



Clavering Place Farm

Saffron Walden

PROJECT: Clavering Place Farm
LOCATION: Saffron Walden, Essex
PROJECT BRIEF: Tackle condensation build up on roof during drying and cooling processes.
HYDOR PRODUCTS INSTALLED: HV 1250 Belt Drive Fans



A grain store on an Essex farm has demonstrated the importance of adequate ventilation to assist in the cooling and drying process following the installation of a series of belt drive fans by agricultural ventilation experts, Hydor Limited.

Clavering Place Farm near Saffron Walden erected a 4,000 tonne capacity grain store. To enable articulated lorries to enter and tip grain into a pile which reaches 3.6 metres when full, the store has been constructed to a greater height than usual.

During the drying or cooling process, the moisture build up within the store was condensing on the underside of the roof and dropping onto the grain below. During the drying process using two 30HP fans blowing air down the central passage and under the grain to assist drying or cooling, farmer James Balaam realised inadequate ventilation was the problem and contacted Hydor.



the store, passing over the grain before being extracted through the Hydor belt drive fans. The air changes that occur in the building effectively remove the moisture from the store.

The success of the solution was ably demonstrated when, as an experiment, the Hydor fans were left switched off overnight during the drying process. Condensation occurred again above the grain store but, within 20 minutes of activating the Hydor fans, it was completely cleared.

Other benefits include the energy conservation of the fans which are able to move large volumes of air (12 cubic metres per second) using only a small 1.1 kilowatt motor, with all of the power devoted to extracting the air due to a centrifugal clutch which opens and holds the fan's backdraught dampers (unlike gravity shutters where a certain percentage of the power is required to hold the shutters open). These dampers also remove any need to install a weather cowl, reducing costs.

The fans are particularly effective in combating cold outside temperatures which increase the propensity for condensation problems. James Balaam comments –

"The installation of the Hydor belt drive fans has given us peace of mind. The fans perform extremely well by removing condensation. When you stand in the grain store, you can feel the air passing over you. We are very pleased."

Hydor Ltd are part of the £62 million Elta Group, a family of businesses with operations in six countries on four continents which, together with a network of international distributors, provides quality fans and related air movement equipment to customers worldwide.

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The solution saw Hydor supply four HV 1250 belt drive fans installed just above the highest point of the grain pile at a height of four metres. By locating the fans opposite the store's shutter doors, the ambient air required by the fans is achieved by lowering the doors to some two metres above the floor. The extract fans then draw the air under the shutters and into



Case Study - Grain Storage - Clavering Place Farm

