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Corporate Profile



Chairman's introduction

Manufacturing businesses today operate in a dynamic market place. Fluctuating macro economic cycles, increased globalisation, and the rapid development of new technologies place exceptional pressure on businesses to function more efficiently.

To meet these challenges in a sustainable manner, our objective at Group Rhodes is to ensure that our international base of customers gains long term added value from the products and after market services that we provide.

We work to achieve this goal through the development of close working relationships with our end users and by ensuring that we offer high quality, functional and innovative products. We consider the foundation of our trading relationship to be "partnership" and that the acid test of any partnership is business growth, continuous improvement and the creation of competitive advantage.

At Group Rhodes we pride ourselves not only on the quality of our products, but on the quality of our people. It's a team imbued with a culture of innovation. We are committed to first class, design-led, British engineering and are geared directly to the needs of our customers.

I invite you to experience the advantages and benefits that Group Rhodes products can bring to your business.

I would like to welcome you to the new edition of the Group Rhodes Corporate Profile. The brochure has been designed as an easy to use guide, which offers a general overview of the varied products and services supplied by the Group and an insight into the engineering excellence at our core.

C I Ridgway Chairman

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His Royal Highness, the Duke of Kent, KG, inspects circulation coins produced on a Rhodes-HME 'Coinmaster IV' Minting Press during his visit to Group Rhodes.



From Left: His Royal Highness, the Duke of Kent, KG, Group Rhodes Chairman, Mr Ian Ridgway, and The Lord Lieutenant of West Yorkshire, Dr Ingrid Roscoe.



GROUP RHODES



Group Rhodes is one of Europe's largest Original Equipment Manufacturers in its field, supplying an extensive range of machinery for Metalforming, Material Handling, Clay Preparation, Concrete Working and Special Purpose applications. The main divisions of the Group consist of **Joseph Rhodes, Coil Equipment Warehouse, Rhodes Interform** and **Craven Fawcett**.

The Group actively manufactures and markets over fifty basic ranges of machines, although pride is taken in its ability to design, develop and manufacture bespoke machinery and complete turnkey solutions. The Product/Industry Matrix on pages 4 and 5 provides a general overview of industries that utilise Group Rhodes machinery and services.

The need for efficient production integration and the implementation of lean manufacturing techniques is as important for Group Rhodes as it is for those who utilise its products. The growth of the Group has served to significantly enhance its manufacturing capabilities, and the varied technologies developed by each group company have strengthened the innovative nature of the complete product portfolio.

The Group operates from an 8-acre site in Wakefield, West Yorkshire (right) with over 15,000 sq. metres of factory space under cranage. This extensive production facility ensures that all aspects of machine build are controlled to the Group Rhodes quality (ISO 9001:2000), environmental (ISO 14001:1996) and European safety (CE) accreditations.







Company Industry Matrix



Group Divisions

Industry Aerospace Agriculture Aluminium Automotive Brass Brown Goods Building Products Clay Working (Ceramic) Composites Concrete Working Forging



Joseph Rhodes
Bentley
HME
HME Minting
Cowlishaw Walker
Dualform

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Coil Equipment Warehouse

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Fielding and Platt
Henry Berry
John Shaw
Chester Hydraulics
Beauford Engineers
Berry Refractories

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Craven Fawcett
Fielding & Platt Concrete

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General Press Working
 Mining and Quarrying
 Minting
 Nuclear
 Ordnance
 Pharmaceutical
 Prototyping
 Railway
 Recycling
 Refractory
 Rubber
 Special Applications
 Steel Processing
 Textile
 White Goods

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	•															Special Purpose Machinery
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Founded in 1824, **Joseph Rhodes Limited** is one of Europe's leading manufacturers of Computer Numerically Controlled Metalforming Machinery and a specialist in the bespoke design of mechanical and hydraulic presses.

The company is renowned for supplying high quality, state of the art machinery. Standard models of Mechanical and Hydraulic presses, offered in both Open Front and Double Sided designs sit alongside highly specialised machinery in the Rhodes portfolio.

The company regularly exports approximately one third of its turnover to over thirty countries each year, and Joseph Rhodes products are also manufactured abroad under licence. The export market is served by a UK based export manager who liaises with an organisation of distributors and agents in most leading

countries, although the majority of exported machines are sold directly to the customer from the UK.

Expansion over recent years has seen Rhodes acquire synergistic Metalforming Machinery companies such as Bentley, HME, HME Minting, Cowlshaw Walker and Dualform. In addition, new product lines are continuously under research for which Patents and International Machine Tool Awards have been achieved.

The extensive Metalforming Machinery product range includes:

- Mechanical Presses
- Hydraulic Presses
- Minting Machinery
- Punching Machinery
- Mechanical Shears
- Hydraulic Shears
- Folding Machinery
- Extrusion Presses
- Special Purpose Machinery





Joseph Rhodes Special Projects



Joseph Rhodes takes great pride in its ability to design and manufacture bespoke machinery and complete turnkey solutions.

The Company has an international reputation for systems integration, successfully interfacing CNC power presses with micro processor or PLC controlled handling and feeding equipment. This expertise allows Joseph Rhodes to offer state of the art manufacturing cells incorporating presses from 10 to 5000 tonnes.

All major research and development work is conducted in-house. Special projects completed by the Joseph Rhodes engineering team range from the award winning Ultra Shear guillotine (above) fitted with a bespoke cartridge loading system, to the 4500 tonne hydraulic four pillar press illustrated in the main picture (right).





The **Bentley** portfolio of power presses range from 20 – 600 tonnes in capacity and include the popular Epic models with Epicyclic Drive and front to back crankshaft design.

The Epic range of power presses (illustrated above) is generally accepted as representing the finest machine of its type in the world. An Epicyclic Drive, combined with a pneumatically operated Double Disc Brake Unit maintains a high energy rating throughout the press speed range. This energy is controlled by the low inertia high torque braking system which ensures highly accurate stopping positions throughout the press cycle.

In addition to the many standard features of the Bentley press range, such as pneumatic slide balance and adjustable stroke, customer specified features include hydraulic overload, hydraulic tool clamping and active load measurement.

HME

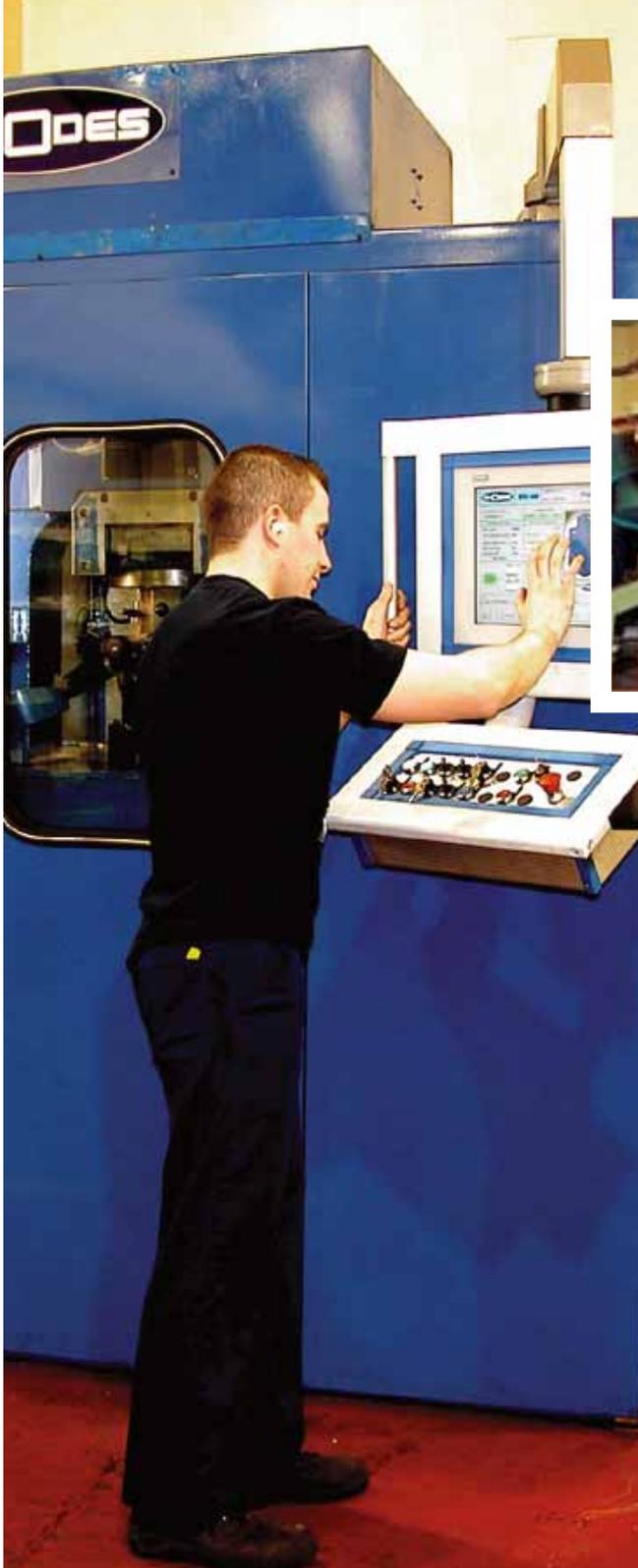


Founded in 1921, **HME** continue to manufacture a wide variety of Mechanical Power Presses. The extensive HME range includes Open Front, Four Pillar and Double Sided mechanical presses as well as the popular HME "A" shaped press frame.

HME "AH" presses (right) use computer aided design techniques to increase tool life through class-leading structural rigidity and uniform parallel deflection. Access to all four sides of the machine provides for easy tool changing operations and is ideal for progression tooling set-ups and interfacing with automated production lines.

A full selection of HME spares are held in stock at the Wakefield (UK) factory supported by a team of HME dedicated service engineers.





HME
Minting

Boasting an international customer base, the **HME Minting** press range includes the K-Series of Knuckle Joint Under-Drive Coining Machines and the new HME high speed Coinmaster IV press, designed for the production of coinage for circulation.

The HME K-Series presses are available in 180, 360 and 600 tonnes capacity, and offer a market leading solution to a wide variety of coining, embossing, forming and sizing operations. These machines are ideally suited for the production of medals and proof coins, and are also used in many other industries where coining operations are required.

The HME Coinmaster Minting machines are designed and built for speed, quality and reliability. The new generation of the high speed HME Coinmaster press (pictured left at a National Mint) produces circulation coins at speeds in excess of 750 coins per minute.



Renowned throughout the industry for the accuracy and reliability of its products, **Cowlshaw Walker** has supplied robust and durable Mechanical Power Presses for over seventy years.

The Company offers mechanical single and double-action presses with ratings from 40 to 2500 tonnes and bed areas up to 3700 mm x 2100 mm. All presses are eccentrically driven with the transmission being totally enclosed within the press crown.

Cowlshaw Walker presses are generally standardised in terms of construction, stroke and bed area, and are used predominantly in the Automotive, Agricultural Machinery and White Goods industries. When the occasion arises however, the designs are such that they can be adapted to suit the special requirements of the customer, and "standard specials" incorporating features such as Moving Bolsters (pictured above) are regularly supplied.





Dualform



The patented **Dualform** process lends its name to this singular range of Double Acting Hydraulic Presses. The process enables a matched set of top and bottom dies to be created simultaneously within the press itself, which can then be used for the manufacture of pressed parts within hours.

The tools are cast using "Jewelrite", a unique, low melting point alloy, contained in a special "bath" within the press tool space (pictured above). After use, the tools are melted in situ and the same alloy used to cast a new set. This process makes the technology ideal for prototype, pre-production and other medium or low volume work.

The Dualform process enables the user to make significant savings in both production and tooling costs as well as dramatically reducing time-to-market for new products and designs.



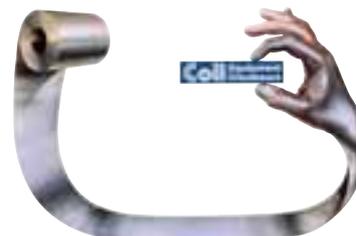
Coil Equipment Warehouse strives to supply the best quality and value in coil processing machinery. The large warehouse stock provides customers with the unique ability to view, select and take delivery of a wide variety of decoiling, levelling and press feeding equipment.

Technical sales and service engineers are on hand to commission and support the complete Coil Equipment Warehouse range, as well as offering technical advice on new products and CNC process line integration.

As well as designing and manufacturing its own machinery, the Company sources the best value coil equipment from manufacturers in the UK and abroad, and its bulk buying power ensures customers the lowest possible prices. All Coil Equipment Warehouse products are manufactured to International (ISO) and European (CE) quality and safety standards.

The Coil Equipment Warehouse product range includes:

- NC Servo Roll Feed Equipment
- Light, Medium and Heavy Duty Servo Leveller Feed Systems
- Patented High Speed Gripper Feeds
- Single and Double Sided Decoilers (with motorised option)
- Motorised Pallet Decoilers
- Cradle Levellers
- Combination Coil Holder Leveller Feed Systems (with powered snubbers)
- Strip Lubricators
- Coil Cars (with motorised option)
- Motorised Levellers
- Space Savers (Decoiler Levellers)
- Cut to Length and CNC Coil Processing Lines







Rhodes Interform Limited design and manufacture special purpose built presses and machinery. Subsidiary companies include the international names of **Fielding and Platt, Chester Hydraulics, John Shaw, Henry Berry, Beauford Engineers** and **Berry Refractories**. The capabilities and product ranges of these companies are outlined in the subsequent pages.

Geared towards efficient and effective production, the Company's standard range of machinery is utilised throughout manufacturing industry, from the nuclear and pharmaceutical sectors through to the plastics and textile markets. Rhodes Interform also provides complete turnkey solutions for specialised machinery, particularly for applications within the Aerospace and Rail industries.

The Rhodes Interform product range includes:

- Die Spotting Presses
- Forging Presses
- Centre Column Pull-down Presses
- Ceramic Forming Presses
- Expanding Presses
- Hydrostatic Tube Testing Machines
- Pipe Socket Rolling Machines
- Billet Descale Units
- Baling Presses
- Super Plastic Forming Presses
- Hot/Cold Multi-Daylight Platen Presses
- Railway Workshop Machinery
- Double Box Baling Presses
- Upstroke/Downstroke Presses
- Belting Presses
- Coining Machines
- Column Presses
- Composite Machinery
- Single, Double and Triple Action Deep Drawing Presses
- Forcing Presses
- Moulding Presses
- Portal Frame Presses
- Straightening Presses
- Machinery for the Nuclear Industry
- Upset Testing Machines
- Briquette Presses.



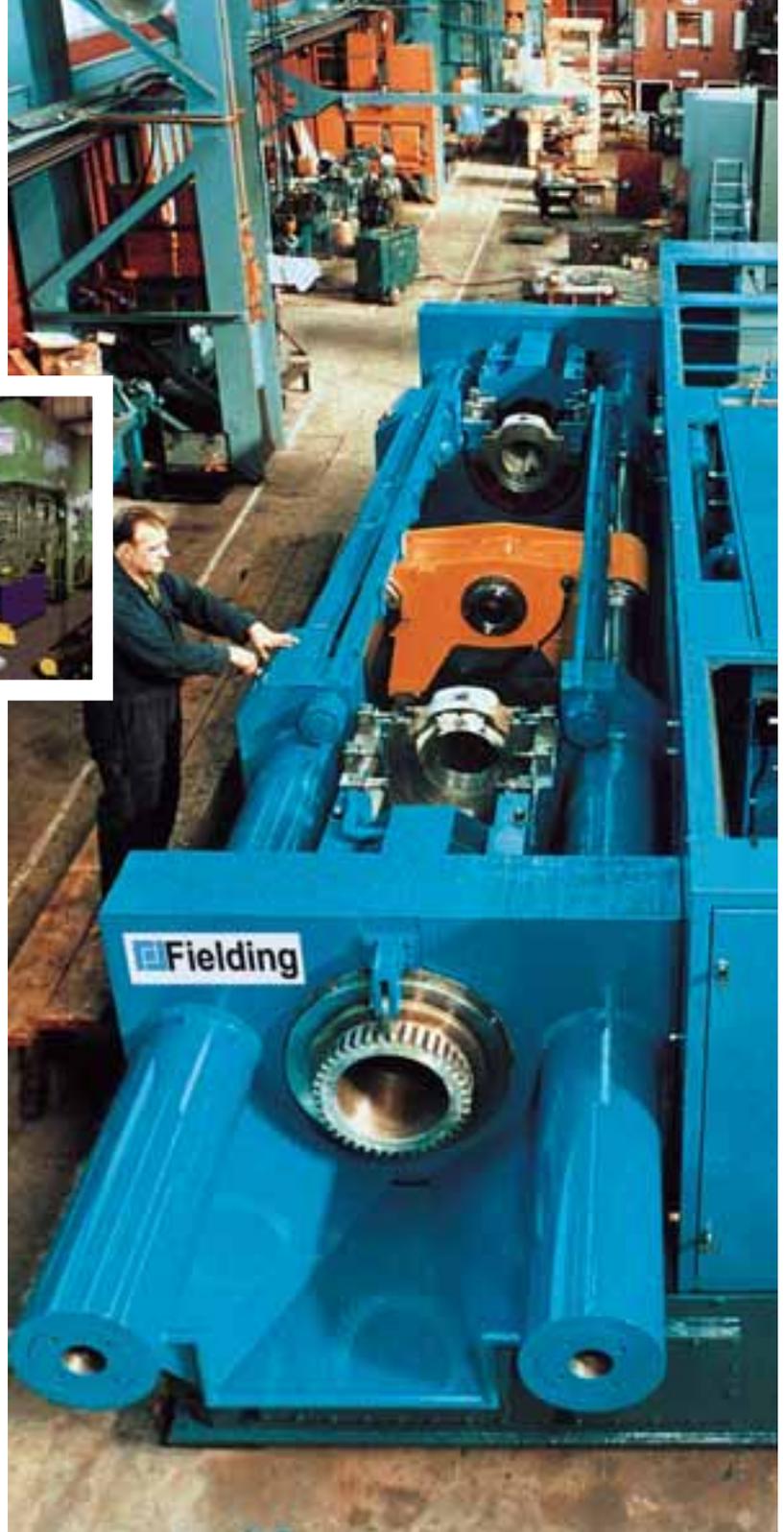
Fielding



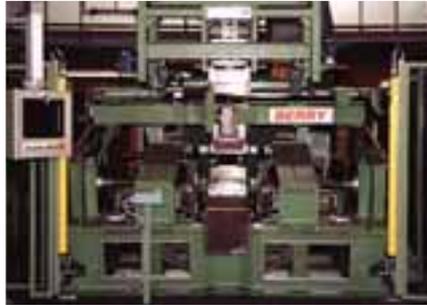
Fielding and Platt manufacture a wide selection of machinery ranging from Stretch Forming equipment through to non-ferrous metal Extrusion Presses (pictured above) and Deep Drawing and Ironing (DDI) machinery (right).

Aluminium Plate Stretchers are available with a stretching force of up to 20,000 tonnes although larger machines are available to special design. PLC controlled "in line" Stretcher systems with a capacity range of 15 to 60 tonnes are also available from the Fielding and Platt portfolio.

The metal Extrusion and DDI processes are generally used for the cold drawing of circular blanks into tubular components with single closed ends. Close tolerance products produced on Fielding and Platt machinery include items such as fire extinguishers, oil filters, engine cylinder liners and gas canisters.



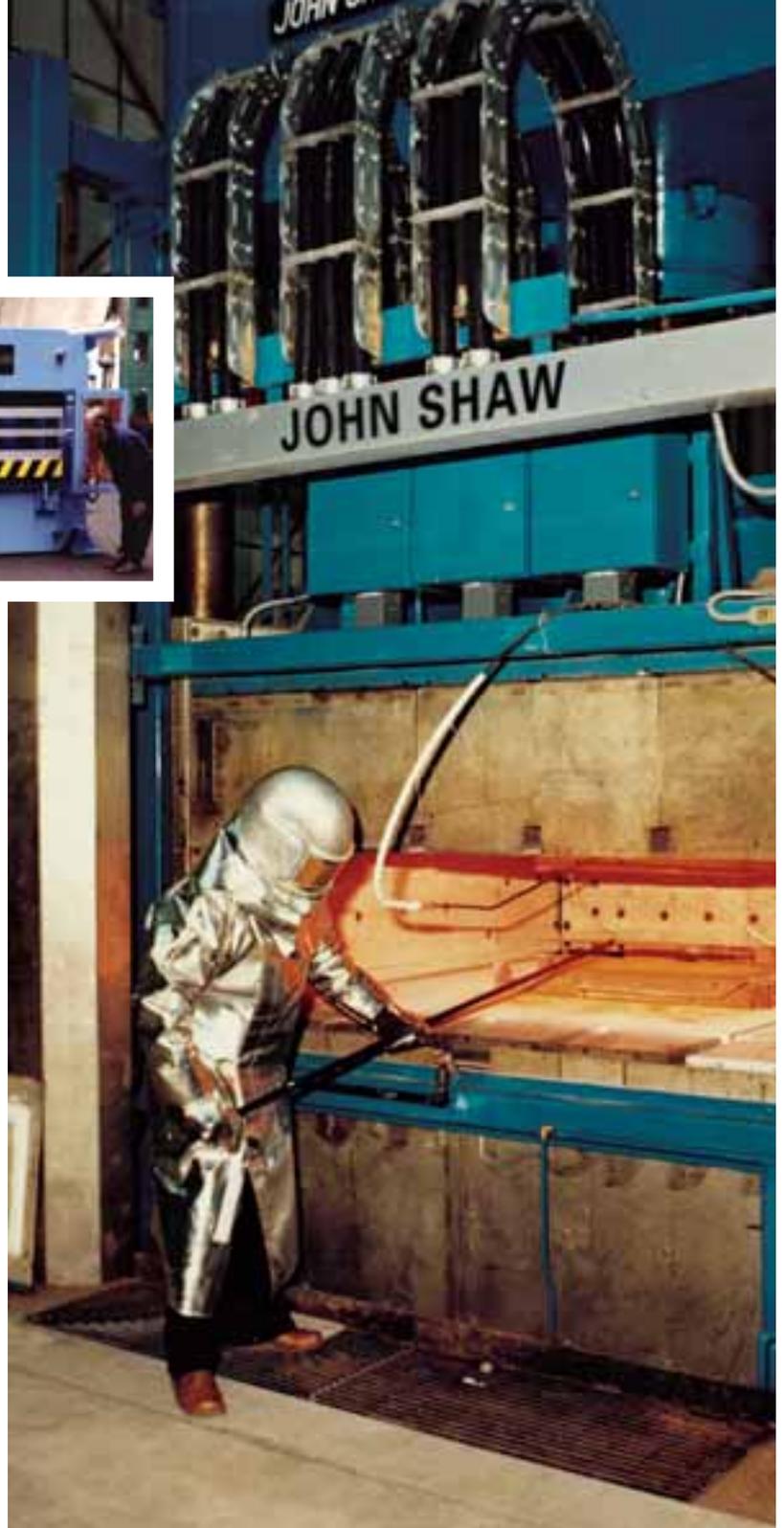
BERRY



Henry Berry has over 125 years of experience in the manufacture of hydraulic and mechanical machinery. Recent major areas of supply include Radiator plants for the Automotive industry (illustrated above) and the field of Railway maintenance, for which equipment has been installed in workshops worldwide.

Machinery produced for the Railway industry includes plant for both the assembly and stripping of wheels and the scragging and testing of springs. The main picture (left) shows a line of 75 tonne Spring Buckle Assembly presses complete with handling equipment.

The range of Railway Workshop Machinery includes: Wheel Assembly and Removal Presses • Gravity Wheel Drop Units • Axle Box Assembly and Removal Presses • Retaining Ring Fixing Machines • Spring Scragging and Testing Machines • Rail Bending and Straightening Presses.



John Shaw has specialised in the production of Hydraulic Presses for over 150 years, and today manufactures from an extensive product portfolio.

The Company is world renowned for its range of Super Plastic Forming/Diffusion Bonding (SPF/DB) Machinery (right) which utilise high temperatures, with relatively low gas pressures to form aluminium and titanium alloys into strong, complex yet lightweight structures. *(See also Rhodes Interform Company; Chester Hydraulics).*

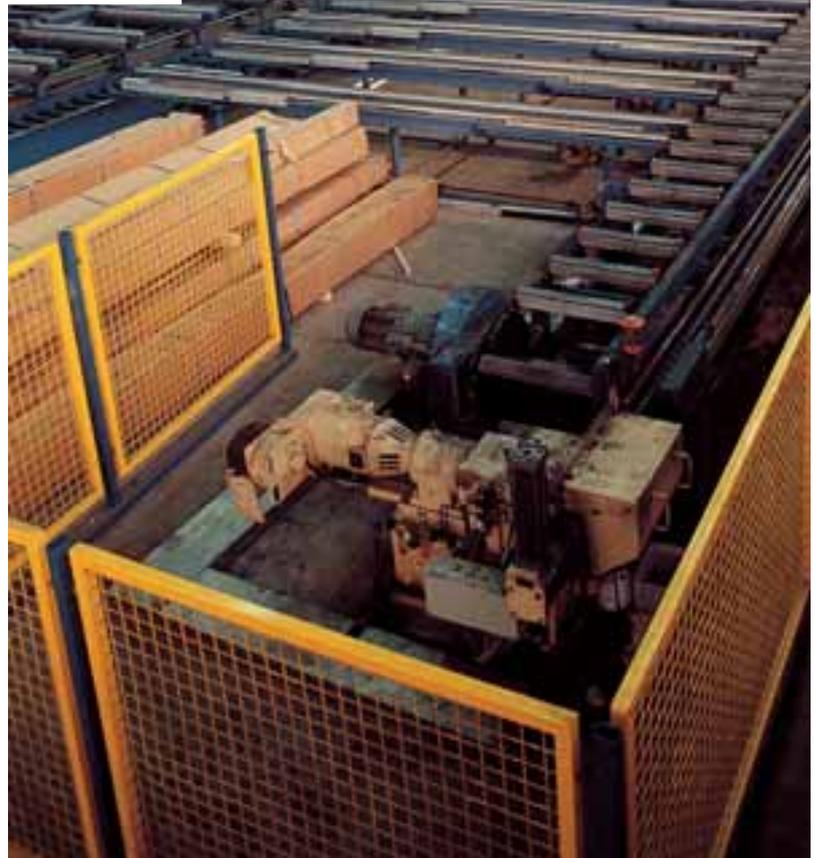
In addition to SPF/DB machines, the John Shaw machinery range also includes Hot/Cold Multi-Daylight Platten Presses (illustrated above), Composite Moulding Presses, Rubber Pad Presses, Three Point Bending Machinery, Straightening Presses, Baling Presses, and a wide range of Ordnance Presses.



Chester Hydraulics has worked alongside John Shaw for many years, and similarly supplies an extensive range of Hydraulic Presses for applications as diverse as powder compacting and ceramic forming.

The Company is also particularly renowned for its range of Super Plastic Forming (SPF) presses, a process that allows alloys to undergo extraordinary tensile deformation to produce uniform parts that are up to 50% lighter than conventionally produced components (see main illustration; left).

Other products within the Chester Hydraulics portfolio include a comprehensive range of Hydraulic Presses from 300 - 1500 tonnes, which have been designed specifically for the Coining (cold setting, planishing or calibration) of steel drop forgings or malleable iron castings.



Beauford Engineers designs and manufactures heavy mechanical handling equipment for transporting and manipulating components up to 150 tonnes, predominantly for the steel processing and nuclear industries. Beauford Engineers has extensive experience in all aspects of the iron and steel industries, and is capable of tailoring handling systems to suit a customers exact requirements.

The Beauford machinery range includes:

- Hot Metal Ladle Transfer Cars
- Scrap Metal Basket Transfer Cars
- Ladle Tilters
- Converter Doors
- Vacuum Degassing Platforms
- Tun-Dish Handling Equipment
- Ingot Handling Equipment
- Slab Handling Equipment
- Bloom Handling Equipment
- Billet/Bar Handling Equipment
- Plate Handling Equipment
- Section Handling Equipment
- Merchant Bar Handling Equipment



**BERRY
REFRACTORIES**



Berry Refractories manufacture a range of Compression Presses, in particular Roller Briquette Presses (left and above) used in the production of anthracite briquettes at rates of up to 15 tonnes per hour. Manufactured from coal, the anthracite briquettes are used as a form of smokeless fuel.

Berry Refractories also offer a range of Bore Mills and Mechanical Toggle Presses for the production of high temperature fire bricks for Kiln applications, as well as Vibratory presses used in the manufacture of refractory shapes. A full portfolio of crushing, mixing, blending and feeding equipment complete the Berry Refractory range (*see also Group Rhodes company; Craven Fawcett*).



Established in 1843, **Craven Fawcett Limited** is a pioneer in the field of Clayworking machinery, helping Britain build and maintain one of the most efficient Clayworking industries in the world. Craven Fawcett design and manufacture a full portfolio of clay preparation machinery ranging from Box Feeders and Grinding Mills through to Mixers and Extruders.

In addition to supplying high quality Original Equipment Manufacturer (OEM) products and services, Craven Fawcett places great emphasis on spare part design, material selection and component finish in order to optimise production efficiency and reduce the frequency of machinery repair. Highly trained and experienced service engineers dedicated to clay preparation machinery are available at short notice to repair and maintain Craven Fawcett equipment in the field.

Craven Fawcett clay working machinery is exported throughout the world, successfully competing for international market share on the basis of design, price and build quality. Craven Fawcett Extruders, for example, are renowned for their robustness and production efficiency, operating in some of the most difficult production environments in the world. *(see also Group Rhodes company; Berry Refractories).*

Craven Fawcett Product Range includes:

Box Feeders • Worm Feeders • Kibblers
 • Crushers • Wet and Dry Grinding Mills
 • Mixers • Storage Hoppers • Extrusion Machines • Cutting Tables • Refractory Equipment • Vertical and Horizontal Pipe Machines • Pipe Trimming and Handling Equipment • Stiff Plastic Presses • Ancillary Equipment and Spare Parts for the Heavy Clay Industry







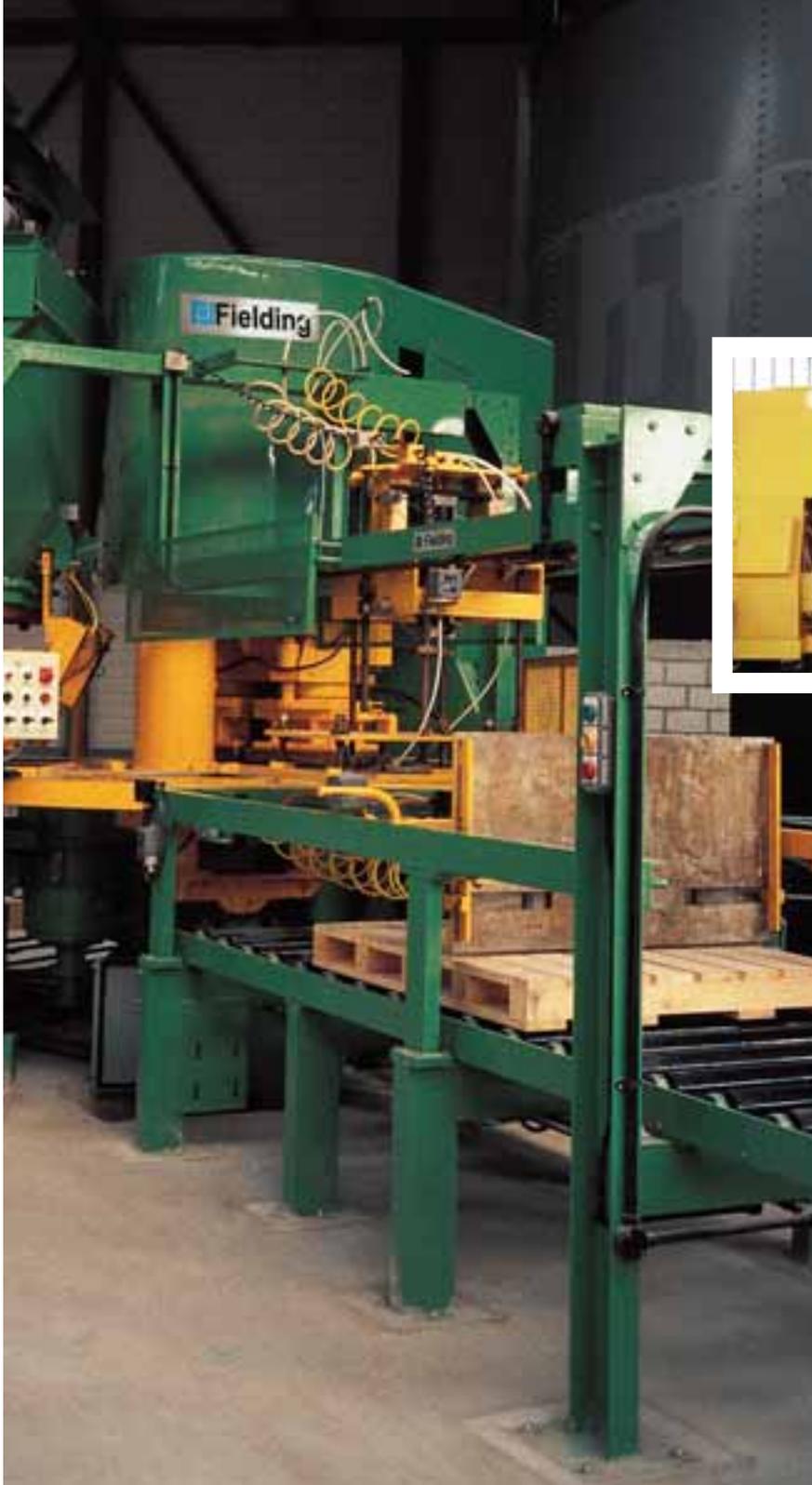
Craven Fawcett Special Projects



Craven Fawcett has always taken pride in its ability to lead the industry in the design and development of advanced clayworking machinery and components.

From the design of one of the worlds first brick plants to utilise fibre-optic communication to control production, through to unique Setting Machines to handle non-standard clay and concrete product types, Craven Fawcett create innovative solutions to meet the needs of both the clay and concrete industries. *(See also Group Rhodes company; Fielding and Platt Concrete).*

Clay Pelletisers for China clay production, Pan Mills for crushing minerals used in paint additives, and Extrusion Machinery designed to produce "ribbons" of clay for lining reservoirs exemplify Craven Fawcett's flexible approach to "special projects".



The **Fielding and Platt** range of concrete machinery is specifically designed for producing high quality concrete products by either the Semi-Dry Mix Process or Wet Mix Process. Ancillary products, such as Take-Off Edge Stacking Units (illustrated left) and automatic Mould Filling systems (above) are available to complement the full range of Fielding and Platt concrete presses.

Block Making Machinery using the Semi-Dry Mix process ensures high production output with low unit costs, and is a process suitable for most aggregates. Compaction is by vibration combined with hydraulic pressure to give consistent results and optimum cement usage.

Fielding and Platt Wet Mix concrete presses are ideal for the manufacture of high-strength, high-density concrete products to close tolerances. Single station and three station presses utilise the Fielding Wet-Pressed Process to ensure long product life and an excellent surface finish.

After Sales Service and Machine Refurbishment



Divisions

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Craven Fawcett

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Spares and Service

Group Rhodes holds an extensive stock of spare parts for the complete range of machinery offered by each Group company. Specialist service engineers based throughout the UK are on hand to undertake machine commissioning and service work both at home and abroad. Pre-Planned Maintenance Service Contracts are also available to customers for all machinery in the Group portfolio.

Machine Refurbishment

The Group offers complete machine refurbishments on all metalforming, material handling, clay preparation and concrete working machinery, as well as undertaking refurbishment work on equipment of other makes. Group Rhodes can also offer full PLC or CNC control system upgrades with software designed to meet the individual requirements of each customer.

