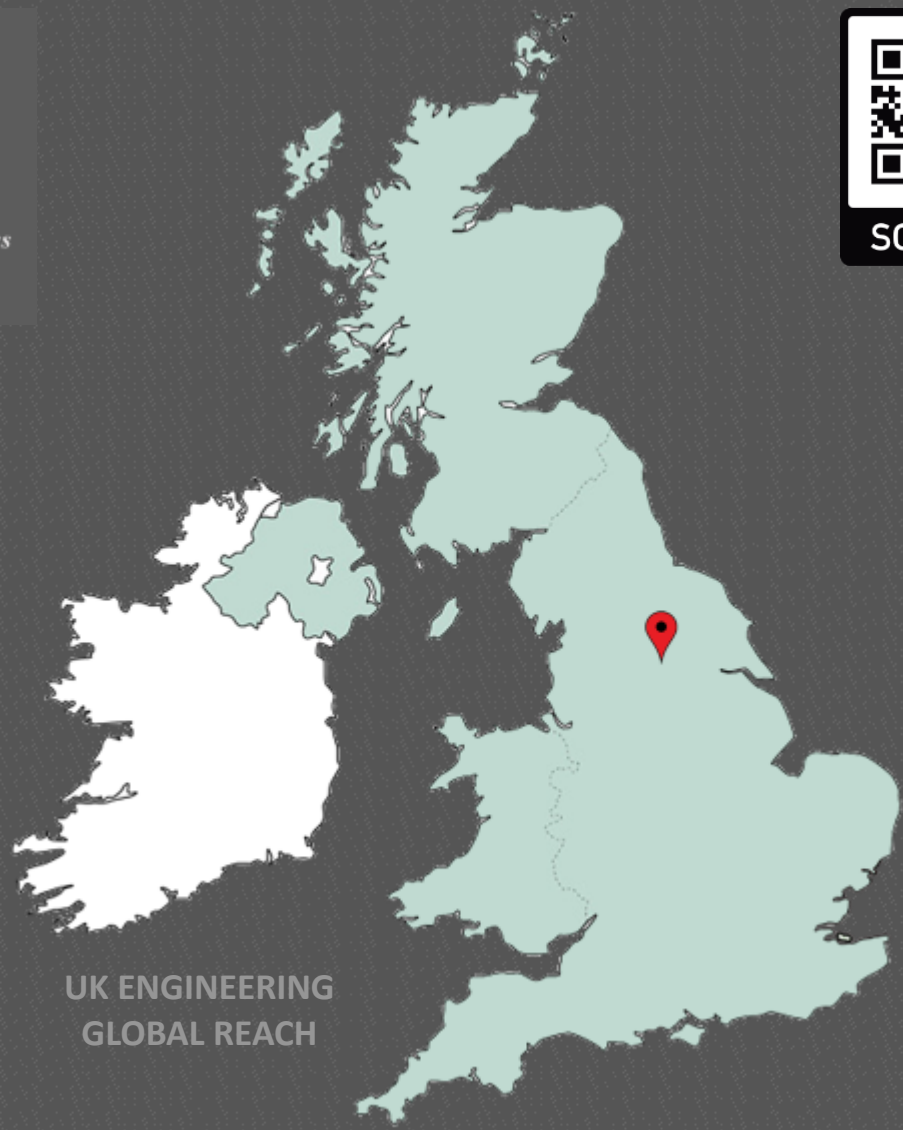


SPECIFICATIONS

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO
IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE. E&OE



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UK ENGINEERING
GLOBAL REACH

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