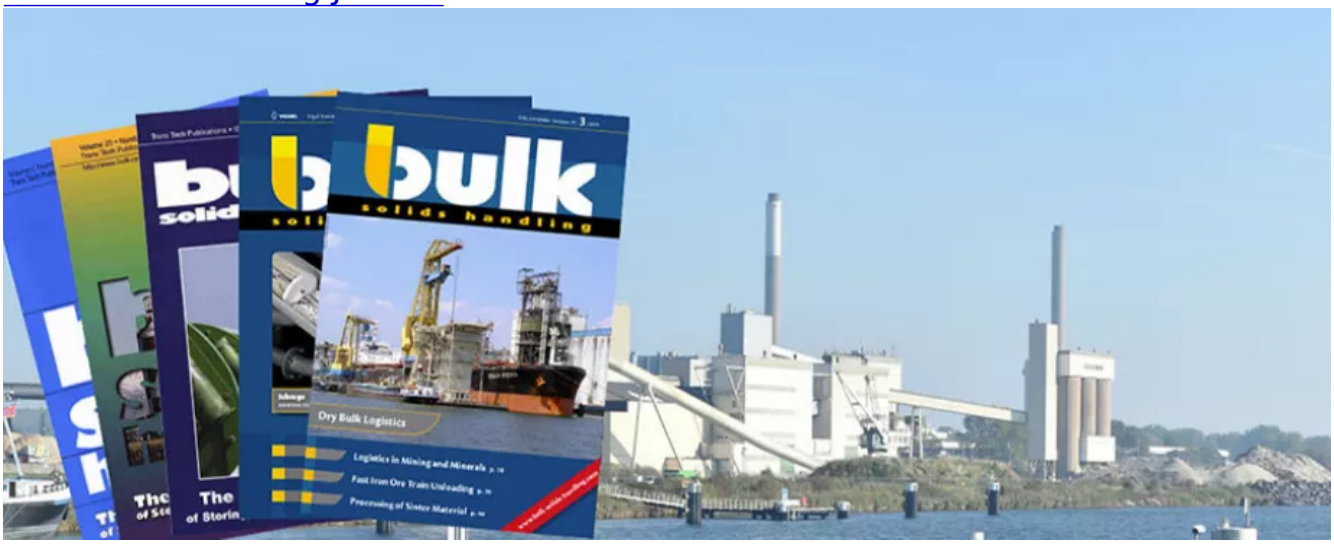
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White Paper

# New Concept in Coal Feeders

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The development of a new machine for feeding coal from storage to pulverising mills is presented. The paper covers the historical background giving rise to the need for such a device, the factors taken into account in its design, how the machine meets the current market need and the implications for the future.

Coal handling has recently become a highly topical subject due mainly to the resurgence of interest in coal as a fuel and chemical feedstock. This upsurge has occurred as a result of dramatically increased world oil prices during recent years. Over the last 15 to 20 years developments in coal handling have essentially been confined to the mining and raw material preparation areas of the minerals processing industry which have different needs to those of the coal burning and processing sectors. As industry is currently considering the benefits of using coal instead of oil or gas, handling requirements fall basically into two separate categories, generally based on the quantities of coal consumed:

- Industrial and institutional coal burning installations in the main feed coal to boilers in its original as bought form. The systems utilised have their own handling requirements which will become more complex as economic factors demand the use of lower and varying grades of coal.
- The high volume users, such as the power generating industry pulverise their coal before firing. The distinction between the two methods of coal firing is

not new and the various types of equipment required to handle the coal have developed separately. The particular requirements of the pulverised fuel firing system are the subject of this case study.

For pulverised fuel firing a butter stock of coal is held in bunkers. From there it is fed into pulverising mills and thence to the burners either directly or indirectly via further storage. This case study deals with the design of the particular piece of equipment used to convey the coal from the bunkers and feed it at the required rate to the pulverising mills.