



'Touch Screen Technology' and 'Mining-Strength Hammers'

INNOVATIONS FROM LEADING UK MILL MANUFACTURER CHRISTY TURNER FOR 2016

Latest E R & F Turner touch screen technology display, introduced as standard across its leading 600 breakfast mills

At the cutting edge of Great British milling engineering for almost two centuries, Christy Turner has had another busy year in the research & development department.

With a history of innovation and fine British engineering the company has introduced a raft of technological advances to its leading flaking and hammer mills, including advanced 'Touch Screen Technology' to its leading 600 breakfast mill, 'Mining -Strength Materials' to its range of Christy & Norris and Miracle Mill hammers and the creation of a new flaking mill - a conversion of its 600 breakfast mill re-engineered specifically for the animal feed market.

A consolidation of highly respected British brands E R & F Turner, Christy & Norris and Miracle Mills, Christy Turner Ltd supplies high quality robust and reliable flaking mills, hammer mills, pulverizers, and associated plant for the breakfast cereal, animal feed, biomass, waste recycling, minerals, chemicals and pharmaceuticals industries around the world. Building upon manufacturing skills and expertise since E R & F Turner started production in 1837, while making the most of modern technological advances, Christy Turner continue to produce machines of choice for manufacturers around the globe. The company's commitment to innovation and quality has helped it maintain a foothold in a highly competitive international industry, together with its esteemed reputation - built on over 175 years of sound British engineering.

E R & F Turner's flaking mills are possibly the most famous export of the Christy Turner brand family. Over 90 percent of the machines used by UK cereal giant Weetabix at Burton Latimer & Corby sites are E R & F Turner mills - many already offering up decades of service - validating the company's 'Built to Last' reputation.

Christy Turner's first major project during the last year was the development of an advanced 'Touch Screen Technology' system for its leading 600 breakfast cereal flaking mill.

Managing Director Chris Jones said: "Creating machines which are 'simpler and more hygienic' are constant themes for our development team.

"The introduction of 'Touch Screen Technology' to our leading 600 breakfast mill has taken almost a year to develop and implement, including extensive market research on the look and feel to achieve the most intuitive system, using references from across a wide range of industries.

"Our original dashboard was a series of lights and buttons with separate panels to control the mill, feeder and cooling system and a high level of training was required to operate the mill and its associated equipment. Supervisor control involved keyed access. On the new touch screen panel, one panel controls absolutely everything and operation can be learnt in minutes.

Original E R & F Turner 600 Breakfast Flaking Mill control panel

"It was very important for us to create a completely intuitive system, which mimics mobile phones and tablets with regards to ease of use. The time and effort in getting the icons and sequencing spot on was worth it, as the feedback has been fantastic. Our machines are exported around the globe so any measures we can introduce which help overcome language barriers are essential."

He added: "The screen is designed to guide the operator through the process using simple colour coding, green for working and red for fault. Certain options, while visible, are greyed out until the machine is ready for each stage, for example the feed cannot be started until the rolls are turning. The sequencing and images provided by the touch screen have turned the panel into a very simple visual instruction prompt which literally trouble shoots and prevents issues arising like, for instance, certain parts of the system being turned on in the wrong order."

New Touch Screen E R & F Turner 600 Breakfast Flaking Mill control panel

The new panel uses internationally recognised symbols, rather than text, allowing for multilingual control and the three levels of access for operator, supervisor and maintenance are accessed via passwords, replacing the need for keys. The compact touch screen is also much easier to clean, adding to improved hygiene.

The icons were created with Christy Turner's own engineering design software which generate simplified isometric renderings of the key components of the system. The technology now comes as standard on E R & F Turner 600 breakfast mills.

Chris added: "We are really proud of this highly technological addition to our most popular flaking mill and the success of this project, which is in keeping with the company's historic reputation for innovation."

Meanwhile, on the hammer mill front, mining strength materials have been introduced to the company's Christy & Norris hammer range which is increasing hammer service life by up to 30%.

As OEM suppliers for Christy & Norris & Miracle Mill hammer mills, grinders & pulverizers, Christy Turner are constantly working to improve the wear parts across these machines.

During the last year the research team have been particularly focused on improving the wear characteristics of its hammers, sometimes referred to as 'beaters', by introducing new materials & profiles. By reviewing new materials & grades proven in the mining industry Christy Turner have been able to offer the best combination of wear resistance and impact strength.

Working in partnership with internationally recognised wear-part experts SSAB, manufacturers of Hardox wear plate, Christy Turner have created a line of superior quality hammers with



market-leading longevity.

Chris explained: "Hardox has a combination of hardness, impact toughness & yield strength that make it an ideal material for heavy duty hammer mills. The result is even some of our previous wear-optimised hammers can have service life increased by around 30 percent."

The service life of hammers is an important consideration for businesses, that need to factor in the cost of replacing worn hammers, including parts and labour, plus the time it takes to change them, which leaves busy production machines out of action. Inferior quality hammers can also affect the quality and consistency of output and result in increased energy consumption - which is generally the highest running cost of any business.

Before upgrade

After upgrade



And last, but by no means least, Christy Turner's third major project during the last year was the creation of a new E R & F Turner flaking mill, specifically engineered for the animal feed market and based on the company's leading breakfast cereal mill design.

E R & F Turner's latest 600 Flaking Mill - re-engineered specifically for the animal feed market

While the breakfast cereal market is dominated by the need to create tasty and aesthetic flakes that meet both the discerning human palate and eye, the animal feed market has very different requirements. It was this key difference which inspired E R & F Turner's latest 600 Flaking Mill for the animal feed market. The simplified design enables animal feed producers to install a premium, high capacity flaking mill at a highly competitive price.

Chris explained: "The redevelopment of our 600 flaking mill provides real benefits to animal feed producers seeking a high capacity machine. Many manufacturers know and trust the E R & F Turner brand and the after care that comes with it and are attracted to the benefits of our high capacity 600 flaking mill, but animal feed producers simply do not require breakfast cereal style flakes for animal feed, or the prices that come with machines designed to deliver this level of uniformity.

"Breakfast cereal capacity is limited by flake quality, as the human consumer does not want compound flakes (doubles) or

excessive fines in their cereal packet. Flakes also need to be similar in thickness to ensure, when they are toasted, the colours are uniform. However, in the animal feed market, the demands are very different. A higher capacity can be achieved, with fluted rolls to assist feed rates, as the eye of the consumer is not as discerning. A thicker flake is also desirable and helps satiation in the animals."

The mill retains all the necessary features of the proven E R & F Turner breakfast cereal mill - which is already used extensively across the breakfast cereal industry - but is simplified, where possible, to meet the target price range and specific requirements of the animal feed industry. It also offers a more hygienic flaking process and newly restructured pricing tariff, enabling the purchase of a premium brand at various price breaks, dependent on the manufacturer's needs.

The latest 600 animal feed flaking mill - which was launched at Victam 2015 - is designed to handle steam flaked, micronised and extruded grains, maize, wheat, barley, beans, peas and soya. It takes the proven chassis, bearing housings and roll design of the 600 breakfast mill, but incorporates some key benefits exclusively for the animal feed market.

E R & F Turner's 460 and 550 mills are already widely used across the animal feed sector. Sales of the latest 600 animal mill are already coming in with the first due to be installed at Kettering horse feed specialists Dodson & Horrell in the Summer.

The 600 animal feed mill also features more open architecture, something which is becoming increasingly desirable in the industry, as it allows for ease of cleaning. Christy Turner are considering rolling this feature out across more mills in its range in the future.

Chris added: "We are proud to have introduced such a wide variety of technological advances in the space of a year and will continue to innovate in the milling sector, in line with our company's tradition of cutting edge, high-quality British engineering."

Christy Turner still manufacture its machines on site in Ipswich, where E R & F Turner began its historic journey in 1837.

