MARTIN® ENGINEERING

ISO 9001 QUALITY SYSTEM CERTIFIED

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Typical Specification
MARTIN® INERTIAL FLOW™ Transfer Chute(s)

The material handling system will feature flow-engineered transfer chute(s) for loading/unloading the belt conveyor(s). This chute system will be custom-engineered to match the specific requirements of the material handling system. The supplier will furnish engineering, design, and supervision for the installation of the flow-engineered chute system.

This transfer chute will incorporate a “hood” installed to control the flow of material from the discharging conveyor. This hood will channel the flow, maintaining a cohesive stream of material at speed constant to the rate of belt movement and reducing the entrainment of air.

The chute will also incorporate a “spoon” to receive the material flow and place it on the receiving belt at the proper direction, speed and flow profile to minimize abrasion of belt and liners, minimize air expulsion, and minimize the generation of airborne dust. This spoon will provide centralized loading, and minimize impact loading.

A settling enclosure after the belt is loaded will allow any airborne material to return to the belt cargo before the belt exits the enclosed (skirted) area of the loading zone.

The hood and spoon will incorporate replaceable liners.

The transfer chute will be designed to eliminate positive pressure in the transfer chute. The system will control the air flow to prevent pressurizing the transfer chute and transfer the coal without material breakdown or dusting. This will eliminate the need for dust control systems including wet suppression systems, baghouses, dust collectors, and dust recirculation systems.

Supplier shall engineer and construct the transfer system to provide a dust atmosphere in compliance with the project’s specified dust control requirements. Cost and performance of the post-installation testing to validate system dust control performance will be the responsibility of the supplier.

The transfer chute will be designed and installed to the following standards/criteria:

- No spillage at the transfer point from the installed chutes.
- No chute plugging under the worst operating or material conditions.
- No areas or zones that allow coal or dust build-up to occur.

The transfer point shall be capable of handling a material flow rate of xxx tons per hour as specified in project requirements. Supplier will provide a post-installation testing to verify the achievement of specified material flow rate.

The supplier's design for hood, spoon, and dust enclosure will be based on both DEM modeling and flow modeling determined as a result of testing of the actual material to be conveyed. Samples provided by the purchaser will allow the supplier to perform testing to determine material sizing, bulk density, friction coefficients, air movement, moisture level, and fracture dynamics.

Supplier shall guarantee that the installed transfer chute and associated equipment will achieve the project's tonnage flow rates and specified air quality levels.

The supplier shall provide their performance guarantees.

The engineered chute system will be MARTIN®INERTIAL FLOW™ Transfer Chutes, as supplied by Martin Engineering, Neponset, IL.

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