EXECUTIVE OVERVIEW & CORPORATE PROFILE

ABSOLUTE PRECISION MAKES ALL THE DIFFERENCE

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Part of the Group of Companies
Holroyd is a truly world-class manufacturing business. But this is not our view alone.

Three Queen's Awards for Enterprise and Innovation bear witness to our achievements.

And today we look back with pride but we also look forward with a hunger for continuous improvement and innovation and a commitment to apply our knowledge, experience and capabilities to serve you, our customers and partners.

With absolute precision.

Tony Bannan
Chief Executive Officer

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The GTG2 helical grinder epitomises Holroyd’s commitment to innovation in a machine that sets new standards in the production of ultra-high precision helical gears in diameters up to 350mm. Designed and developed in the UK, the GTG2 is effectively a production cell within a single machine, combining high power for deep grinding operations with ultimate levels of precision finish (approaching DIN1) and the capability for fast set-up, optimising production and operating costs.

The innovative, highly-integrated design enables an operator to take a design drawing and enter the key specification data – including helix angle, pressure angle and number of teeth – directly into the machine control. The machine then completes its production cycle automatically. A 3D CMM component scanning probe optimises production efficiency, improving production rates by removing the need for off-machine inspection. As a result, parts can be placed, accurately ground and then measured and any deviations automatically corrected before the cycle is complete.
Holroyd milling systems provide class-leading performance and reliability through advanced technology and unrivalled build quality. The range facilitates the highly efficient production of complex components with helical screw profiles and gear parts that will significantly improve productivity for manufacturers through their operating speed and advanced features:

- Powerful, menu-driven touch screen programming for unrivalled ease of use.
- Chucking and workholding options to complement quick change tooling for accelerated set-up.
- High-power spindles and unbeatable rigidity delivering outstanding metal removal rates.
- Complete integration with automated parts handling system.

The EX Series – For rotor production

- 1EX Parts up to Ø150mm
- 2EX Parts up to Ø250mm
- 3EX-R Parts up to Ø350mm
- 5EX Parts up to Ø500mm
- 6EX Parts up to Ø600mm
- 8EX Parts up to Ø800mm

The HM-WG Series – For worm production

- HM1-WG Parts up to Ø150mm
- HM2-WG Parts up to Ø250mm
- HM3-WG Parts up to Ø350mm

The HM-BL Series – For roots blower and vacuum rotors production

- HM3-BL Parts up to Ø350mm

The HM-SP Series – For pump screw production

- HM1-SP Parts up to Ø150mm
- HM2-SP Parts up to Ø250mm
- HM3-SP Parts up to Ø350mm
Holroyd’s “next generation” CNC Profile grinding machines, with their high accuracy and ultra-precision finishing capabilities, combined with high stock removal rates for aggressive semi-finishing, can significantly reduce cycle times and machining capacity requirements.

Unique features include:

- Accelerated and simplified set-up enhanced by fully automated grinding wheel balancing system.
- Powerful, menu-driven touch screen programming for unrivalled ease-of-use
- Unique on-board 3D CMM component-scanning probe with full automatic compensation feedback providing class-leading accuracy.
- High power, high speed spindles and advanced in-process dressing systems dramatically shortening machine cycle times.
- Engineered for complete integration with automated parts handling systems.

The TG Series – For rotor production
TG50E Parts up to Ø50mm
TG150E Parts up to Ø150mm
TG350E Parts up to Ø350mm

The HG-SP Series – For pump screw production
HG50-SP Parts up to Ø50mm
HG150-SP Parts up to Ø150mm
HG350-SP Parts up to Ø350mm

The HG-WG Series – For worm production
HG50-WG Parts up to Ø50mm
HG150-WG Parts up to Ø150mm
HG350-WG Parts up to Ø350mm
It's the holy grail for every manufacturer: the quest to make products better, cheaper and quicker. This is precisely where PTG Advanced Developments comes in with its unique Holroyd Profile Management Software (HPMS).

With a wealth of experience behind it, Advanced Developments provides a resource in rotor compressor and profile design consultancy, working with customers and partners to design new profiles and optimise existing ones. HPMS is employed in the development and control of profiles for screw rotors, vacuum and pump screws. We start with a file which defines a single flute on a male or female rotor in the transverse plane in terms of Cartesian co-ordinates and angles normal to the surface of the part.

From this file, a number of checks are carried out to assess the machinability of the profile on the Holroyd profile grinder. Profiles can be checked and optimised for either finished milling or finished grinding processes. Should the profile fail any of these tests, the software facilitates manipulation of the files to correct the problem or obtain a more favourable profile for machining. HPMS is also used to check and control the profile during the manufacturing process, swiftly, efficiently and with minimal operator intervention.
The service
Holroyd’s dedicated technical support team is committed to providing our customers with the very highest levels of service. The team includes experienced Holroyd mechanical, electrical, software and commissioning engineers who can provide a solution that’s precisely tailored to your needs, however complex, and your deadlines, however tight.

Access to stock
Our technical support team has direct access to all stock for Holroyd machines, allowing replacements to be dispatched, often on a same-day basis, and machine maintenance to be carried out swiftly.

Problem, solution
Given the experience of our engineers, who have all been intimately involved in the design and manufacture of our own machines, very often a phone call from a customer is all it takes for them to identify and solve a problem with a machine.

Support on site
When Holroyd experience is required on-site, our engineers will travel at short notice to attend to a customer’s machine.

Production
The team can also give advice and support on manufacturing processes in circumstances that require the input of an experienced operator to ensure that production is maintained.

Mechanical
Our mechanical engineers have intimate knowledge and experience of the design, construction and build process of our machines, which means they can address any issue with a Holroyd machine with the utmost speed and efficiency.

Tooling
Since Holroyd offers component manufacturing services, its machines are highly utilised. In this environment, production tooling is crucial to the efficiency and effectiveness of the process. As a result, unlike many other machine tool manufacturers, Holroyd’s engineers are able to offer qualified and reliable advice on any tooling issue.

Software
Holroyd’s software team is constantly developing our machine control and profiling software, making the very latest developments and problem solving codes available to our customers.

Upgrades
We’re pleased to report that many of our machines have a very long working life performing specialised machining tasks. With a history dating back over a century, Holroyd as a company has enjoyed a long working life too. As a result, our experience of retrofitting, refurbishing and keeping machines up-to-date and working as efficiently as possible is unrivalled.

TOTAL GLOBAL SERVICE & SUPPORT
Whether you need service or support, Holroyd’s Customer Care team makes all the difference too.

Who gives you service and support all around the globe? Holroyd. Precisely.
**AUTOMATION & NETWORKING**

**Hardware or software? The answer is Holroyd.**

**Networking**

Rough and finish milling. The profile file is downloaded to the machine (1). The profile data is sent to the cutter grinder (2). The component is rough milled. The finish cutter is ground to the correct profile (3). The component is finish milled and checked on the CMM (4). The deviation in profile is sent to the cutter grinder and the finish cutter is reground (5). The component is checked again and accepted.

Finish grinding - The profile data is downloaded to the machine (1). The wheel is dressed to the required profile. The component is finish ground and checked by the on-board 3D scanning probe system. The deviation in profile is processed in the machine CNC and the wheel is re-dressed. The component can then be reground. The CMM shown above can be used for creating calibration artefacts for the grinding machine (2) & (3).

**Automation**

With years of experience and a profound understanding of production issues, Holroyd can offer a comprehensive range of automation options for its machines. From a single robot loader to a fully integrated manufacturing cell, Holroyd can implement and manage every automation solution from concept to completion.

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**Screw and rotor manufacturing technology**

Precision Components Limited has been at the forefront of screw and compressor rotor manufacture for over 50 years, working closely with customers to design and produce all types of helical forms, gears, rotors, superchargers, pump and vacuum screws.

Formerly the manufacturing division of Holroyd, and now the sub-contract manufacturing division of Precision Technologies Group (PTG), Precision Components has the capability to produce both prototype components and volume production. Key to the success of the business is high-speed helical screw rotor milling and grinding machines offering high power and high stock removal rates, coupled with onboard measuring capabilities.

Working closely with clients in the HVAC, Air compression, Gas transmission and distribution, and Fluids processing, metering and handling market sectors, Precision Components has the flexibility to produce new types of screw profiles in a matter of hours, dramatically reducing customer development and process lead-times.

Screws are supplied to a wide range of industries including:

- Air compression
- Refrigeration
- Air conditioning
- Hydraulic pumps - twin screw, triple screw
- Gas processing
- Super chargers for automotive, racing, marine and aerospace
- Fuel cells
- Metering
- Expanders
- Engines
- Blowers - roots type - asymmetric
- Vacuum pumps - ‘Quimby’-type, epitrochoid, epicycloid
- Oil and gas - down hole tools

Size range manufactured to date: 6mm to 816mm outside diameter.