

DMN WESTINGHOUSE - bean there, done that!



For most people, Matthew Algie is not a name that readily springs to mind but their high-class products titillate the taste buds of 5 million of us every week. DMN UK Ltd are delighted that one of their DMN-WESTINGHOUSE model M-TDV Multi-Port Diverter Valves was chosen by the UK's top independent coffee roaster as the 'Clapham Junction' for their coffee bean distribution system. This distribution system forms a key part of a £3 million factory refurbishment. Since its installation in November last year, the M-TDV has handled roasted coffee beans at the rate of 2.5 tonnes an hour, switching destinations a minimum of 20 times a day,

without missing a beat.

Matthew Algie supply coffee as both roasted beans for espresso bars and restaurants, and as roast and ground filter coffee for the hotel sector, as well as a broad range of other customers. The freshness of the coffee makes a real difference to the quality in the final cup. Accordingly, roasted coffee beans are vacuum conveyed from the roasters, through a metal detector and then, via the M-TDV to any of the 3 bean packing machines or either of the 2 cryogenic coffee grinding plants – as required. Because the M-TDV is such a vital component in the production process, its reliability is essential.

Mr Matthew Algie founded the company as a tea blender

way back in 1864. He subsequently introduced coffee roasting - laying the foundation for the company to become the UK's leading independent coffee roaster today. Now, as then, they are privately owned and based in Glasgow, Scotland. The company moved from the city centre to their present location during the 1950's. They are a very progressive company and are in the process of refurbishing their factory with 'state of the art' equipment. They are so pleased with the finish and quality of the M-TDV that they have removed the stainless steel side panels and replaced them with see-through panels to suit their visually stimulating, high-hygiene, stainless steel factory environment. As Operations Director Peter McGadey comments, "We include as many vision panels on equipment as possible because it makes our factory environment all the more exciting a place for both employees and visitors alike".

Matthew Algie's clients hail from right across the UK and Ireland – they supply 60 per cent of four and five star hotels, a

multitude of coffee houses including Marks & Spencer's Cafe Revive, the House of Commons and the Scottish Parliament. Although the roasting of coffee beans is the backbone of their business, Matthew Algie also rent and sell a comprehensive range of coffee machines which they

service, upgrade and repair, and for which they offer user training too.

The vacuum conveying distribution system, in which the 150 mm nominal bore M-TDV is such a key component, uses nitrogen as the conveying medium. This nitrogen is continuously filtered and recycled requiring only nominal topping up from time to time. The M-TDV fits into a very restricted space and is vertically oriented such that the inlet is at the top and the 6 outlets are at the bottom – of which 5 are currently in use. The 6th outlet offers the opportunity for future expansion.

The layout for the Matthew Algie factory refurbishment was designed by Peter McGadey and his team. All production, handling and packaging equipment was specified, sourced and installed by them. As Mr McGadey confirms, "When we realised that we needed a 'Clapham Junction' within our nitrogen rich vacuum distribution system to route beans to the packing machines or to the cryogenic



coffee grinders, we scoured the technical magazines and the world wide web. DMN were the only company we came across offering just what we wanted." Mr McGadey continues, "DMN's service has been excellent. They are ably supported by Jim Inglis, their Scottish Representative, who assisted us to commission the M-TDV. The valve is well engineered and is trouble free".

The DMN-WESTINGHOUSE M-TDV is designed to divert pneumatically conveyed products from one to multiple destinations (diverging) or from multiple sources to one destination (converging). It can be mounted vertically or horizontally and will handle anything that can be conveyed either under pressure (upto 3 bar) or vacuum - from the finest of powders, through granules, pellets, tobacco and beans, to small plastic components such as finished bottle tops. Dependant upon pipe size, the M-TDV can be furnished with a maximum of 15 ports. M-TDVs have contact parts of AISI 316 stainless steel with inflatable seals of FDA approved polyurethane. The seals, which are located out of the product flow, are deflated during switching and re-inflated on position

confirmation to form a smooth, leak-proof flow path. The indexing tube plate seals off the other ports. The uniform smooth bore tube between inlet and outlet allows a constant velocity, minimises pressure losses, reduces product degradation and ensures complete purging. It is indexed from port to port by means of a backlash-free geared motor, controlled via a frequency inverter and an encoder through, in the case of the Matthew Algie application, one of the factory's Industrial PC's. Models are available for pipe sizes 40 to 150 mm and for temperatures ranging from minus 15°C to plus 80°C.

The M-TDV is part of an extensive range of DMN-WESTINGHOUSE diverter



valves which includes flap, plug, ball, tube, multi-way and fill & vent types. Latest developments include the upgraded PTD plug type diverter and the new GPD gravity plug diverter.

Most know DMN for their renowned portfolio of DMN-WESTINGHOUSE rotary valves. It is one of the most extensive available anywhere in the world. It comprises airlocks and blowing seals with a full range of surface finishes including mirror polishing for dairy, pharmaceutical and food applications. They can be constructed in a variety of materials including cast iron, aluminium, stainless steel,

Hastelloy, Ni-hard and ceramics. For those applications demanding the ultimate in hygiene and frequent cleaning, DMN offer models with quick disassembly features and slide rails to support the weight of the rotor and end cover. Besides an extensive range of standard versions, DMN supply components that conform to USDA requirements, pressure shock resistant to 10 bar, flame proof and ATEX compliant to Directive 94/9/EC.

As a service to customers, DMN UK also offer a refurbishment facility for its valves and can return worn equipment to original

manufacturing specifications. All refurbished equipment carries the same comprehensive warranty and back up service as for new valves.

For full details of the extensive range of diverter, rotary 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.

Matthew Algie can be contacted on +44 (0)141 429 2817 and their web site is at www.mathewalgie.com



Matthew Algie is the UK's top independent coffee roaster

They source great coffee beans from far away places such as Columbia, Ethiopia, Honduras, Kenya and Sumatra, and are number one in the UK foodservice market for Fairtrade coffee. But beans are only part of the Matthew Algie story. The company continues to invest in leading edge roasting equipment, sensory analysis and cryogenic grinding – then goes on to serve up great customer service.

Green coffee beans can be stored for weeks without degradation but once roasted the volatile oils, which caramelise at the surface of the bean giving that aroma and flavour we all adore, are at the mercy of oxidation. Oxygen is the very enemy of the freshly roasted bean! The 'secret' of Matthew Algie's success is the way roasted beans and ground coffee are processed, handled and packed in oxygen-free environments – then delivered to the consumers' cup within 24 hours!