



Two of four Aeroflow® Aero Mechanical Conveyors used to transport polymer additives for the production of cold asphalt emulsions



This Aero Mechanical Conveyor efficiently transports polymer additives without the venting equipment required by the previously installed pneumatic conveyor.

Customer Requirements

Unlike other oil companies, Nynas Bitumen UK, part of the Swedish AB Nynas Petroleum Company, is a bitumen (asphalt) specialist. They focus their expertise on naphthenics and asphalt at their Ellesmere Port, UK plant. Nynas manufactures a 'high-tech' speciality asphalt important for the safe and long-lasting road surfaces we rely on today.

Nynas is a leading innovator in asphalt, asphalt emulsions and polymer modified binders. They serve the road construction, airfield construction and industrial sectors with modern solutions capable of meeting ever increasing demands. Nynas' original asphalt plant had been in operation since 1990 and was due for upgrading. The joints and bends of their pneumatic conveying system used to transport the dry additives were wearing out. The pneumatic conveying system also needed a sizeable filtration system which had environmental implications. Nynas concluded that a major plant refurbishment was necessary - not only to double capacity but also to cope with the significant change from straight asphalt products to a wide variety of longer life, more porous, quieter, more malleable and cold asphalt emulsions.

Spiroflow Solution

Spiroflow proposed an ingredients handling system consisting of:

- 4 Aero Mechanical Conveyors
- 2 Bulk Bag Unloaders
- 2 Bag Dump Stations
- Associated Electric Controls

The Spiroflow Aero Mechanical Conveyors range in length from 23 - 72' / 7 - 22m and are operating in a variety of planes from vertical, inclined, to horizontal and are capable of handling 1.5 tons/ 1,500kg of polymer additives per hour. The 2 Bulk Bag Unloaders offer high containment unloading and, since there is no net air displacement, the Aero Mechanical Conveyors don't require any venting or filtration equipment.



One of two Spiroflow Bulk Bag Unloaders used to discharge major polymer additives into the asphalt production process

The Results

NYNAS HAS SEEN A SUBSTANTIAL IMPROVEMENT IN OUTPUT AND HAS RECEIVED POSITIVE FEEDBACK ABOUT THE OPERATION AND CLEANLINESS OF THE SYSTEM ALL ROUND.

1. Bulk ingredients are added via one ton bags loaded into Spiroflow Bulk Bag Unloaders and minor ingredients are added by the bag through spirowflow Bag Dump Stations.
2. One of the Bulk Bag Unloaders is mounted on a mezzanine floor above a collection hopper to enable all of the major additives to be charged in one go.
3. This unloader has bulk bags loaded via hoist.
4. The other unloader is at ground level and bulk bags are loaded by forklift.
5. The 50 ton/ 50,000kg charge of additives is loaded into each of the mixing vessels and is mixed by re-circulation through an external high-powered mixer.
6. Once mixed, it is transferred to stirred storage tanks ready for loading into Nynas' impressive fleet of tankers.

The electrical control panel for the system was manufactured by Spiroflow. and the installation and commissioning was done by Spiroflow engineers.

Customer Feedback

Tony Gresty, the Nynas technologist responsible for the asphalt plant comments:

"We are pleased with the operation of the Spiroflow equipment and the fact that the Aero Mechanical Conveyor eliminates the Health and Safety issues associated with pneumatic conveying systems."

When asked why Nynas chose Spiroflow to supply the equipment, Gresty explains:

"Spiroflow demonstrated that the equipment could handle all our additives. We were also supplied with detailed layout drawings that were instrumental in us choosing this professional company."

How Can Spiroflow Help Your Business?

Contact us today to discuss your specific applications and needs.