

DMN-WESTINGHOUSE – The Pick of The Crop



DMN-WESTINGHOUSE MLD 400 rotary valves have proved to be the pick of the crop for major vegetable processing plants. Vak Conveying Systems of Marple, Cheshire designed and installed the waste product removal systems for Marshall's, Lincolnshire Field Products and Exotic Farm Produce all situated in Lincolnshire, the county that produces most of the UK's high quality vegetables.

Vak Systems is a family owned and run firm, with a growing reputation and a blue chip client list. They specialise in the design and installation of pneumatic conveying systems and in this case their specific task was the efficient removal of waste materials from the processing plants. After assessing a range of competing valves they chose the DMN MLD 400 rotary valve as the vital component in their systems.

In the past, waste removal systems had been little more than a belt conveyor, which led to spillage, rotting vegetation and the inevitable smell and fly problems. With Vak's pneumatic conveying system, the removal is completely enclosed and waste can be dispensed directly into trailers for use in animal feed. The original idea for the design came to Director Steve Wild as he was using a garden blower/vacuum to get rid of leaves on his lawn at home. "Needless to say, our system had to be rather more robust," he comments. "It has to deal with all types of material including cabbage butts the size of dinner plates. Even things like chopping knives and pieces of wooden pallet sometimes accidentally get into the line but the MLD 400 has no problem dealing with anything."

Robustness and reliability were the two major factors, which determined Vak's choice of valve along with the excellent back-up given by DMN-WESTINGHOUSE. Being direct drive the valves do not suffer from failed shearing pins and to date they have not had a single problem with them at any of their installations. The only choices Vak Systems had to make were whether to use six or nine vane rotors and selecting the running speed.



The biggest producer of vegetables in the UK, Marshall Brothers (Butterwick), grow and supply fresh and semi-prepared vegetables to major multiple retailers throughout Europe. They have installed five of the MLD valves at their Butterwick plant and another at their plant in Kirton, near Boston, Lincolnshire. Waste from all types of brassicas is conveyed through the system to trailers for removal. The previous system was an underground belt feed, which General Manager of the Pre-

packed Division, Steve Munn admits had become rather antiquated. "The new system is a great improvement", he says. "We have had no problems at all with the DMN valves. Maintenance time has been reduced dramatically, especially compared with the old system and this one is far more hygienic and much safer as it is completely enclosed with no exposed moving parts. Because we have followed the line of the old belt conveyor we have been able to hide everything below ground."

Marshall's are using the MLD 400's, manufactured from nickel-plated cast iron, to convey waste materials through 10 inch pipes. The first one was installed in June 2003 and has been running perfectly ever since.

Exotic Farm Produce Ltd., have installed two of the MLD 400 valves, manufactured in stainless steel so that they do not break their high care fields. They are based in Kirton, Lincolnshire and are a major distribution company, which encourages the sustainable, socially and environmentally-friendly production of food around the world. It has three dedicated product-handling sites in Lincolnshire and major clients such as Asda, Marks & Spencer and Sainsbury's. Vak's system disposes of all waste from their high care and low care areas direct to an outside trailer system. It handles all types of vegetables including broccoli, cauliflower, sweetcorn, carrots, cabbages, tomatoes, leaf products and much more.

As Project Manager Keith Hearne says, "The DMN 400mm valve is large enough and strong enough to cope with anything that has been asked of it and we are delighted with its performance. It's very easy to maintain and extremely reliable. It has given us no problems since it was installed over a year ago - we simply turn it on in the morning, turn it off at night and forget about it in between."

Three valves are also in use at Lincolnshire Field Products who farm in excess of 12,000 acres, principally focused on the production, procurement, packing and distribution of fresh vegetables for Asda stores. They too, recognize the importance of having a reliable valve at the heart of their system, which is in use 24 hours a day. If the valve fails, the system simply will not run and minimal downtime is critical to Operations Director Steve Bates. "We used to have a belt system,

MLD 400 in use at Exotic Farm Produce



which gave us problems with bearings wearing out, belts ripping and of course it did not look (or smell) very pleasant. I am very pleased with the new system and the valves in particular. We installed them in August of last year and apart from the benefits of keeping the waste out of sight, we have saved cost by reducing downtime. The valves are virtually maintenance-free and well worth the investment."

The DMN Westinghouse MLD 400 features compact design and robust construction. It has an easily detachable non-drive side end cover and rotor assembly, is pressure surge proof up to 10 bar g, and has a sheared angle inlet. A large range of options is available including air purge seals, flange drillings to PN 10, ANSI 150 lbs and JIS standards. Versions conforming to ATEX

94/9/EC are also available. It has direct Bonfiglioli or SEW drive (or optional chain drive) and is ideal for inverter control.

The MLD (as well as the MALD and MGLD) valves, have been developed for applications where valves with

outboard bearings would be over-specified. The valves give exceptional value for money due to the simplified construction and direct drive.

The valves are suited for both conveying and metering purposes. They are ideal for vacuum conveying applications, Big Bag unloading, cyclone and general purpose applications.

The valves are manufactured in three materials of construction – cast iron, aluminium and stainless steel. The cast iron valves are also available nickel plated, chrome plated or tungsten coated.

The standard rotor has eight fixed blades, though this can vary according to the application. Various rotor configurations are optionally available, such as adjustable blades, reduced capacity, scalloped, staggered etc.

The end covers have sealed-for-life ball bearings. The shaft sealing is by means of multiple lipseals with the option of air purge. The standard models are suitable for handling products up to a temperature of 70°C, optionally up to 140°C and a maximum pressure differential of 1.5 bar. The valves are

pressure shock resistant up to 10 bar g pressure.

As Steve Wild of Vak Systems concludes. "DMN have got their prices right and the quality and construction of the MLD 400 is far superior to anything else on the market. In over two years of operation we have never had to change a bearing and never had a bent rotor. They are extremely easy to maintain via the side plate. Quite simply they don't go wrong – they are the pick of the crop."

DMN-WESTINGHOUSE have been designing and manufacturing rotary valves, diverter valves and other related components for the bulk solids industry for more than 30 years. Offering tailor made solutions for the mineral, chemical, food, plastics and pharmaceutical industries, DMN products are distributed worldwide. Besides an extensive range of standard components, they also supply components conforming to USDA requirements, pressure shock resistant up to 10 bar, flame proof, ATEX compliant to Directive 94/9/EC, including for use with ST2 rated powders.

As a special service DMN UK also offer a refurbishment facility for its valves and can return worn equipment to original manufacture specifications. All refurbished equipment carries the same comprehensive warranty and back up service as the new valves.

For full details of the extensive range of rotary, diverter and slide valves offered by DMN or to discuss a specific application, call the DMN UK sales team on +44 (0)1249 818400 or e-mail them on dmn@dmnuk.com. Alternatively, visit the DMN web site at www.dmn.info.

MLD 400 in use at Lincolnshire Field Products

